

**THE SPIRIT OF NATURE: TRANSFORMING AN INNER CITY SCHOOL  
GROUNDS**

by

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## Abstract

This action research project began as the revitalization of inner city school grounds through the design and construction of a school and community garden. The project's intent was to give inner city children contact with nature as well hands-on learning experiences in all subjects through the planting, tending and harvesting of vegetables, flowers, and native plants. In partnership with a landscape architecture student, I involved the children, teachers, parents and neighbours of the school in designing and planting the gardens they wanted in order to transform a grass field into a biologically diverse environment reflective of the neighborhood cultures and the indigenous wildlife. Our collaboration became the soil and seeds of an ecological and cultural restoration focused on the First Nations community of the school.

People, public art, plant and animal life came together in a dynamic process of education and community change. Inspired by John Dewey's theories of learning through doing, by the work of his Brazilian protégé Anísio Teixeira, and by the work of Paulo Freire in adult literacy and political empowerment, this project has been inclusive of members of this culturally diverse community of First Nations and refugee families. The physical transformation of the grounds through First Nations architecture, sculpture and native plants has given visible proof to the community that when everyone works together to create a vision, then cooperates to make it happen, that vision can be realized.

My thesis follows the process itself as well as the many questions I have asked throughout about the meaning of pedagogy, leadership, empowerment and collaboration. As an educator with her roots in community activism and teaching for social justice, the Grandview garden has challenged me to reexamine my roots in light of a particular cultural, social and political context where my own vision and voice needed to blend harmoniously with the diverse visions and voices of many others.

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## Chapter 1 The Root of it All

### 1.1 Introduction

If I had influence with the good fairy who is supposed to preside over the christening of all children I should ask that her gift to each child in the world be a sense of wonder so indestructible that it would last throughout life, as an unfailing antidote against the boredom and disenchantments of later years, the sterile preoccupation with things that are artificial, the alienation from the sources of our strength. (Carson, 1956, p. 14)

Many people know Rachel Carson as the scientist who warned the world of the devastation wreaked on bird populations by the pesticide, DDT. Her name became synonymous with ecological awareness and the environmental movement spawned by her research. What is less known is her commitment to introducing children to the wonders of nature.

If a child is to keep alive his inborn sense of wonder without any such gift from the fairies, he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in... If facts are the seeds that later produce knowledge and wisdom, then the emotions and the impressions of the senses are the fertile soil in which the seeds must grow. The years of early childhood are the time to prepare the soil. (Carson, 1956, p. 15)

This thesis explores the relationship of pedagogy to nature. It examines the educational possibilities that unfurl through bringing children, gardens and communities together. Because of my commitment to social justice and community development, I developed a participatory action research project in an inner city elementary school with a high proportion of First Nations and refugee students. Through the process of developing the gardens with all members of the school community from preschoolers to grandparents. I deepened my understanding of community education and social action. I experienced the strength and necessity of collaboration. The process provided me the experiential learning I desired. This thesis looks at my own learning as a researcher and community activist.

Chapter 1 reveals my personal experiences that led to this project. Chapter 2 discusses the action research process and describes the process of developing the gardens with the community. Chapter 3 reviews the literature in education, ecofeminism, art and environmentalism relevant to this work. Chapter 4 explores the results of this particular intervention in terms of the school community and in terms of my self as a learner. Chapter 5 is a reflection on the research.

## 1.2 The Seed

Wake me!  
 Shake me!  
 Don't let me sleep too late!  
 Gonna Wake up early in the morning,  
 Gonna swing on the garden gate!  
 (Nursery song, source unknown)

I was born in Rio de Janeiro, Brazil. When I was only seven months old my American father, my Brazilian mother and I moved from Brazil to Hammond, Indiana. I didn't like the heat or mosquitoes of Hammond, but I loved being near my grandparents, my new friends on the block where I lived, the fireflies, and the frogs.

As a small child I always got up early in the morning so that I could go outside to play and not miss any of the day. When I was very little the only place I was allowed to be alone outside was our own garden. For me, at age three, that was enough. There was a swing where I played, robins and squirrels that sang and chattered to me, flowers I smelled, bugs I watched, worms I picked up and brought inside to show my mother. The garden engaged me in its life, which was one with my life. The garden introduced me to the earth and to my place on the earth. Edward Wilson calls this relationship I developed "biophilia, the connections that humans subconsciously seek with the rest of life" (Orr, 1994, p. 46 citing Wilson, 1992, p. 350).

I learned about the life of the garden by being with it. I learned that robins flew away from me when I ran close to see them better. I learned that the rain brought out the earthworms. I learned to catch fireflies, to capture their magical lights for just a few hours in a jar so that bedtime had sparkles rather than darkness. I learned that I mustn't keep bugs in a jar very long or they would die. I learned that tomatoes right off the vine taste sweet with sunshine. Harvard scholar, Alfred North Whitehead, identifies this kind of learning as "first-hand knowledge, the ultimate basis of intellectual life" (Orr, 1994, p. 109, citing Whitehead, 1967, p.51).

Besides my self-directed learning, my family taught me in the garden. I remember crouching by the driveway with my grandmother when she showed me the flower's little face and taught me its name, Johnny-Jump-Up. That first experience of linking a name to a plant led me to feel I have a personal relationship to a plant when I know its name. My father lay on the grass with me at night, showed me the constellations and taught me their names. Language lived in the garden and made it familiar in my mind. Instinctually, my family used Dewey's ideas about the purpose of schooling. "To give each child the opportunity and method for doing those

things he really wanted to do and such guidance in the process that his concept of their social meaning continually developed" (Mayhew, 1966, p.42).

My mother showed me how to plant hard round seeds in the ground, cover them with earth, water them and wait. Our efforts were rewarded with sweet peas that grew up the fence with amazingly beautiful and heavenly-perfumed flowers. They taught me sheer joy in sensual pleasure. When I learned to climb trees my body developed confidence in its strength and agility, and I gained the secret hiding places of leaf camouflage from which to sit and watch the world below and above. My knowledge in the garden grew from my experience of my body in this world.

All these are experiences I had long before I went to school, but they were my curriculum. I was not afraid of what lay outside my garden gate because of all that I had learned inside. By becoming familiar with the natural environment of my garden, by learning the names of what grew and lived in it and above it and around it, I gained the pleasure of knowing and the confidence to explore further. Friedrich Froebel expressed this long before I. "It is not alone the desire to try and use [their] power that prompts [children] at this age to seek adventure high and low, far and wide; it is particularly the peculiarity and need of [their] innermost lives . . . to see individual things in their connection with a whole, especially to bring near that which is remote, to comprehend (the outer world) in its extent, its diversity, its integrity; it is the desire to extend his scope step by step" (Hart, 1979, p. ii, citing Froebel, 1826).

When I was four my mother, father and I went on a summer vacation to a small mountain town in Colorado called Aspen, population 400 in 1952. We stayed in a tiny cabin, fished for trout in mountain streams, hiked in forests of quaking aspen and pungent pine, and I luxuriated in the absence of the mosquitoes that were so much a part of Indiana summers. The night sky glowed brilliant with stars due to the high altitude. When we had to leave this heaven, I wept and begged to stay. That November my mother and I moved to Aspen to live.

I had two and a half years of an idyllic childhood. Each of the five houses on our block had a child my age living in it, and we all played together. My best friend, Happy and I were allowed to slide down old mine tailings, dig new holes in our searches for gold, and climb up the base of Aspen mountain on our own for picnics. In the spring we would sit under the lilac bushes by my front porch and keep a secret eye on the comings and goings of Main Street.

In front of our house in the summers ran a small irrigation ditch with just enough water in it for us to float boats we made of twigs or paper. We launched many imaginary journeys to the distant sea. When I was almost seven at the end of Grade One I had to leave Aspen and move to

the city; my parents had reunited and my father's new job was in Denver on the other side of the mountains.

Once again I was transplanted. Leaving that high-mountain, small town environment and coming to live in the city saddened me deeply because I lost my access to trees to climb and to an infinity of places to explore. Fortunately, we lived near Cherry Creek in Denver, and I was old enough to ride my bike there on my own. I began an annual collection of tadpoles from its shallow eddies.

I brought the small fish-like tadpoles home in a jar and placed them in a white enamel pan. The white background was perfect for watching the black tadpoles gradually sprout their hind legs and heads, then their front legs. They transformed before my fascinated eyes into frogs. When they had lost their tails and could hop out of the pan, I would pop them back in the jar and pedal back to the creek to reintroduce them to their muddy home. Robert Michael Pyle says "A ditch somewhere—or a creek, meadow, woodlot or marsh . . . These are places of initiation, where the borders between ourselves and other creatures break down, where the earth gets under our nails and a sense of place gets under our skin. . . Only the ditches and the field, the woods, the ravines—can teach us to care enough for all the land" (Nabhan & Trimble, 1994, p. xii, citing Pyle, 1993) Cherry Creek with its gold had started the rush of miners to Colorado in 1859 and brought white settlers seeking their fortunes, but for me Cherry Creek itself was my treasure.

I knew from my own transition from mountains to suburbia that being in touch with nature made me feel in touch with myself, whole and happy. Howard Clinebell, a theologian and psychologist describes this process of "discovering, befriending, and intentionally developing ones profound rootedness in the life-giving biosphere" as ecobonding (Clinebell, 1996, p. 26). As a child I was rooted in an earth that nurtured and educated me with its beauty and diversity. When I lost that proximity to nature through our move I began to think about urban children who never have an opportunity for direct contact with nature. That childhood concern matured with me and led me to this research project with inner city school children, a largely First Nations and refugee population living landless in Vancouver, BC. The garden grew from twin commitments: a profound love of nature and a profound sense of social justice.

### **1.3 The Roots of Action**

"When we try to pick out anything by itself, we find it hitched to everything else in the universe" (John Muir, cited by San Diego County Office of Education Outdoor School, p. 10)

I returned to Brazil for the first time since infancy when I was fifteen. The contrasts of rich and poor overwhelmed me. The gold-encrusted baroque Catholic churches horrified me because on their steps mothers and children dressed in rags and reached out hands for alms. Never had I seen such an abundant display of gaudy wealth in the face of such dire need. This was not a form of Christianity that made any sense to me.

At sixteen I returned to spend a semester in school in São Paulo to learn Portuguese and more about my culture of birth. I was very aware of the rich potential of Brazil and the enormous inequity in distribution of wealth. I saw education as a possible field in which I could work to implement the changes that seemed so necessary to make Brazil a more just and equitable country, a place where poor children had the opportunity to escape the poverty of their parents.

A year later I took a seminar in education at Stanford. We read Cole, Kozol, Ashton-Warner and others who saw education as exploration, transformation, a path to social justice. I studied the economics and sociology of developing countries. I became convinced that education had an important role to play in nation development. I returned to Brazil that summer to research the implementation of the Education Act of 1961 (*Lei de Diretrizes e Bases da Educação*-the law which guaranteed an education to all children in the country up to age 12).

A professor of education from the Federal University in Rio arranged for me to visit the *Escola Parque of the Centro Carneiro Ribeiro*, a model school in San Salvador, Bahia, created by the minister of education, Anísio Teixeira. The school is located in one of the poorest areas of the city, *Liberdade*, where many homes are simply salvaged tin and cardboard. The *Escola Parque* embodies Teixeira's philosophy of education:

The student will practice in the school community all that in the adult community of tomorrow he will have to be: student, worker, artist, athlete, community member, which is the same as to say useful, intelligent, responsible and happy. Such a school is not a supplement to a present life but an experience of the life that the child must live in a society of such accelerated change. (Teixeira, 1967, p.6)

The children spend half a day in academic pursuits and half the day learning practical trades, fine arts, and how to run such community services as a bank, newspaper, store and radio station. Seldom have I met eleven-year-olds anywhere whose eyes burned with so much curiosity and whose questions reflected such a broad awareness of the world around them. The *Escola Parque* gives the child a sense of practical, productive action while she is preparing

herself intellectually in class. In the past Brazilian schools have maintained the existing social structure, but this school transcends it.

In order that we realize these ideas it will be necessary for us to spread the feeling that social justice will be achieved in a free regime, with equality in educational opportunities, and this will happen only with schools that offer to the poor and to the rich, an education that will put them on the same level before the prospects of life. (Teixeira, 1967, p.12)

I returned to Stanford filled with the ideals I had seen in action.<sup>1</sup> I continued doing independent study with an aim of creating a major for myself in education and social change in developing countries. I spent a year studying in Europe and was able to access the UNESCO libraries in Paris to continue with some of what interested me there.

In spring 1969, the war in Viet Nam was escalating and I was back at Stanford. I was active in the peace movement and participated in marches, teach-ins and sit-ins to end the war and the draft. The sit in at Encina Hall, the administration building for Stanford, demanded that the university end its war-related research. As a twenty year old student I did not have the life experience to know that the university was not about to give up a large source of its income because students considered American government actions immoral.

The administration told us to leave. We didn't. I, with over a hundred other students, spent the night on the floor of the hall and walked out at dawn. I was identified from photographs taken by right wing students, charged with trespassing and brought to a kangaroo court trial at the Stanford Law School. I was asked to identify my fellow protestors. I did not.

In the weeks that followed I continued to attend class and do my course work as well as attend trial hearings. I had a meeting with my professor at the School of Education who was directing my independent study. When I entered his office to discuss my work he told me he would no longer teach me since I had been identified as being present at the sit-in. I was totally stunned. Here was someone in education, the field that seemed to me to offer the most hope for change in a constructive manner, telling me he wouldn't teach me because my political views differed from his. I walked out of his office and never saw him again.

I felt completely betrayed. The university that had offered me courses that showed me the problems and potential for the developing world had no intention of living by the ideals presented in its classes by some of its professors. Professors could refuse to teach students they

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<sup>1</sup> I did not know at that time that John Dewey had been Teixeira's advisor for his doctorate at Columbia University. Dewey's (1938) philosophy of the vital link between experience and education had greatly influenced all I had seen in the Escola Parque.

didn't feel shared their own political views. I was a young girl confronting the patriarchal authority of state and university. (In my entire time at Stanford I had only one woman professor.)

When I reflect as an adult on how much the response of the university to the Encina sit-in affected me I know that a large part of my pain and confusion came because I was still an adolescent and had trusted the adults in my life up to that point. The university's official position in those years was one of *in loco parentis*. They did not consider university students to be adults, but children. Their stated policy was to care for us including telling us what time we had to be in our dorms at night. To receive rejection from the male authority figure of a professor was like having my father reject me. To have the university, a place I naively considered to be an institution in pursuit of the truth, do defense research was incomprehensible to me. I was that naïve.

I finished all my other courses that term, which was the completion of my third year, and got an incomplete in my independent study. I invited my friends to celebrate my twenty-first birthday that June by bringing a plant or seeds for our communal vegetable garden at the big house I shared with other students in the peace movement. That was my first venture into community gardening. I am amused to reflect on my reaction to rejection by the university community: start a community garden, form a community of my own.

I had spent my life in the relative shelter of the middle class in the United States. I had never consciously experienced personal political oppression until I was at Stanford. John F. Kennedy, Malcolm X, Martin Luther King and Robert Kennedy had all been assassinated between 1963 and 1968, my teen years. Three of those deaths had had a profound impact on me; I came to know the work of Malcolm X after his death. Whether we were white youth or black youth we had no leaders to follow whom we could trust. But as a white youth I had so many more opportunities than did the young black students I knew. I could essentially do anything I wanted to with my life, but the barriers to the black students to even a basic high school education let alone a university one were immense. I felt totally overwhelmed by the society of violence that defined our futures.

After a summer working in an anti-racism program using the arts to raise consciousness of racist and feminist issues with teens, I worked in an ESL program at a large inner city high school in Redwood City, instead of enrolling for my last year at Stanford. I no longer felt safe at Stanford. I didn't know how I could justify taking advantage of what Stanford could offer me educationally when it was also engaged in war research. The moral dilemmas were beyond me to

solve; I simply walked away. At the end of 1969 I waved a personal flag of retreat and went home to the mountains of Colorado to try to make sense of life.

#### 1.4 The Seed Leaves

Climb the mountains and get their good tidings; nature's peace will flow into you as sunshine into flowers; the winds will blow their freshness into you and the storms their energy, and cares will drop off like autumn leaves. (San Diego County Office of Education Outdoor School, Student Journal, p. 7, citing John Muir)

I needed the quiet and white of winter. I needed to see snow blanketing everything, creating for a while at least a purity and an equality that the political world would never have. I needed to find a source of inner strength. I got a job running the day care of a small ski area, a job that paid very little but gave me a ski pass. Three years of intensive university education that was geared almost completely to the intellect had left me out of balance. My body and my spirit gave my mind a much-needed rest on that mountain. In April the snows melted. I began to practice a spiritual path that I have continued to this day, Subud. Through surrender to the Life Force I was able to find internal guidance for my life, to come home to my self.

I started a preschool program that summer on forty acres of wilderness loaned to me by the dean of the local college (who also hired me to teach Spanish for Continuing Education). With preschoolers I could explore and celebrate life and leave society's seemingly unsolvable problems for a while. The parents of my three-year-old students helped me to erect a M.A.S.H. tent and a porta -potty. From our little bivouac we explored the stands of cottonwood and scrub oak, the rock formations and riverbank that made up our land. We painted pictures with daisies for paintbrushes and rocks for palettes. We sang songs and listened to the birds and threw more rocks into the river than anyone could ever count. Much of what we did rose spontaneously from the children's play in the wonderful environments we had to explore.

A few years later I married and decided to get a teaching certificate. I did my student teaching in an experimental program at an all Chicano Denver inner-city school while I was pregnant with my first child. I found intimidation and oppression from administrators in the school system that negatively affected teachers' ability to provide the best services to students. Instead of becoming a public school teacher, I planned a great many arts camps and outdoor education experiences for children while I was raising my own five. When my children were all in school I moved into jobs that allowed me to follow my passion for creative education for children.

While my experiences in education as a student and a teacher have happened in very diverse environments, they do result in a whole that has led me to my practice today:

Action research is a process followed in research in settings like those of education and community development, when people—individually and collectively – try to understand how they are formed and re-formed as individuals, and in relation to one another, in a variety of settings. (Atweh, Kemmis & Weeks, 1998, p. 23)

If Anísio Teixeira were alive today I believe his work would be seen in the realm of action research. All his reforms in education, his writings and research were in pursuit of social reform towards democracy in a country whose history since colonization had been based in oppression. In 1950 Teixeira began to build the Escola Parque, his model primary school. The school environment supported the growth of competent, happy children with the skills for living life well; essentially he built the best school in town in the economically most deprived neighbourhood. What he was doing in Brazil had the potential to change the social structure by empowering financially destitute Afro-Brazilian children with knowledge and vision.<sup>2</sup>

On March 14, 1971 Brazil lost this leading light and warrior for many millions of children in Brazil. Teixeira was found dead at the bottom of the elevator shaft in his office building in Brasilia, the nation's capital. It was a devastating loss to the educators of Brazil who he inspired and led and to the people of Brazil who he served. His death remains an unsolved crime. To this day, I have not seen a Brazilian writer state in print that Teixeira was murdered by the military regime. This leads me to believe it is still dangerous to print what Brazilian educators tell me face to face of his murder.<sup>3</sup>

At Teixeira's school I witnessed social justice through superb educational opportunities for children at the bottom of the economic and social ladder. It inspired several years of my independent study and a lifelong pursuit of excellence, creativity and equal opportunity in education. I think that I am always trying to achieve in what I do as an educator at least a piece

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<sup>2</sup><http://www.prossiga.br/anisioteixeira/eng/visita.htm> has an excellent history of Teixeira's life and work

<sup>3</sup> Paulo Freire describes Teixeira as "wrongly accused of being a communist" because of his relationship as a student and admirer of John Dewey who influenced Krupskaya, Lenin's wife and mastermind of Russia's educational policy. "His guidelines were democracy and economic development through industrialization based on science and social peace, attained by citizens primarily educated by the state. Knowledge would be the result of experience, creativity, and responsibility by means of an education directed toward the future . . . Misunderstood or valued, reprimanded or exulted, Anísio Teixeira never caved in during his struggle for a more egalitarian and just Brazil." (Freire 1998 p. 119).

of what I saw at the Escola Parque: nurture full flowering of the individual child and prepare the child with the skills for living productively within a democracy.

When I examine my life's journey, I see a path that climbs a mountain in loops, in cycles. From early childhood I had the blessing of a grand view. The rocks of the patriarchy that made me stumble as a young college student served to divert me to a personal path where I could develop the inner strength and wisdom I needed to embark on the cycle of the journey I am doing now. I hike up the student loop, the educator loop, the mother loop, and circle round and do those again. I have a slightly altered perspective as I climb higher and have a broader outlook. Life experience has altered the lens slightly through which I see. My legs, my heart, my spirit have all grown stronger from the climb and the traverses of uneven scree. The way I describe the view from half way up has big words of high hopes like the language of my homeland, the valley where I began.

When I read the words of Teixeira and Freire I see big pronouncements and visions, words natural in Portuguese, in a country as full of vast space, contrasts and potential as Brazil. What seemed important to me as a young student many years ago still inspires me. Thirty-three years after visiting the Escola Parque and thirty-one years after leaving Stanford I am back as a student in a university planting a garden with children at a school in the economically deprived part of Vancouver, BC. This is my response to the social injustice I see in Canada in my own back yard. In the coming year I am going back to Brazil to do a garden project combined with arts and recreation with street children in Rio Grande do Sul with a Canadian International Development Agency (CIDA) grant.

Brazil now has an elected president instead of a military dictatorship, but the same social problems of colonialism remain, worse there than here with less of a social safety net to catch the children as they fall. The educators of my homeland continue to offer a perspective I find valuable. What has propelled me on this journey reads something like a list of the titles of Brazilian educator Paulo Freire's books: Pedagogy of the Oppressed, Education for Critical Consciousness, Pedagogy of the City, Pedagogy of Hope and finally Pedagogy of the Heart. Freire opens the final book of his life with this remembrance of the time Brazil banned him from home because of his political beliefs and efforts to educate the poor.

When I thought that I had forgotten my childhood backyard and that I had little to do with it, one winter afternoon in Geneva, during my exile, it presented itself to me. During that afternoon while reading a letter I had received from Recife<sup>4</sup> I—all of a sudden, like

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<sup>4</sup> Paulo Freire was born and grew up in Recife, a city in northern Brazil.

magic—recoiled into time and almost saw myself again as a child, in my backyard full of trees, learning to read with the help of my mother and father, writing phrases and words in the ground shaded by the mango trees. In that afternoon, it was as if I had discovered that the longing I was feeling for my homeland, had begun to be prepared by the *lived relationship* I had with my backyard. (Freire, 1998, p. 38)

The strength of his deep memory gave his last book its translated title *In the Shadow of this Mango Tree* (*A Sombra Desta Mangueira* in Portuguese) published in English as *Pedagogy of the Heart*. Freire goes on to describe his relationship to place even further.

The way Brazil exists for me could not have been possible without my backyard to which I later added streets, neighborhoods, and cities. The land that people love, talk about, and make reference to always has a backyard, a street, a street corner, a ground smell, a cutting cold, a suffocating heat, something for which we fight... The more rooted I am in my location, the more I extend myself to other places so as to become a citizen of the world. (Freire, 1998 p. 39)

It was my own rootedness in the mountains of Colorado, my own rootedness in Brazil, the country of my birth, that led me to feel a need to make possible rootedness for other children. This connection to place is both social and spiritual in nature.

### 3.6 The Soil

Whenever plants or animals die, their bodies must be returned to the soil to be decomposed by the soil food web, releasing carbon dioxide, nitrogen, and essential minerals back into the soil so the cycle can continue and more food can be produced. Organic farmers and gardeners sustain this essential natural cycle by making and using compost to fertilize their soils. (Organic Gardening Magazine Vol. 47:4, p. 47)

March, 1998. The school I was visiting looked like a private club. It's modern architecture crowned a rocky ridge that rose from the sea. I was on a work-related field trip to Eagle Cliff Middle School in West Vancouver, B.C to see the extensive computer system installed in this new public school with corporate sponsorship. The same corporate sponsor might help the private art school for children where I worked to enter the computer age with an on-line presence and the possibility of on-line courses.

Set amongst large trees and rock outcroppings and surrounded by million dollar single-family homes, Eagle Cliff offers everything imaginable to its lucky and very privileged students. Strategically placed windows frame beautiful views of natural elements. An open design with high ceilings in public areas gives light and a feeling of airiness. Students produce daily news broadcasts in their in-house television studio with links to each classroom. The modern science labs offer the best in hands-on opportunities for scientific experiments. Students learn computer

animation in the arts department, can participate in band or orchestra, have numerous sports teams and extracurricular activities to choose from and over 200 computers for the 800 students. The office has information posted on the up-coming casino night being organized by the PAC (Parent Association Committee) to raise more money for the school. Eagle Cliff offers the best of everything to its students and staff. I am awed.

Two days later, also for work, I go to Grandview/ʔUuqinak'uuu Elementary School in East Vancouver. This school serves one of the poorest populations of children and families in the city. Named in two languages for its location, the second or third floor view over the city to the mountains of North and West Vancouver is lovely. In 1927 when it was built there was a grand view from the ground level before the surrounding three-story apartment buildings were constructed. But this school is now in the inner city and natural beauty has long ago been replaced by busy traffic corridors, low and high rise apartments, light industry, warehouses and subsidized housing.

The school population is 53% First Nations. Asian, Central American and Eastern European refugees make up most of the rest of the student body. Last year 88 of 175 students were identified as English as a Second Language (ESL). This neighbourhood sits at the heart of what is known as the Urban Reserve, a community of First Nations people from all over the province and from other parts of country, living with limited social and economic resources. In 1998 at the time I came to the school the Grandview parent committee was not a registered society, did not have the ability to apply for casino funds because of that and had no other way to raise any significant money for the school.

The school had not been able to afford to buy computers, but gratefully received donations from companies upgrading to newer, faster models. At the time of my first visit to the school there was no computer lab. In the last two years, from 1998 to 2000, Grandview has been able to get a grant to upgrade their electrical capacity to set up a computer lab with the hand-me-down computers donated to them and to network them. In 2000, IBM gave Grandview a somewhat controversial gift of five new computers, part of an inner city initiative. The school has none of the enriched programming of Eagle Cliff: no band, orchestra, science lab, TV studio or computer animation. Grandview and Eagle Cliff, about twenty-five kilometers apart, are in the same provincial public school system. What they have in programs and facilities is light years apart and a reflection of the socioeconomic status of the neighbourhoods where they are situated. This stark difference in available resources reminds me of the inequities one sees in developing countries, not what I expected to find in British Columbia, Canada.

That day of my first visit to Grandview I listened to Sam Fillipoff, the inner city project teacher, describe the social and economic situation of the children. Poverty is the common denominator with all of its inhibiting factors: lack of access to the broader community, low self esteem for many children and their parents, a sense of powerlessness to change the situation. A good portion of each school day for the school staff goes to meeting the basic physical and emotional needs of the children. Fortunately, both breakfast and lunch are served at the school to insure that each child can begin the day fed.

Eighty percent of the school families are on welfare; most are single-family homes headed by a mother or grandmother with little formal education. Some children face alcoholism, drug addiction and child abuse at home. People with better financial resources drop off used clothing, books and toys for the school families. There is a Friday give-away of these items on a regular basis organized by the neighbourhood liaison worker. Going on a field trip is difficult because parents can't afford the fees, so Sam raises money from outside of the school for such outings. When the upper grades began their school year with a three-day camping trip one of the children remarked, "I never knew there were so many trees". This is the one time of year that most of these children get to go camping, have access to a more natural world than the city offers. The families don't own cars; many simply don't go beyond the immediate neighbourhood.

According to a United Nations poster I saw in the Faculty of Education at the University of Luleå, Sweden, Canada supposedly has the highest standard of living in the world. However, in this instance, the provincial school system provides a difference in services to rich and poor students that recreates the inequities and injustices of colonialism. The children of the richest citizens of the province receive facilities and opportunities of the highest caliber while the children of the poorest, the refugees and the First Nations of Canada, receive hand-me-downs.

This is not a criticism of those teachers and social workers that form a strong and dedicated team of professionals at Grandview, nor is it a criticism of the staff at Eagle Cliff. It is a question to all of us who live in British Columbia and allow the Ministry of Education of this province to run a public school system with inequities that result in less to those who need the most: Is this correct and should we allow it to continue?

I went back to my office in an art school filled with wonderful classes, art supplies and creative adventure for children, and as I began to describe what I had just seen at Grandview to my fellow workers, I burst into tears. I had a feeling of desperation and helplessness about the situation the children faced. That needy children should get much less than rich children in a

public school system infuriated me. "Examining personal landscapes and defining reality from the perspective of personal experiences can help create a wide-awakeness that reshapes teachers' views of what is possible and brings them to the point of social praxis" (Pine, 1992, p. 661).

I immediately looked into ways that the private school I worked for could provide more outreach services to Grandview for free, but there wasn't a way. More services to Grandview would mean less to another inner city school where there were just as many children in need of art and drama classes. My hands seemed to be tied to do anything substantive through my work.

I applied to graduate school in education at the University of British Columbia within a week or two. This was not a conscious response to what I had experienced at Eagle Cliff and Grandview, but an unconscious one brought about by many issues in my work as an educator. I was struggling with imbalances of power in my work place, and it was time for me to move into a broader realm.

Interdisciplinary holistic learning that provides children with opportunities to experience life in the broadest possible way had led me into arts education, and now I wanted to add science to the equation. I wanted to explore creativity in a broader context. Equally, the issues of social justice that had led me into exploring education as a tool for social change as an undergraduate in the sixties stood front and center for me once again.

I began my vacation before graduate school began by attending a conference of the Society for Values in Higher Education, an organization of university professors, administrators and students dedicated to promoting spiritual and moral values in higher education. Anna Wasecha, a former university administrator and a Master Gardener, did a presentation on "Farm in the City" in St. Paul, Minnesota.<sup>5</sup> This program she founded brings inner city children together in a garden with plants, bugs, artists and horticulturalists. Intuitively and immediately, I knew that I wanted to do something similar for my graduate school research. I too wanted to create an environment with children where they could explore the natural world with their senses and their intellects, learn to grow all manner of plants, and create individual and collective art projects and performances in celebration of life.

By the next day I realized that it made perfect sense for me to offer my services to Grandview School to create a garden with the children there. Grandview Terrace Childcare shares the same school grounds as the elementary school and operates year-round. The south-facing large, grassy, flat area bordering the blacktop and stretching west behind the daycare

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<sup>5</sup> <http://www.mninter.net/%7EThomasjp/CITYFARM.html>

facility was a prime garden site. The Childcare director loved the idea of the pre-school participating in developing gardens and we arranged for me to present the idea to the parents who are the board for the centre.

I called Sam, the project teacher I had met six months before who told me he had begun three raised vegetable garden beds with parents several years earlier, but they weren't used by teachers and children. At his request, I wrote a garden project proposal to the principal, Jock McLaughlin, who responded enthusiastically. (See the Mission Statement in Appendix 1.) What follows is the story of the growth of *The Spirit of Nature: The Grandview/?Uuqinak'uuh Community Gardens* and of what I have learned from tilling this community soil.

## Chapter 2 How do we Create A Garden?

### 2.1 The Organic Gardening Technique

Whatever you can do or dream you can do, begin it. Boldness has genius and power and magic in it. Begin it now. Goethe (a poster in a community school office)

I began this action research project quite simply, with the desire to create a garden with school children in the inner city as a site for multidisciplinary, creative exploration and learning. What has developed has involved every child, teacher and administrator in a school and a day-care, parents, many members of the surrounding community and funders from far and wide. This project has taken on an organic life of its own in accordance with its nature as a garden, and the research has grown from my role as a gardener sewing seeds of community.

No research happens in an academic or personal vacuum. "Into every act of knowing there enters a passionate contribution of the person knowing what is being known" (Pine, 1992, p. 658 cites Polanyi, 1958). My research questions have turned out to be as much about myself as a learner and educator as they have been about what happens when a school embarks on a major change. Here are some questions to ponder as we examine the transformation of a schoolyard from asphalt and grass to an environment rich in bio-diversity and culture:

1. What led me to take these actions for change?
2. What have I learned about myself as a teacher, facilitator and community member?
3. What has happened at Grandview/?Uuqinak'uuh Elementary School and the Grandview Terrace Childcare since we began co-designing the school grounds with the children, staff, parents and neighbours?

"The most meaningful image of action research derived from our teaching is a continuous, conscious attempt to seek increased meaning and direction in our lives with students, and in our own personal lives" (Burnaford, Fischer, & Hobson, 1996, p. 4 citing Schubert & Schubert, 1984, p. 5). My choice of personal narrative in writing this thesis reflects my desire to find the threads of meaning that weave my practice as a community educator with my full life as an individual—daughter – wife – mother - spiritual being. The necessary reflection in action research is "a process of making sense of one's experience and telling the story of one's journey" (Burnaford et al, 1996, p.2). "Autobiographical narrative could be construed as the conceptual center of teacher action research" ( p. 6).

Elliot defines the aim of action research: "to improve practice rather than to produce knowledge" (Elliot, 1991, p. 49). "Improving practice involves jointly considering the quality of both outcomes and processes. Neither consideration in isolation is sufficient"(Elliot, 1991, p. 50). Both process and outcome involves many people, many steps, and many aspects. The practice I am investigating is my own, so that I can better serve my community as a facilitator for creative and healthy change that will empower all to fulfill their personal talents and abilities.

My process of gathering data was to take notes and keep a journal from the day I began to pursue my idea to initiate a garden at the school. I have seen that "a journal can be a means by which we bring into fuller awareness, both for the student and for ourselves as teachers, some of the deeper processes through which we make meaning" (Burnaford et al, 1996, p. 9).

All of my journal entries are dated, so that I have a clear record of what has happened. I have been encouraging teachers at Grandview to have their students keep journals of their experiences in the garden to reflect on what they learn there. One teacher to whom I supplied donated notebooks did this with her class. I suggested that these garden journals stay with children from year to year as a continuous record of their development in relationship to the development of the garden.

I also took photographs of every step of our community process. I took videos and had other people take videos. I audio taped interviews with Daphne, one of the First Nations resource teachers and with Ramona, our school elder. I did phone interviews with two other schoolteachers and took notes on the computer while they answered my questions. I took notes while I interviewed the school principal, the inner-city project teacher, and the neighbourhood liaison worker. I gave what I wrote to each of the people involved. I changed whatever they asked me to change. These changes did not affect the intent of what was said, just corrected language.

The action research cycle has four steps: 1. Plan an action. 2. Act and observe. 3. Reflect on the action. 4. Create a revised plan based on the results of the previous action (Burnaford et al; McNiff et al, 1996). Each day that I was at Grandview working with students, parents or staff, I was in an almost constant state of self-reflection. When I was with the students leading a workshop I was examining myself as a teacher of small children: Had I set up the materials for easy access? Had I planned the lesson, such as seed planting, in a way that was efficient and allowed the children to accomplish the task at hand and learn something at the same time? Since I would work with different groups of children I had the opportunity to change my approach

based on the results of what had happened in a prior period. I reflected on my different approaches to different ages of children.

Initially, I found it easier to work with younger children. They trusted me more easily and cooperated with whatever activity we were doing. Whether it was reading a story, or planting something or looking at worms, the young children engaged with enthusiasm. In the first year of the project if we had messy supplies, like different kinds of soil, they were more likely to scatter it around, seemingly to test me. By the time the children's first seeds were growing and they had visible success of their efforts I saw a real change in the older children's attitudes. They reported to me whenever they saw me how their plants were doing. Perhaps the caring I was showing towards them was accepted and reflected (Noddings, 1992).

I was also working with teachers, administrators, auxiliary staff, parents, community members and funders. I was most nervous about my working relationship with the teachers. I felt that what I was doing could have a large impact on their workload. and These teachers have very full workloads already because so many of the children have special behavioral, learning and/or language needs. I observed how people responded to me in individual encounters and when I was running a workshop with their class. Did the teacher stand back and observe or participate with the children? Their responses helped me adjust my interactions.

I was also concerned about my working relationship with the parents. I was aware of our class differences and of the historical situations that had affected the First Nations peoples and the many refugees in the school. Of course, those same historical situations affected me too, but differently. I have never been robbed of either culture or land. Freire, who himself comes from a family of wealth, talks a lot about the dangers of people who consider themselves educated working with people they consider oppressed and warns of simply recreating a new oppressive cycle (Freire, 1995). Each of us acts in the context of history, in a web of social interactions between people. There is the objective or external aspect of our situation and the subjective or internal aspect. "This view of practice thus sees itself explicitly as engaged in making action and history as something within the research process, not as something outside it" (Atweh et al, 1998, p.31). I learned in working with the parent community to always go to the school elder first with any question or suggestion because this was the culturally appropriate way to communicate with the First Nations adults.

I tried consciously to avoid what Freire calls the banking model of education that reinforces the teacher as the one with knowledge and the student as the one without. I made every effort to engage with the parents, teachers, students and administrators in a

conscientization process where we were all creating the reality of the moment together (Freire, 1995). I was not an expert and had no desire to pass myself off as such. I wanted to be a community who could tap into other community resources so that everyone had the tools they needed to work together.

In the winter of 2000, I was asked by the principal to meet with the parents to develop an adult literacy program and to write a grant to get the money to run it. I somewhat resented being asked to write another grant since I was not paid for any of my efforts at the school. I had already written many grants to fund the garden, and this was yet another task to do when I needed to be working on my thesis. However, this process of developing the criteria for an adult literacy program with the parents turned out to be the turning point in our relationship. I had been an outsider, and this process made us all partners.

The school administrators approached a group of First Nations mothers and grandmothers who participate in the Parent Association Committee and spend a lot of time at the school. These women wanted the literacy program to be based in the garden. They wanted to write about the native plants for their children to learn about traditional plant use. They wanted to write stories for their children, and recipes for things that might grow in the garden. We became true partners in articulating this vision for the grant application that was ultimately successful. The adult literacy program based in the garden begins January, 2001.

Since I have no authority in the school community I assume that when adults participate they do so voluntarily. The invitation to participate in any gardening activity is open to everyone. I pass around sign-up sheets to all teachers to sign if they want their class involved. Last fall a lot of teachers did not sign up for activities, and so I changed the type of activities I was offering from a conceptual look at ecology back to the hands-on type of workshops I had done the previous spring. Everyone in the school enthusiastically participated in bulb planting. I have from the beginning wanted all gardening activities to be available to everyone, not just to one or two classes. That approach has been effective in creating a full sense of inclusion.

Prior to writing my thesis I categorized my notes by the groups of people they involved to, more than by themes. In some instances this was by age, and in some instances by cultural groupings. For instance, the fact that I needed to work with the Vietnamese parents through a translator made me sensitive to the need for extra communication to that group. The translator agreed to translate posters announcing meetings into Vietnamese and to call parents. Now the translator and one other Vietnamese mother have a community garden plot they share, perhaps as a result of all the extra communication.

All parents were invited to the evening design workshop. In addition I met separately with Vietnamese parents and with the First Nations parents. Each cultural group has different desires when it comes to gardens. We made every effort to accommodate these by providing the community garden where individuals can do whatever they choose with their own plots and the ethnobotanical garden where the native plants of BC can take their rightful place as an intrinsic part of the local ecosystem.

As the project developed the number of people involved grew. It became clear through our work with the members of the community that more stakeholders gave the whole project greater strength and potential for sustainability. Tracy, the landscape architect on the project served as a critical and collaborative friend for the entire process as did Sam, Jock and the school librarian Jan. We engaged in critical collaborative action research together, questioning assumptions about physical and social structure and curriculum together and acting to change them. Our work, "had an emancipatory intent of empowering its participants" (Atweh et al, 1998, p. 150).

In discussing an action research project with students from low socio-economic backgrounds, Atweh, Kemmis and Weeks (1998) say "Because research is a political activity, this approach is based on the principle that *the providers of information are the owners of that information*. Any use made of such information should directly benefit the providers themselves" (p.114). The knowledge I sought in my research was: What did members of the community want if given the opportunity to change the school grounds and what effect did the creation of these changes have on all of us? The knowledge provided by the community has given life to this garden. My hope is that participation in creating this new reality will be a bridge of empowerment for the whole community.

## 2.2 Preparing the Soil

The daily habitats of childhood, in neighbourhood and school, are particularly significant, as they are the places where the generation who must acquire sustainable development values have the possibility to learn formally, non-formally and informally through direct interaction with the elements of the biosphere. Here, the necessary base of a sustainable development culture has the best chance to evolve with parents and teachers working in partnership with children to shift the course of the planet. (Robin Moore, 1995, p. 223)

When I received a positive response from Grandview in the fall of 1998 to my suggestion of helping to start a school garden as a site for hands-on, multi-disciplinary education I began learning all I could about school gardens. I attended inspiring presentations at the American Community Gardening Association meeting in Seattle by teachers and youth leaders from across

North America who were using gardens to transform boring school grounds into exciting, living, growing places. There I learned gardening songs, saw stunning photos of many school gardens and bought books from authors who had developed science, math, language arts and peace curriculum based in gardens. Teens inspired me with their enthusiasm in describing youth market garden programs that taught them job skills and self respect. In Oakland, Boston, Seattle and Portland these young people learned by working as members of a team towards a healthy common goal that benefited their communities and provided them with a place to grow food and themselves.

Community gardens develop in cities where many people do not have back yards or front yards, where they live in apartments and have little access to a piece of land and the possibility of growing food and flowers. I realized at that first ACGA meeting I attended that the community garden movement is very political. It is political because it is about basic human rights: access to good food and to the land on which to grow it. David Orr describes this kind of politics in *Earth in Mind* (1994) using Vaclav Havel's description, "anti-political politics, that is, politics not as the technology of power and manipulation, of cybernetic rule over humans nor as the art of the useful, but politics as one of the ways of seeking and achieving meaningful lives, of protecting them and serving them" (Orr, 1994, p. 71 citing Havel, 1990, p. 155).

I chose to do a garden as a participatory action research project not because I understood consciously in the beginning that there was a political context to school gardens or community gardens. I chose gardens as a meeting place of creativity and children, as an alive learning environment of direct experience. I began to see that land use is always historical and political in nature. Therefore community gardening, an activity of digging in the dirt to feed body and soul, has many historical and political ramifications, not the least of which is the creation of sustainable urban environments.

That same month as the ACGA meeting I read an article by a teacher in Santa Fe, New Mexico reporting on research her third grade class was doing on why the Anasazi people, gone from the region for the past 1000 years, mulched their corn fields with rocks. I happened to be going to Santa Fe and asked the teacher if I could visit the school. (Much to my astonishment at the never-ending synchronicity of life my daughter began to work at that very school the day before I heard from the teacher.) On my visit to Gonzalez Elementary School to see the garden and meet the teachers doing the research I met an ethnobotanist from the University of New Mexico who was directing the research and supporting the teachers to integrate it into their curriculum. I saw a dynamic university-elementary school cooperative research project.

The children were prime investigators working in collaboration with seasoned ethnobotanists. They were not doing an experiment that already had an answer in a lab book. They were in search of new knowledge about how people 1000 years ago managed to farm in the extremely dry high desert climate of the region, and they had planted Anasazi seeds on their school grounds to conduct their research. (The children's research indicates the Anasazi mulched their corn and bean plots with rocks to conserve water and soil temperature.)

Back from my field learning experiences I investigated the literature on school gardens and discovered a flourishing organization and movement in England, *Learning Through Landscapes*, that promotes research into the hidden curriculum of school grounds. Wendy Titman did a two-year study into whether the physical environment of school grounds affects children's attitudes and behaviours. Titman classifies as a main finding that children, unlike most teachers, view the school grounds as a part of the school. When the school grounds meet "at least some of their needs, they read this as a reflection of the fact that the school valued them and understood their needs" (Titman, 1994, p. 57).

Titman's research showed that children read certain design elements as signifiers that a place is wide and varied and well designed for their needs. These elements are "a natural landscape with trees, flowers and other things that grow, animals, ponds and other living things, natural colour, diversity and change, surfaces which they can use which 'don't hurt', places and features to sit in, on, under, lean against, where they can find shelter and shade, a landscape that provides different levels and 'nooks and crannies', where they make dens and find privacy, structures, equipment and materials which can be changed, actually, or in their imagination" (Titman, 1994, p. 59).

To the best of my knowledge, Titman's research is the most thorough into children's relationship to their school grounds. She discovered that "the grounds are essentially signifiers of the ethos of schools" (Titman, 1994, p. 60). Children in her study "were deeply affected by the condition of the grounds" (Titman, 1994, p. 61). I read Titman's work after already deciding to engage in participatory action research to redesign the school grounds to include gardens, and it certainly supported all that my intuition told me about the environment that children enjoy and from which they benefit on many levels.

Gardens naturally fulfill the elements the children cited as being what they wanted. Green Acres Elementary School in Santa Cruz, California started a school garden in 1978 which has grown to serve twenty-five K-5 classes through a community and university partnership. Children and teachers explore a variety of life, earth and physical sciences in what has become a

two-acre living laboratory of flower and vegetable gardens, fresh water pond, science museum, solar greenhouse and natural field study center. Children work cooperatively in small groups to measure the temperature of the compost, test the soil for its chemical elements, graph the growth of their seedlings, and prepare nutritious snacks from what they have grown. From this Life Lab program developed on a dirt parking lot by teachers, grew a national award as a “Center of Excellence” and an entire curriculum based in the garden (Jaffe & Appel, 1990).

I read many case studies of schools across the US and the UK developing gardens with students of all ages with excellent learning outcomes and community enrichment (Jaffe & Appel, 1990; Kenny, 1996; Kiefer & Kemple, 1998). Many emphasized the importance of making a master plan for the entire school grounds even if what one envisions at first is small. All stressed the importance of the children being involved in the planning of a school garden from the beginning so that their needs and ideas come first (Eames-Sheavly, 1999; Jaffe & Appel, 1990; Kenny, 1996; Kiefer & Kemple, 1998; Petersen, 1996). None discussed any special training necessary for teachers to support them to orient curriculum to the garden and that is a definite oversight.

I realized I needed help if I was going to involve the school community in creating a master plan. I put out a blanket email to the School of Agriculture and Landscape Architecture at UBC explaining what I hoped to do and asking if anyone else was looking for a project and would like to join me. I got one response. Tracy Penner, a fourth year landscape architecture student, needed a landscape project to design for graduation in her Bachelor’s program in landscape architecture at UBC. She wanted to design a sustainable urban school ground.

At my first meeting with Tracy she introduced me to Stanley King’s Co-Design (1989) method. I liked King’s process of community involvement from the beginning of any major community change. He laid out the steps for community input of ideas and design. We adapted this to working with small children, and it proved invaluable to our project and its success.

I applied to Neighbourhood Matching Funds Grant prior to meeting with the school because of the grant deadline with the school’s permission. I submitted a \$4475 budget for the garden I envisioned. Twenty months after community planning has created a much larger vision costing \$314,440 our budget continues to grow right along with our vision. (See Appendices 2 and 3 for the first budget and the most recent budget).

At the end of November, I went to teach for three weeks at the University of Luleå in northern Sweden and was able to learn something about Swedish school gardens. The biology teacher at the Faculty of Education was thrilled to show me pictures of their summer teaching

garden where future teachers learn to use the garden as an integral part of their curriculum with fifty percent of all student teachers participating. She gave me beeswax ointment that the students had made with the help of the bees they keep. She also told me that Swedish farmers mulched with large rocks in their farm fields until the advent of the tractor and for exactly the same reason as the Anasazi, though their climates were very different.<sup>6</sup>

I visited a middle school near the university that has a courtyard garden complete with pond and chickens. Even though it was -15 C in Gammelstadt and covered in snow the compost box was steaming when the biology teacher lifted the lid to show me. No school lunch leftovers got wasted there. The chickens had laid eggs in their heated hen house that we gathered and registered in the egg book. (Their droppings undoubtedly helped that compost to heat.) Students use the eggs in winter to bake cakes that they sell by the piece in the school store to raise money for their garden. Seeing how much these students had accomplished made me aware of how much could be done. The biology teacher began the garden with his students, ages twelve to fifteen. The other science teacher and the art teacher also use the garden all the time with their classes. They gave me extraordinary color pictures of their garden in summer bloom around their little pond that was designed and built by the students.

Skolans Uterum, a national Swedish organization, exists to promote dynamic use of Swedish school grounds. It sponsors conferences, gives grants and puts out stunning full colour publications of their art, garden and live animal initiatives at schools throughout Sweden. On my way home to Canada I stopped in Stockholm and visited the national office in the neighbourhood of the government palace.<sup>7</sup> I knew I was in the right place from a distance because I could see an Andy Goldsworthy poster in the window (Goldsworthy, 1990, 1994, 1996). His art speaks visually across many language barriers to people interested in exploring an intimate relationship with the earth. Skolans Uterum's accomplishments made me aware that Sweden values both the environment and the arts for their children. I returned to Canada inspired by what I learned through my experiences in Sweden and ready to begin my action research at Grandview.

In January, 1999, the school received \$3500 from the Neighbourhood Matching Funds grant I wrote, the first of the successful grants that made this project possible. I began the actual

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<sup>6</sup> From conversation with Professor Ingalill Danielsson, Faculty of Education, University of Luleå. She cited Peter Akerblom's book, *Skolträdgårdens* which I could not read in Swedish.

<sup>7</sup> In contrast the Evergreen Foundation, Canada's national school greening program, has an office in Vancouver on East Hastings in one of the city's most nefarious blocks for the drug trade. I find it frightening to walk the block from the bus stop to their office door. The lack of funding which puts Evergreen in the lowest rent district indicates to me our lack of national priority for the outdoor school environment.

process of research at the school knowing that we had a small amount of money for implementation of whatever garden the school wanted. Tracy Penner joined me as the landscape architect and partner in the whole planning process. I was grateful for her company as we began this adventure together in community visioning and gardening. There is no possible way that I could have done this project as it has developed without Tracy's skills and dedication.

### 2.3 The Gardeners

I believe many humans passionately embrace the metaphor and the reality of the garden because it enables them to marry two modes of thought—intuitive/logical, right brain/left brain, feminine/masculine—and by so doing, to resolve certain inner conflicts that remain in the individual and the group psyche. (Francis, & Hester, 1990, p. 27)

Tracy and I co-planned all our meetings and workshops, everything we did with the school community. I believe the mutual cooperation between us helped to create a collaborative environment for everyone involved in the project and set the stage for what has become a community development project, not just a garden. Our first step was to discover what the people of the school community wanted on the grounds and then make a plan based on that. The next was to discover what I could do as a community educator to support the teachers to integrate this resource of the grounds into the school curriculum. What could I do to support the parents to become involved? What would happen from these efforts?

In feminist participatory research, the distinction between researcher(s) and [participant(s)] disappears. To achieve an egalitarian relation, the researcher abandons control and adopts an approach of openness, reciprocity, mutual disclosure, and shared risk. Differences in social status and background give way as shared decision-making and self-disclosure develops. (Irwin, Matri & Robertson, 2000, p. 7 citing Reinharz, 1992, p. 181)

Research on what is necessary for school and community gardens to be sustainable shows that this feminist approach of openness, reciprocity and shared risk helps community gardens to thrive as well. It is vital to involve everyone from the beginning so that all voices of the community are heard. The more people are involved in the co-creation, the more people are invested in the eventual outcome (Jaffe & Appel, 1990; Kenny, 1996; Kiefer & Kemple, 1998; Titman, 1994).

There are certainly issues of race and class at Grandview/?Uuqinak'uuh because the parents are First Nations primarily, but also of many other ethnic backgrounds. Many of the parents have little formal education and few financial resources. The staff is educated and has

paid positions as professionals at the school. Tracy and I came in as volunteers, both of us with the privilege of husbands supporting us while we gave our time to the community, both of us with formal education. I never had any desire to research specifically the parents or children, because it felt very invasive to me. I wanted to work with them all, and create something exciting together. My research was on myself as a community facilitator and our process together. I think that by my being there every week for a year and a half, we have developed a mutual respect in our work together to improve the environment for all our children.

I would have loved the opportunity to go to the children first, to ask them if they wanted to be involved in this project because it is their school grounds. I believe personally in child directed education, and I have experienced a constant dynamic tension throughout this project from wanting to give the children a choice about their involvement within a school structure that is run essentially by adults.

Letting go of power has been one of the biggest personal challenges I have faced as a student and educator. As a graduate student I want to direct my own learning, not be told what to do. As a teacher I want the children to choose what they do but I am not in charge of the children. I do not even know if I could do that if I were in charge of the children in a school system context.

But the reality is that the adults in the community hold the power, and it was their cooperation that was necessary to obtain before we could go to the children. We had the permission of the school administration to proceed, so we worked with them to communicate with all parent groups and teachers to let them know of our desire to facilitate a process of transforming the school grounds and to discover if that interested them. We met with the children after the adults.

Tracy's dates for design completion were set by her faculty at UBC and needed to be met in order for her to graduate. That schedule kept things moving at a quicker pace than might have been the norm for such a large project in a public school. The deadlines served the project well, because they kept us moving forward steadily.

We met with the parent board of directors of Grandview Terrace Childcare, followed by a meeting with the Parent Association Committee (PAC) of Grandview. From each we received enthusiastic endorsement with offers of help. I met separately with the Vietnamese mothers' groups with their translator present. They have been the parents most involved in the small existing garden and want to grow more vegetables and flowers and learn how to grow more plants in general. They participate in the Community Kitchen program and want to grow some of

the food they prepare together there. By mid-January our gardening team had their metaphoric shovels in hand to begin the transformation, and perhaps a description of each gardener would serve the reader well here.

Tracy Penner, landscape architect, began a second career when her four children were old enough for her to devote some time to her studies. Landscape architecture allows her to combine her artistic talents with her social concerns for the environment. Her ability as a designer, commitment to the communally created vision, social awareness, willingness to give hundreds of hours to the community and good humour have made it possible for this project to go forward and for me to gain a wonderful new friend.

Jock McLauchlan, or Mr. Mac as the children call their principal, did his masters in Oregon where he studied with a leading environmental educator, C. A. Bowers. Jock came to Grandview four years ago, the year the school was held hostage by a bomb scare. He has a huge commitment to social justice and community change to break the cycle of poverty.

Jock sees the grounds as a place to implement the school goal of a safe and caring community with parent and community involvement. He also sees it as a natural starting point for a family literacy project. He wants to make the school a full service educational model that serves parents and siblings as well as enrolled students.

Jock also serves on the board of KidSafe, a holiday time program for the children to ensure that they have supervised care when school is not in session. KidSafe plans and supervises children's activities and meals during all vacations at Grandview and three other inner city schools. With KidSafe programs at the school all summer our school garden has children year-round to enjoy it and care for it. Concurrent with the start of the garden project he and the director of the Grandview Terrace Child Care established an accredited after-school-care program on site under the direction of Britannia Community Centre so that during after school hours children are at school and can garden then if they want. Jock has welcomed Tracy and me to the school as professional peers.<sup>8</sup>

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<sup>8</sup> I had wondered several times why it was so easy for me to approach Grandview with a rather large idea and be welcomed so easily and immediately. The first time Jock and I had a private conversation was several months into our project. We discussed a New Zealand educator we both admire, Elwyn Richardson, whose book, In the Early World, (1964) portrays a one room school for Maori children in rural New Zealand where Richardson integrated all subject matter through the arts. The children's poems, lino cuts, pottery and drawings have inspired me since I first saw them in 1970. We discovered we share a vision of how a school can be a channel and container for great creativity and social justice.

Harry Jantzen, the Vice- Principal, took time away from schools to become a counselor and Mennonite brethren, and then got his doctorate in educational leadership. Tracy realized Harry had been her elementary school teacher the first time we had a meeting with him. It was Harry who suggested we apply to the Mennonite Central Committee for funds for our community garden, which has proved to be a fortuitous move.

Sam Phillipoff, the inner city project teacher at Grandview, grew up in the interior of BC in a farm family that had little material wealth. He identifies with the challenges the children face and works to make the school a supportive place for them. He came to Grandview the same year as Jock, so has worked with him for four years to bring the school community into a state of health rather than siege. His goal is to work with the school community, not for it.

He did his masters in education at SFU when he was teaching at another inner city school and did his thesis on the concept of identifying what defines an inner city school, what additional resources they need and the steps necessary to get those resources. The designated inner city schools that now exist get their extra funding in part due to his work and that of the team of teachers he lobbied with for this designation.

Sam plans field trips, brings in guest performers and workshop presenters, generally takes charge of enrichment in the school curriculum and fundraises for all these programs. His commitment to the children and working outside the box to meet their needs is obvious. He says yes to all proposals that he sees as beneficial to their education and lives. I frequently marvel at how lucky the children are to have three kind men in positions of authority at the school. All these men work to expand the horizons of the children and set behaviour limits for them with compassion and clarity, like good fathers. Sam has been the point person for the garden, a key to its success.

Another gardener in this project is the school librarian, Jan. Jan is a devoted gardener herself and has always done plant and gardening projects with her students. She understood from day one how encompassing a school garden project could be, how it could be the heart of a curriculum. She began immediately to set out books for all to see on gardening and to read gardening related stories to the children who came in for story time. She also allowed me to use story times in the library with the children as a time that I could share books I had found with them. In the fall Jan brought in the daffodil bulbs for the children to plant and lesson aids she had used in the past with daffodils. The school library has been a place this project could root well.

When I compare our process of collaboration in this garden creation to the isolation of many classroom teachers who alone are supposed to provide everything their students need to learn, I am grateful for this experience of co-operative education which has drawn on the strengths of many people. Together we are all growing a community of learners.

## 2.4 The Garden Calendar

The Lunar cycle is one of the great *cycles of nature*. Observances associated with moons are a manifestation of the ways that traditional Native North American cultures share the unifying principle of living in balance. (Caduto & Bruchac, 1998, p. 47)

January is the month seed catalogues arrive in the mail with their full colour photos of brilliant flowers and luscious ripe fruits and vegetables. We dream of what lies dormant in the soil during the long dark nights of winter and plan our gardens for spring. The first piece of curriculum I published (Pevac, 1991) for the Arts Umbrella multicultural program taken to Vancouver schools by visual and performing artists contains a visual arts lesson based on the myth of the kidnapping of Persephone, daughter of Demeter.

Demeter is the goddess of grain and the harvests of the earth. When Hades takes Persephone to the underworld, Demeter grieves her daughter's loss so greatly that the crops on the earth wither and die. Young children see this myth as an explanation of the seasons. Symbolically it also explores the necessary period of dormancy and darkness for a person's creativity to rest and be nurtured inwardly before new life can come forth in the spring and bear fruitful harvests.

The Demeter and Persephone story also expresses the cyclical nature of life and learning in general. Plants die back in the winter and are reborn in the spring. People need a period of rest after a busy learning season in order to let ideas take root quietly within one and gain a greater depth of understanding. We return to what we learned before and see it with fresh perspective. In this way we gain new insights and experiment with our ideas further.

I envision a school curriculum tied to the cycles of the earth, to what we see on the surface as well as to what is happening inside us and in the earth. Ecology means knowledge of home, and we are part of home. As I worked with the First Nations community I learned that First Nations educators have written curriculum based on the cycles of life and seasons in accordance with their ancient traditions of honouring their connection to Mother Earth. The

interconnectedness of all life that shares this home of our Earth has always been their reality (Caduto & Bruchac, 1998; Cajete, 1994; Kirkness, 1992).

As gardeners we compost last seasons' stems, roots and leaves into this season's rich fertilizer, connect ourselves to our bodies by literally working the dirt to produce a harvest of fresh food and growing beauty. We make ourselves healthy and connected to the cycles of nature that are part of the pulse of our blood through this co-creative process with nature. As teachers and learners we recycle previous themes, we digest and ponder what we are learning and sprout new insights. In a garden I hope that children can discover these realities by experiencing them as they make compost, plant seeds, move and shape their reality to suit their and their plants needs.

Tracy and I used January 1999 to begin the planning process for the school garden with the teachers. My research into school garden literature had led me to believe an outdoor classroom would be an eventual asset to the community if the school wanted one (Appel & Jaffe; 1990, Kenny 1996). Jock and Sam both felt it would be good to suggest the idea to the staff. Bruce Carscadden, an architect, heard about our project and volunteered his time to design whatever it was the teachers decided they wanted. Bruce attended the staff meeting with Tracy and me to listen to their visions.

The teachers brainstormed enthusiastically what they wanted to do outside with their classes. The First Nations staff clearly wanted an outdoor classroom in the style of a coastal long house with a fire pit. A multicultural garden, a water feature and a greenhouse on the roof all were suggested. At the end of the meeting I felt they had embraced the entire project and would carry it with us. They had also made very clear to us the importance of First Nations culture to be manifested architecturally on the grounds.

Tracy and I met to plan the format of the design workshops for the children. We included a recently graduated agricultural ecology student, Christina, who had offered to help us. The design workshops for each class lasted about 45 minutes each. All classes except one, nine in total, participated.

We showed the children slides of the school site as it was currently and slides of natural areas and planned gardens in BC as inspiration for how it could be. Tracy brought a photo board that had a map of the neighbourhood with the school located clearly and photos mounted around it of various possible garden features. A picture that I brought back from a Swedish Skolans Uterum project of a small waterfall on school grounds became a favorite of the children, as did the pond at the Gammelstadt school.

After Tracy showed the slides we divided the students in three groups. One group met with Tracy and traced their routes of arrival, departure and play on a map of the school and its grounds. They used different colored dots to show their favorite and least favorite spots, the places they wanted changed and the places they didn't want changed.

Christina and I worked with the two other groups to have them actually design what they wanted. Tracy provided a map for each class and some templates of design elements, I brought play dough and Christina brought a bag full of small branches of various trees and bushes, dry flowers, rocks and shells. The natural elements turned out to be the favorite media for design. By the time we had run three workshops we got rid of the paper templates and brought in two sand play tables where the students constructed gardens using the twigs and flowers.

This adjustment to our plan for gathering information from the children happened easily. Christina's idea of natural elements for the children to manipulate was an instance of many in this project of the right person appearing and doing just what was needed. I also learned from this first encounter with the children that well developed plans were good and flexibility always needed. If we had several activities planned, we could go with whatever worked best for the children

We took notes of what the children said of the little gardens they constructed and I photographed every garden plan made. One student who had graduated the year before arrived to be an afternoon volunteer and took over the video taping for me, which was a huge help. We three adults met between each class for a few minutes to compare notes on what the children had just created. Almost every child in the school wanted running water and bridges. One little boy had me meet him on the playground so that he could show me where he wanted the waterfall to go.

The children wanted ponds, streams and forts, tree houses and places to sit privately, places to hide. What they wanted confirmed Titman's research in cited previously (1994). One grade one student astonished me by creating a temple of shells on the top of a hill, a sacred space. At the end of each session with the children we made lists of requested outdoor features. In retrospect I see that the teachers wanted manifestations of culture and the children wanted nature and to be free to experience nature as they chose and with risk like water and high places to climb.

In the parent and community design workshop held one evening early in February Tracy presented the same slides she had shown the children and provided the same maps and photos of other community and school gardens. We divided the adults into three groups and had them

brainstorm on paper what they wanted. Parents requested a community garden to grow food and flowers. They also wanted a greenhouse. Since most of these families live in small apartments a patch of ground for growing things has huge value. Preschool staff said their biggest concern is to stop vagrant men from sleeping and peeing on the deck of the day-care that backs onto the schoolyard.

While some schools may not want to invite community adults onto their grounds to garden, at this site illegal activities of drug and alcohol consumption and prostitution occur after school hours. Our hope is that the presence of responsible adults involved in tending their own garden plots will provide a cushion of safety on weekends that does not currently exist.

Tracy gave the adults six sticky dots each worth \$1000 and told them to vote with their money for what they most wanted. The community garden plots got the most votes. The First Nations parents requested an ethnobotanical garden as a place for learning about traditional native plant use. Parents wanted beauty too with wildflowers and places to sit and enjoy it while their children played. What I learned from this process was how powerful it is to give people the opportunity to express what they want and then take it another step and have them designate what is the most important. The things most wanted gave us our objectives for the design. The features that did not go into the final plan that were requested were ones forbidden by the school board: anything with water, places that people could fall from and get injured (tree forts) and rocks of any size that could be lifted.

In late February, Tracy and I took interested parents and a grandparent to the First Nations Education Centre to view their ethnobotanical garden. All the adults who came on this trip were First Nations women. They were excited and keen to have an ethnobotanical garden growing at school where they could harvest plants and use them instead of just looking at them and talking about how they used to be used. This outing with the parents helped to bring them into the excitement of the project. By seeing this urban native plant garden we all began to see how we could use such a garden for the education of the whole community at Grandview/?Uuqinak'uuh.

The neighborhood liaison who works closely with all the caregivers (mothers and grandmothers), and the children went as well. Joanna's enthusiasm and interest in this project has been key to the involvement of the parents because they know and trust her. She is also the bridge between the parents of different ethnic groups who sometimes have no language in common, but all work well with her.

## 2.5 How Does a Garden Grow?

“ Nothing happens in living nature that is not in relation to the whole” (Goethe, source unknown).

While Tracy and Bruce both went to their drawing boards to create designs based on the community ideas, I continued to work with the students and teachers on a weekly basis. I wanted every part of this project to have context for the children and for the teachers. I brought in many books from the library on gardening curriculum, stories based in gardens and general ecology and left them out for teachers to use and indicate on a list which they wanted me to buy for the school with the first grant money I had obtained.

When I looked for literature regarding people’s relationship to plants I looked for stories to read to the children that reflected all the cultures in the school. I read to several classes Dried Sweet Apples, a story about a Vietnamese grandfather during the war who was a village healer, and how carefully he preserved and handed out dried sweet apples after giving bitter healing herbs. I also read stories to the students based in China, and First Nations’ stories regarding their living relationship to the plant world. Sharing this literature with the children and teachers was one way of honoring each child’s culture of origin within the context of the garden development.

There is a huge amount of information available on how to properly plan, plant and care for school gardens and all of it, including the planning process can be used as curriculum to meet provincial requirements (Eames-Sheavly, 1999; Jaffe. & Appel, 1990; Jurenka & Blass, 1996; Kiefer & Kemple, 1998; Pranis & Hale, 1988). Little of this is taught formally to teachers-in-training. As I have done more reading and more teaching in this very extensive field of ecology and its related sciences over the last eighteen months I am increasingly concerned at how much could be done for active learning on school grounds and how rarely this happens.

My own personal moment of textbook science knowledge growing into an “aha moment” of real understanding of life came from designing a lesson plan for planting seeds. I rediscovered photosynthesis. I had probably not thought much about photosynthesis since I took biology in grade 9. Now I am quite surprised that all elementary school science does not begin with seeds, plants and photosynthesis, and recycle through these with increasing sophistication each year.

Planting a hard little seed, watching it swell with life and burst out to reach up for the sun to get the energy it needs to grow and come to maturity to produce fruit and seed to begin the cycle again shows children what a life cycle is. The ability of green plants’ chlorophyll to use the energy of the sun, the Co<sub>2</sub> we breathe out as waste and some water to manufacture the basic

sugars that are the primary building blocks of life on earth and create oxygen as a by-product strikes me as a phenomenal miracle. This is the bottom of the food chain for life on this planet. No scientist has to date produced chlorophyll in a lab to replicate the process. The most minute green plants do something intrinsic to our lives that scientists cannot do. Only plants can do this (Capon, 1990).

Understanding photosynthesis seems to me a basic step in having respect for life on Earth. It provides us with the food we eat and that every other animal on the planet eats somewhere along the food chain. Be we aphid, lady beetle, bunny, eagle or human we depend on photosynthesis for our food. It provides the boards for our houses and the energy we consume in fossil fuels.

No wonder so many ancient cultures worshiped the sun as the source of all life. I am not suggesting we return to sun worshipping, but that there is a way of teaching basic science out of doors which brings children back into touch with the source and miracle of life rather than just reading about it in the pages of a text. While there are teachers around the world who do this, who take their students into the natural world to learn from it, this pattern is not the norm.

It is my hope with this project that we shall create a model of how this is possible even in the middle of a city. In addition to the scientific knowledge we gain from observing nature, there is also a sense of connectedness with creation that can come from these encounters, a sense of belonging in the greater scheme of things. As I have listened to the First Nations people express their needs for their culture to be manifested on the grounds I have also read many wise words of their elders. "Another of the Natural laws is that all life is equal. That's our philosophy. You have to respect life—all life, not just your own. The key word is 'respect.' Unless you respect the earth, you destroy it" (Wall & Arden, 1990, p. 67 quoting Oren Lyons, Onondaga).

Gary Nabhan is director of the Sonoran Desert Museum. He is also a naturalist writer and researcher of native plants and their relationship to the health of indigenous peoples. Nabhan (1994) recalls only three field trips for nature studies in all of his pre-university education even though he lived on the edge of the Indiana Sand Dunes. For him nature was close at hand, and he could develop a relationship to the earth on his own. But many city children do not have access to nature out their back doors. He realized he was a naturalist by calling when as a high school drop-out he was working on the railway lines and he saw six herons circling the industrial wasteland of Gary, Indiana looking for a place to land. He was immediately focused on them and their search for a safe body of water.

I realized that no matter where I was, I had the capacity to see the world as freshly as any naturalist could. Even in the most damaged of habitats, in the drudgery of the most menial labor, whatever wildlife remained could still pull at me deeply enough to disrupt business as usual. (Nabhan & Trimble, 1994 p.36)

Like Nabhan, I recall no field trips at all for nature study when I was in school. The only time I was directly taught about nature was through Girl Scouts. Science class in school was devoid of life until we dissected dead worms and grasshoppers in grade 8. I was fortunate, as was Nabhan, in living where I could go into natural settings on my own. That is not a possibility for hundreds of millions of the world's urban children, including those at Grandview.

Educational philosophers have long expounded on the role of education in relation to the natural world. "Education, in instruction, should lead man to see and know the divine, spiritual, and eternal principle which animates surrounding nature, constitutes the essence of nature and is permanently manifested in nature (Froebel, 1887, cited by Miller & Seller, 1990 p. 144). Friedrich Froebel lived and philosophized near the end of the 19<sup>th</sup> century. He started the first kindergarten and gave it the name we still use. His statement shows that industrialization was well enough on its way even then that education was already removed from contact with nature. *Instruction* was required for students to experience the essence of nature. Froebel saw the same value in this experience for children as I do.

Since I believe that these basic principles of life on earth are subject matter important for children, then I believe it is my responsibility as an educator working in the broad context of community, to create the conditions around children so that they can learn these things in context. Making school grounds, university grounds models of sustainable living really makes good common sense if we want to have students grow into responsible stewards of the earth (Orr, 1994).

A multi-age learning model, a give and take between generations is one of the important elements of sustainable living and of this project for me. When generations live in isolation from those younger and older a continuity of life gets lost. We all have something to learn from each other, no matter what our age or status, and this project's development has depended on the participation of people from ages two to seventy from all different sorts of backgrounds. Sustainable living needs people of all generations living, working and learning together. The question of my research of how to facilitate change that is beneficial within a school community has led me to listen with respect to people of all ages and roles within the community. As the children need a place to play, the elders need a place to sit and watch them.

My own teachers in this endeavor have ranged from small children, to young adults to elders. Christina, the young woman who helped Tracy and I run the garden design workshops with the children and adults, was considering applying for the professional development program for teaching at UBC. She wanted more experience with children and offered to help me prepare soil workshops for the children and teachers. Christina had studied soil science and became my teacher as we both worked with the children. She constructed soil experiments for all the classes. She got samples of sand, silt from the Fraser River, clay, and soil from the school garden boxes. I brought in some compost from home.

In running these very messy hands-on workshops I saw over and over the importance of pre-thinking all that could happen so that we were prepared for any eventuality. After one session on slanted desks in the classroom we moved to the large hall on flat tables so that jars of dirt weren't sliding off. We stayed put and the students could come to us, rather than us cart all the things we needed for a workshop from room to room. Interactive workshops take way more preparation for a teacher than workbook assignments, which is one of the challenges to increasing the opportunities for experiential learning.

The stars of the show that day were the earthworms from the garden soil and red wigglers (another kind of worm) from my compost. We had many teachable moments for caring and gentleness. The excitement of the children over having something wiggling and alive in their school room expressed their need for such experience. I exchanged worms half way through the day, so that the first set didn't die from over-handling.

We did dramas with younger children to show soil texture and water moving through clay or sand or loam. I had done a lot of storytelling and improvisational drama with children before, but I had never been a grain of sand or clay particle. I learned from Christina, not yet trained as a teacher, a dramatic way to approach the science of dirt. The teachers operated the video camera for us so that we got some of the soil dramas on tape. The children stood tightly together as little molecules of clay, arms linked tightly. Sand particles had plenty of room between them and water flowed where it could. The grade 3/4 teacher remarked to me recently that she was really amazed at all the children learned and retained from that dramatic play on the qualities of soil a year ago.

An important part of the dynamic of Christina and I working together on these soil workshops was the willingness we both had to risk doing something in which we were inexperienced, not experts. I believe that the willingness to take a risk to try new things is a key

to dynamic education. Noddings discusses this as one of the elements to a caring education. Teachers, instead of being experts, become co-learners with their students (Noddings,1992).

This time of about three months of running workshops relevant to the garden proved to be a vital time for the children and teachers to come to know and trust me and me them. I always wore green and my bright green pin of a frog who I call Fred. Perhaps because I kept turning up every Thursday without fail the school community learned to count on me, learned that I cared about them.

We began talking about what the children wanted to plant. Fruits figured high on their lists. The most popular vegetables were the sweet ones: carrots, corn and peas. I kept feeling concern about how to fulfill their dreams with the restrictions in space placed on us by school district regulations for school gardens. The school district guideline for gardens growing food is 100 square feet maximum in boxes and surrounded by a fence with a locked gate.

Tracy produced three possible designs for the site by late February. Bruce did preliminary sketches for a longhouse with ten support poles, a slanted roof and sunken floor in the Musqueam style. Since the school ground is claimed as traditional territory by the Musqueam, Burrard and Squamish Nations that is appropriate.

We had our first meeting with the head grounds supervisor for the Vancouver School District at the end of the month to present the designs for his preliminary approval. When Tracy showed him three plans that all included a pond, swales to carry rain water to the pond and a longhouse he told us no water and no rocks of a size that can be picked up. He said his job was to say no even if something was a creative and good idea because of the possible liability issues. At first he said no to the Longhouse with a roof because of kids climbing on the roof and falling off, but then remembered that his crew had built one as a play structure at another school.

He told us that in actual fact his job demanded that he say no to almost everything we were suggesting. But it was clear that on a personal level he liked what we were doing and wanted to help make it possible. He told Tracy some of the alterations she should make to her plan to meet district guidelines. We set a date to take these altered plans to him and to bring the architect to discuss the Longhouse.

As I went from meeting to meeting with parents, school board employees, funders, and organizations involved in caring for the children, I often wondered when we would all be able to just go outside and play. I wondered why it had become so complicated to provide a more natural environment for children who lived in the city. The answer, in part, was cost and litigation. The most efficient, cost effective surface to care for at schools is asphalt, followed by grass. The

grounds superintendent trained as a horticulturist in England, but manages the grounds of a school district that does not yet have a philosophy of using the grounds as an educational resource, nor does it have the funds to do anything new. His job is to keep the grounds cheap, neat and accident-free.

When Tracy, Bruce and I went to visit the grounds supervisor for the second time, he looked at the plan drawings and acknowledged that they looked like a site for environmental education. He suggested we submit our program to the school board as a site for a model school for environmental education. By being a model school of an innovative program perhaps we could bypass some of the standard limitations imposed on schools for grounds use. We followed his advice. As I reflect back on these many meetings with different school district officials I can see they were as much about forming community as our design workshops with children, teachers and parents. Each time we listened to one another's ideas respectfully we grew in community. The number of gardeners in our project grew through these meetings.

Tracy removed the pond and replaced it with a dissipation pond, a hole filled with changing sizes of gravel to gradually absorb the rainwater that currently forms many puddles on the grassy area and keeps it from entering the city's overburdened storm sewers. The swales will not have loose stones that children can pick up and examine and potentially throw, but will carry rainwater to the dissipation pond. There is a butterfly and hummingbird garden, planter boxes of school board regulation size as classroom planting beds, a three meter high mound to provide a grand view, a community garden, a bosque of all the species of maples native to Canada, native plant edge to provide bird habitat, a longhouse styled outdoor classroom with carved totem poles and an ethnobotanical garden. (See Appendix 4 for the site drawing).

March 30, 1999 Tracy presented her final drawn plan to the school staff for approval. We made several suggestions of order of implementation and the staff accepted them all including building the class garden boxes as the first step. The grade 7 teacher, Burt, wanted a weeping willow for sitting under for storytelling and reading. Tracy added one by the dissipation pond. One of the kindergarten teachers requested a Douglas fir, and that became the first tree we planted in the native plant garden. The vice-principal told us after the meeting that he had never seen such complete buy-in by the stakeholders in a project in anything he had been involved with before in a school. The school community enthusiastically received these plans that gave form to their ideas.

Now began our lengthy process of persuading the school district officials that what we were doing was worthy of their approval. Tracy and I, the Grandview/Uuqinak'uuh school

administrators, teachers, and parents were ready to change the world in which the children were learning, and our task was to present these changes in such a light to the school district who held the power that they would say yes to what we dreamed.

## 2.6 Planting

“All schools should have gardens, greenhouses, and windowsill plants, and students should learn how to nurture plants” (Noddings, 1992, p. 133).

While we waited for the necessary meetings to get permission to start building the garden I got the classes involved in planting their first seeds in mid March. I had asked teachers if they wanted their students to have responsibility for certain parts of the garden or if they wanted themes for their classes, like a garden for pizza or one all in yellow or only scented plants. These ideas didn't seem to go anywhere, so I simply chose the seeds I knew would grow easily and offer maximum return to the children for our first spring planting: cherry tomatoes, marigolds and cosmos. I would have preferred to have the teachers facilitate the choosing of seeds with their classes, but I couldn't force that to happen.

One of my students in the course I taught at UBC who was doing a week of observation of Grandview told me about peat pellets which I had never seen or used (once again I was learning from a student). Peat pellets turned out to be an ideal seed-starting medium because all you need is water to soak them so they can expand and there is not mess of dirt. It allowed me to start the seed planting with a visible magic trick: tiny pellet dropped in water becomes plump little planting pot—not unlike their seeds as they expanded to grow. I needed help to plant seeds with 175 children and asked the parents who were daily at the school to visit and make crafts together if anyone could help. Just as the first class was to arrive, one of the mothers joined me and gave wonderful help all day.

I drew a seed and labeled its parts and started each workshop with a quick explanation of the seeds germination process and structure so that they would understand they could not plant it too deeply or it would not have enough stored food in it to get to the surface. We discussed the plants need for water and sunshine. The children wanted constantly to know if they could take the plants home once they grew, but since most of them live in apartments I had not counted on this or planned for an extra pot to go home. I made up for that oversight in the fall by having everyone plant a daffodil bulb in a pot to take home as well as planting them in the boxes they

had built outside. This need to possess a plant of one's own seemed pretty universal across all the grades.

The day we were planting seeds I overheard adults saying that several of the Grade Seven students had been identified as being active in prostitution. I felt overwhelmed by sadness. I had no idea if anything I could do could make a positive difference in some of these children's lives. It was one of those times of seeing the vast gulf between my protected childhood and what many of the children face. Fortunately there would always be some encounter with a child that would give me a feeling that together all of us could create something healthy. A child's question, a child telling me how much their seedling had grown, a child leading me to see something growing.

One day in the library the Grade One children were drawing pictures of what they wanted in the garden. One boy wanted me to help him, but I told him I was sure anything he drew would be wonderful and way better than what I could draw. He walked away from the table. I asked him if he wanted to look at the pictures in the story I had read them, and he said yes. He proceeded to draw an extremely complex garden with an arbor covered in vines from his own personal vision, not from any pictures in the book. Jan told me it was the first time he had ever drawn in the library even though she had frequently given children the opportunity to draw after story time. He took this picture of a garden home to show his mother. I don't know if it was the idea of the garden or simply the time I took with him, but this child made a break through for himself that day.

During spring break in mid-March about half the students came to school daily for KidSafe activities. One day I brought some miniature potted daffodils and enlisted the help of some of the children to plant them by the front door to welcome everyone back to school the next week. It turned out that all the tools had been locked up and the Kidsafe staff had no key, so we had to dig with spoons which was pretty laborious, but the children worked away and got all the daffodils in the ground. By the Monday afternoon of the first day back one of the little girls who had helped to plant and has loved all the gardening activities came up to ask me if I had seen that the flowers had been pulled out, and she was almost crying. I rescued what I could and replanted them in a flowerbed by a wall that is about twenty-five feet from the front door. In the next couple of weeks as daffodils and tulips sprouted there that had been planted in years past by adults in the school many were broken off and thrown on the ground.

Now, a year later after every child in the school planted daffodil, crocus and tulip bulbs outside last fall including the daffodil to take home, all of the bulbs are blooming and no stems

are being broken. Since I don't know who was breaking and ripping out flowers last year I don't know if that child or children are no longer at the school or if people's behaviour has changed. But I do definitely see caring and enthusiasm from the children who are at the school this year for all that we are doing.

As the seedlings sprouted in all the class windowsills I felt gratitude for that simple, taken-for-granted miracle of new life sprouting in the classrooms. I suggested to the grade one teacher that the children could measure their seedlings and make a graph of their growth. I was thrilled to see a bar graph up in the room on my next visit with weekly measurements. Audrey, the Eagles Nest teacher, told me that having the seedlings in her classroom had given the students something to care for, made them gentler, and improved their behaviour to each other. We had begun a curriculum for caring by nurturing our seeds. (Noddings, 1992).

When I look back at my journal where I recorded what each day at school entailed, I am somewhat amazed at all that I was doing constantly to move this project forward. I had a teacher tell me that she had never known anyone to come into a school and give so much of their time. I felt all along that this was necessary because the change that I was initiating was so huge I could not expect people to take up a hoe if I was not willing to give a great deal of my time, energy and resources to making it happen.

It was also clear to me and to Tracy that the sustainability of the garden depended on having as many people gardening in it as was possible. The project could not rely just on school administration, just on teachers, just on kids, just on parents, just on neighbours. There had to be a web of people, just like the web of life, an interrelated group of people who all had something to gain with these gardens getting planted and maintained for future generations. What we did as we developed this community of gardeners, the way we tilled the soil that first spring, was vital to long term root development. If we didn't want it to erode we needed deep, wide branching roots in the school and surrounding community.

Building the garden boxes, May 21, was a highlight of the spring. When we finally got a provisional go-ahead from the school board Facilities Committee for the class garden boxes I rounded up a team of five volunteer carpenters to serve as mentors to the children and help them build. The school board has a specific design for these boxes complete with a bottom so that they can come in and take them away with a fork lift if schools decide they don't want them after a while. One gentleman volunteer pre-cut all the wood to size for us so that at school all we had to do was assemble the boxes with hammer and nails.

Each carpenter/mentor worked with one or two students from the Grade Seven and Six classes for about half-hour time slots. That way each child had a chance to learn some carpentry skills and to help build the cedar boxes that would be home to their plants. By the end of the morning we had five cedar boxes about 2 meters by 1 meter, four of them about 1 meter tall and one of them lower. The taller boxes were for vegetables, and the lower one for flowers. The money from our first Parks Board grant paid for the wood, almost \$1500. We used untreated cedar for its durability and safety. Treated wood has toxic chemicals in it that leach into the soil and into plants.

The students loved getting to swing a hammer. Their pleasure was palpable. Two of the boys told me now they knew what they wanted to do when they went to university, become carpenters. The satisfaction of a beautiful cedar box at the end of this effort left us all feeling great. By the end of the school day, the grade 6 students had filled the boxes with gravel on the bottom, then soil and compost. In the next few days a young woman who volunteers at the school as a big sister and is doing genetics research as a microbiologist came and helped me and the students get their plants transplanted into the boxes. This same volunteer has since become the chairman of our community garden.

In the first few days after the boxes were planted some tomato plants and flowers were ripped out and thrown on the ground. According to the children I questioned this was done as some interpersonal retaliation for fights that were going on between kids. It stopped after about the first week. "If I can't hurt you I will hurt your plant" seemed to be what was happening. This spring, our second year of planting, we did not have any fights being played out by damaging plants. A respect for each others' efforts in the garden seems to have grown.

## 2.7 The Community Garden

For the proclamation of the bicentennial of their city Cleveland wrote,

Gardening is a healing art. To begin with, it heals the Earth. For the gardener, toiling amid the beans and sweet corn heals the body, while watching Nature's cycles heals the mind and soul. Gardening can even heal a community's spirit, as do Cleveland's shared neighborhood gardens, which reclaim abandoned lots and return them to public benefit. (Rinehart & O'Neill, 1997, p.1)

The primary request of the parents at our design workshop was the community garden where individuals and families could have a plot to grow their own vegetables, flowers and fruits. Many of the daycare parents had attended that meeting and made that request. Tracy's

landscape plan included twenty-four raised beds measuring ten feet by ten feet. Around the edges of these boxes was room for fruit vines, berry canes, and espaliered fruit trees along the required fence.

In July, Tracy and I began having community garden meetings once a month in the evenings at the daycare. The day care kindly stayed open a half hour later for us providing childcare for the children whose parents were attending and frequently served a soup or salad to the attendees. Their incredible support made it possible for us to hold these meetings and continue to build community support for the gardens. They showed a deep caring for the community they serve through their service to us all. We advertised these meetings with posters put up in co-ops and apartment buildings surrounding the school. When we did a thorough job of putting up posters we got great response. A core group of adults with a commitment to grow their own food began to form.

During the elementary school summer vacation the day-care teachers frequently watered the children's garden boxes which are situated directly behind the daycare outdoor play area. The rain barrel that we had been given by the city water department had been installed by the gutter downspout next to their back door, and they frequently attached the hose to let the little children have fun watering the plants. The daycare teachers were very keen about involving their small charges in the gardening efforts. They could see how much it would benefit their young students to have a garden on their grounds from pre-school through elementary school.

In researching community gardens, I did not find any reports of other schools that had community gardens on their grounds except for Cleveland, Ohio. (I have since seen community gardens on school sites in Denver, Colorado). Cleveland had an enormous school gardening program from the turn of the century to the 1970's that included summer assignments for children to plant gardens at home as a site for science studies that would be visited by the teacher during the summer. When that program died in the early 1970's some of the school gardens were given to community groups to run as community gardens. In 1998 Cleveland reinstated their school gardening program with curriculum for Grades Three, Seven and Ten. Once again in grade school, middle school and high school students learn the basics of gardening and the many applied science, social studies, and fine arts skills that can be developed in the garden setting.<sup>9</sup>

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<sup>9</sup> I spoke over the telephone with a vice-superintendent of schools for Cleveland who told me of the reintroduction of the gardening program after an almost thirty year hiatus.

The Community Garden at Grandview/?Uuqinak'uuh gradually built its membership base. By gathering monthly we began to create a sense of unity amongst us. Tracy and I suggested the group elect a chairperson and treasurer so that they could do the running of that group, not by us. The volunteer big sister mentioned earlier became the chair. One of the gardeners who came consistently and who has five small children offered to head the phone tree to advise people of meetings and events. She faithfully calls everyone even though she herself has no phone at home.

I wrote several grants to get funding for the community garden, including a very comprehensive one to the Vancouver/Richmond Health Board that was turned down at stage two after I had filled out over 40 pages of forms. Finally in February of 2000, we learned that we had been given \$7350 by the Mennonite Central Committee's Jubilee Fund to start the community garden. The Mennonites established this fund in 1992 during the Columbus discovery of the Americas anniversary celebration specifically for urban gardening projects with Native people. The fund is a Mennonite apology to all First Nations people for the harm done to them and their culture by the invasion of Europeans to this continent. Our community garden was the first recipient.

In March we sold \$5 memberships to the garden, and annual \$5 leases to the community garden plots. We leased out the twenty-four plots in one evening. We have also since received \$3000 from BC Hydro and another \$3500 grant from the Parks Board for the community garden. The capital outlay is large (\$20,000 is our budget) because all the boxes are cedar and the school district requires a fence and retaining wall installed by union labor. The Mennonite involvement has given another dimension of strength to this community effort. They have willingly loaned their tools, expertise and many volunteers to build the community garden. We could not have done it without them. Each new circle of people that joins the effort strengthens the web of life we are creating.

## Chapter 3 The Humus

“n. A brown or black organic substance consisting of partially or wholly decayed vegetable or animal matter that provides nutrients for plants and increases the ability of soil to retain water (The American Heritage Dictionary of English Language, 1996).<sup>10</sup>

### 3.1 The Compost Pile

The depreciation of action, of doing and making, has been cultivated by philosophers . . . They glorified their own office without doubt in placing theory so much above practice . . . Work has been onerous, toilsome, associated with a primeval curse. It has been done under compulsion and the pressure of necessity, while intellectual activity is associated with leisure. On account of the unpleasantness of practical activity, as much of it as possible has been put upon slaves and serfs. Thus the social dishonor in which this class was held was extended to the work they do. There is also the age-long association of knowing and thinking with immaterial and spiritual principles, and of the arts, of all practical activity in doing and making, with matter. (Dewey, 1929 p. 5)

Dewey’s purpose in writing The Quest for Certainty (1929) was to explore the division between theory and practice and to discover why matter and the body were disesteemed along with practice in intellectual circles. Dewey wrote “the exaltation of pure intellect and its activity above practical affairs is fundamentally connected with the quest for a certainty which shall be absolute and unshakeable” (Dewey, 1929, p. 6). Dewey goes on to explain that all activity in the physical world has been held suspect by man because it cannot last, but is mutable. Man, in terror before the chaos of life has sought solace first in ritual and then in the intellect. “Man’s distrust of himself has caused him to desire to get beyond and above himself; in pure knowledge he has thought he could attain this self-transcendence” (Dewey, 1929, p.7).

Dewey postulates that the rituals accompanying the everyday tasks of the common man, such as ceremonies attached to planting and the harvest, were given more import than the practical acts themselves, because these rituals were tied to the mystery of the unknown, to the seeking of divine favor to make the everyday acts of life go well. What dealt with mystery was held in awe and what dealt with the mundane was not. Philosophy, according to Dewey, inherited this realm of awe once projected on religious rituals. “Its mode of knowing was different from that accompanying empirical arts, just because it dealt with a realm of higher Being. It breathed an air purer than that in which exist the making and doing that relate to livelihood, just as the activities which took the form of rites and ceremonies were nobler and

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<sup>10</sup> I thank Susan Herrington for her email giving me the suggestion that literature is like the humus of a garden, and the resulting understanding this gave me.

nearer the divine than those spent in toil” (Dewey, 1929, p. 14). He concludes that once philosophy stripped away the magic and mythical context of what had been all mysterious and exalted and replaced religion “telling the story of the universe in the form of rational discourse instead of emotionalized imagination signified the discovery of logic as a rational science. . . . Pure contemplation of these forms was man’s highest and most divine bliss, a communion with unchangeable truth” (Dewey, 1929, p. 15-16).

I had not realized the social, gender and class aspects of the separation of practice and theory quite so clearly until I read this hypothesis of Dewey’s. The practice of life’s daily work (that indeed can lead to many scientific discoveries, inventions and artistic interpretations) was felt to be the work of serfs. This freed the nobles to pursue religion and philosophy while the lowly people tended the fields, the children, the animals, the machinery needed for daily tasks. Much of the physical work of daily life was done by women and the philosophizing done by men.

The Impressionist painters shocked the intellectual art world when they chose to paint people in their daily occupations of bathing, cooking, tending children and farming instead. Most classical rendered traditional biblical or classical stories. Dewey brought the garden and other aspects of the practice of daily life back into the school at the same time the Impressionists were painting. He saw the value of the social and communication knowledge that was a natural outcome of such endeavors (Mayhew, 1966). The separation of theory and practice has certainly persevered despite Dewey’s efforts and subsequent critiques from postmodern perspectives, a few of which I share here.

I shall look at this humus of knowledge and philosophy as multilayered, just as the earth and good compost is. Part is the rich organic matter of my life experience and part is the multidimensional academic work of those who precede and accompany me. In examining the humus in which my holistic philosophy of education, spirituality and community development is rooted I shall call upon the work of ecofeminists, environmental educators, ecological artists and First Nations elders for their wisdom.

### **3.2 The Soil Builders**

In a garden, physical work, mental reasoning, and spiritual appreciation are synthesized. This synthesis is prerequisite to partnership with Nature... The physical effort of garden labor requires the cooperation of the instinctual mind that we inherited from our animal progenitors. A higher, rational mind lays out the garden for beauty and production, and reasons out the meanings of the garden. A third, even higher, spiritual mind comprehends

the values of the garden. Here whole systems are seen to operate for the best interests of all involved. Ecological principles emerge. This is the perspective from which we see the context and consequences of our actions. (Francis and Hester, 1990, p. 25)

We integrate body, mind and soul by doing the work of gardening, and in so doing create a unified internal personal whole. Our Western, formal education system breaks apart and compartmentalizes knowledge into bite size pieces, rather than exploring it as an integrated whole (Wilson, 1998). We have faculties of Education, Biology, Fine Arts, Psychology, and others in universities. In elementary schools we break days into periods for math, reading, French, social studies, science and physical education. My personal view of learning engages me in a holistic quest for a living web of knowledge and experience, but my quest for literature relevant to my research at Grandview/ʉUuqinakʉuuh School reflects the fragmentation dilemma .

A literature review in environmental education reveals a concern from scholars that our compartmentalized approach to education makes it extremely difficult to run effective programs of environmental education which require, a priori, approaching life as a unified whole (Colwell, 1997; Orr, 1994). However art education and art literature reveal a broad understanding of the power of the arts to express people's unity with the environment and in some cases, to make art that restores natural balance to ecosystems and communities (Blandy, Congdon & Krug, 1998; Matilsky, 1992).

The literature in community gardening and school gardening reveals an understanding of the power of working in community to cultivate the earth to transform individuals and communities (Bradley, 1995; Demas, 1979; Hynes, 1996; Jaffe & Appel;1990; Kiefer & Kemple, 1998). An education that brings children back into touch with nature and their own part of this earth, and gives them a chance to participate in creating a healthy change in their environment might well heal some of the personal and societal injustices with which most of the economically disadvantaged people of the earth struggle (Clinebill, 1996). Through the integration of theory and practice that such an endeavor entails a natural energy to pursue what each individual discovers for herself may lead each learner to a progressively more complex understanding of the interrelationships found in nature. This kind of personal initiative can lead to children's democratic participation in the development of their communities (Hart, 1997).

The First Nations approach to life as a sacred cycle and where all life forms are related makes all creation equal in the eyes of the Creator. No separation is made between the heavens and earth, the humans, animals, plants or minerals of this earth (Barman, Hébert, & McCaskill, 1986; Caduto & Bruchac, 1998; Cajete, 1994; Kirkness & Bowman, 1992). The

ancient First Nations approach to life that sees the Earth as a Mother to all its creatures finds resonance in ecofeminism.

In the last ten years a growing group of ecofeminists has looked at the result of the separation of theory and practice to our physical earth. Ecofeminists see the division rooted in a patriarchal world-view where nature is seen as separate from humans, dependent on humans. This patriarchal view sees women, children and indigenous people as part of nature, dependent and in need of control by men, just as nature is. To the earth and the people identified as being of the earth, the results have been disastrous. Colonization of the Americas depleted natural resources of forest and minerals rapidly and spawned the industrialization of Europe with the resulting pollution of air, water and land through toxic waste (Weatherford, 1988). Colonization enslaved the indigenous peoples of the Americas and Africa to serve the invading Europeans.

Today the poorest people worldwide are women and children, and these are the people most affected by industrial waste and pollution. They are the most vulnerable to disrespectful use of the earth's resources because they are marginalized by the ruling patriarchy and expected to clean up after it (Gebara, 1999). I was born in Latin America and have seen the wholesale destruction of environments and the resultant poverty inflicted on those who live closest to the destroyed land and waters. I seek a change in attitude at a fundamental level in our culture of consumerism. I seek to bring theory and practice back together again for children in their educational lives so that they can own the knowledge they discover through their own practice and through that ownership take responsibility for what they know.

I echo a sister Brazilian ecofeminist theologian and philosopher who writes "my ecofeminism is pregnant with health: not health as we understood it in the past, but the health of a future that promises deeper communion between human beings and all other living things" (Gebara, 1999, p. vii). Gebara discusses the differences in ecological movements in Latin America and in Western, wealthier countries. In Latin America activists "talk about not how to save the earth and its rain forests and rivers, but how to live on the land; how to love it, and how to build a house on it" (Gebara, 1999, p. 5).

I find a strong similarity in the Grandview/?uuqinak'uuh community where the concern is for a healthy environment for the children there in that place, land in which to grow food and native plants and a concern for the trees of the Grandview Cut which are being threatened by Sky Train expansion. The needs are very local and immediate. This home ground is where this community can act and must act for its own well being. As they act and see positive results from their actions in the growth of the garden they gain knowledge and the courage to act in a broader.

field as shown in their collective opposition to the expansion of Sky Train. A majority of the gardeners in our project transforming themselves and their community are women and children. Hynes (1996) book on North American community gardens reveals a predominantly feminine group of social activist gardeners as well.

My work resonates with both feminist and critical theory due to its transformative and collaborative nature.

The project of critical theory is to discover what is just and to take action; since knowledge is a form of power, it can be used to change the world into a more just and equitable place for all groups of people. Critical theorists view communication in this same active light: communication is for the purpose of deciding what to do to change the world, and how to best accomplish this. (Sipe, 1996, p. 159)

This project is about healing a community in the broadest sense, environmental, social and personal healing through coming together as a community to plant and tend native plants and vegetable and flower gardens. The effort by all participants to come together to create positive change in their community creates the healing (Clinebill, 1996). The communicating for change happens in meetings and standing over the garden plots discussing what's growing and what's our next step to making our gardens grow better food and our neighbourhood grow healthier.

Colwell (1997), like Gebara (1999), suggests that the dualism that views humans as separate from nature arose at the rise of the modern age, perhaps in the monotheisms of the ancient Mediterranean. This dichotomy makes it impossible to teach environmentalism because there is not the unity even in the language used to express the wholeness of life on earth. "If environmental education is to faithfully depict the world as a unified system, it needs to relinquish its outmoded dependency on words that represent it as a dualism" (Colwell, 1997, p.4). He offers the term *earth system* as a new way of expressing the unity.

Gebara expands theologically on the monotheisms that see God as the Father who has granted man dominion over nature and sees this view as one of the main sources of environmental destruction. She also expands on the separation of theory and practice by the institution of the Church.

Patriarchal religions have always been marked by an incredible and paradoxical duality of perspective. They preach domination over the earth while at the same time exhorting us to loathe matter and struggle against the body. They preach love and peace while at the same time urging hatred and violence against those who are 'different.' To at least admit the existence of this ambiguity is the first step toward refashioning our beliefs within a perspective that allows us to treat all living things with respect. (Gebara, 1999, p. 7)

The history of the colonization of the Americas and the subjugation of the indigenous peoples resides in the reality Gebara so clearly defines. As a Brazilian nun she sees what the Catholic Church has done in the name of God throughout Latin America to convert the natives and cover the churches in the gold from inside the Latin American earth while people all around the churches live in dire poverty. While the quantity of gold decorating the inside of Canadian churches is much less the conversion of the native people to Christianity by force and coercion is similar (Barman et al, 1986, Kirkness and Bowman, 1992). One result of this policy of subjugation of nature is the loss of land and culture that creates urban reserves like the Grandview/?Uuqinak'uuh neighbourhood.

From an educational perspective Colwell goes on to say that environmental educators and ecologists offer various definitions of nature, some of them including humans and some excluding humans. This lack of a common definition further exacerbates the problem of understanding.

As environmental educators, we want our students to recognize above all that the earth is a unified whole; we want to avoid the notion that it consists of two fundamentally different kinds of reality; and we want students to unlearn, if you will, the legacy of human domination over other forms of life and other humans that the dualism of nature and culture spawned. (Colwell 1997 p. 5)

Three other subject area dualities commonly discussed in school curriculums reinforce the false dichotomy of nature and culture: human and non-human environments, urban and wilderness education, and the sciences and the humanities. Colwell argues that in good environmental education there is a loss of perspective if we separate human and non-human environments for study because ultimately we are interrelated. Similarly separating urban knowledge from wilderness knowledge gives a fragmented picture of the whole (Colwell, 1997).

The separation of the sciences and the humanities in academic faculties perpetuates the nature-culture duality to the detriment of everyone's education. "Science was the objective study of measurable quantities and properties of nature; the humanities were subjective portrayals of human experience based on the expression of emotion, will, spirit, virtue, and other characteristics" (Colwell, 1997, p.7). The way the two fields were approached further separated them: man-made instruments for measuring scientific phenomena as opposed to internal imagination for writing, composing, painting. Dewey postulated that the scientific method itself of using the human senses to observe the world and record those observations should have

served to bring together experience and knowledge into a unified whole rather than separating the observer from the observed (Dewey, 1929).

It is interesting to me that Colwell does not visit the concept of a school garden to bridge the sciences and the humanities, as a site where the soil temperature can be measured, the rain gathered and measured, and the sunflowers drawn or painted before they are measured. When a child bends to sniff the first narcissus of spring will their spring poem not hold far more powerful language than one written in the classroom looking at a picture of a narcissus in a book? If a child herself planted that bulb on a rainy fall day won't her understanding of the concept of the seasons grow immeasurably from viewing and smelling that bright yellow flower that has emerged after the dark nights of winter begin to recede? Will her knowledge of botany and her sense of wonder in life not be increased by watching the growth of fleshy bulb to an abundance of green leaves and yellow petals reaching up from the dark earth to the sun?

The human who makes the tools for scientific measurement of the hour and height of the tides and the human who observes and paints a picture of the moon that pulls the oceans' waters is one and the same. The person seeking to understand natural phenomena needs the opportunity to bring all her capacities to her quest for understanding and needs an educational vocabulary and curriculum which supports her quest and the freedom to search for her questions.

Another eloquent proponent of a unified approach to all fields of learning is E.O. Wilson, the Harvard biologist who made popular the word biophilia, a feeling of love and kinship for all living things, when he wrote a book by the same name in 1984. His latest book, Consilience (1998), explores the basic unity underlying all fields of knowledge and the necessity for all those fields to recognize their basic unity and to work together so that human imagination and wonder can inspire and inform the basic questions we ask about life. "A united system of knowledge is the surest means of identifying the still unexplored domains of reality. It provides a clear map of what is known, and it frames the most productive questions for further enquiry" (Wilson, 1998, p. 326).

Wilson recalls his own introduction to evolution as a young college student in biology and the enchanting realization he had that all life was evolved from the same stuff. He experienced what physicist and historian Gerald Holton had recently named "The Ionian Enchantment", a belief in the unity of the sciences put forth in the sixth century BC in Ionia by Thales of Miletus. Confronted with the magnificent interrelationships of energy, matter and life, Wilson encourages humans to recognize their place in the order of things. "Humility is better shown to our fellow humans and the rest of life on this planet, on whom all hope really depends"

(Wilson, p. 271). He sees a destroyed humanity and earth if we do not bring our thought processes and fields of study into communication with our artistic and spiritual natures.

The way in which we use the knowledge we have has profound implications for this planet and the future of humanity. Wilson puts it this way.

The more knowledge people acquire, the more they are able to increase their numbers and to alter the environment, whereupon the more they need new knowledge just to stay alive. In a human-dominated world, the natural environment steadily shrinks, offering correspondingly less and less per capita return in energy and resources. Advanced technology has become the ultimate prosthesis. Take away electric power from a tribe of Aborigines, and little or nothing will happen. Take it away from residents of California, and millions will die. So to understand why humanity has come to relate to the environment in this way is more than a rhetorical question. (Wilson, 1998, p. 295)

If we can give children and their families a curriculum provided by nature, a connection back to natural life cycles, an experience of cause and effect which is unmitigated by technology, we shall perhaps have a chance to connect children, teachers and families to what David Orr calls "biocentric wisdom ... the capacity to nurture and shelter life" (Orr, 1994 p. 52). Food Works in Vermont cites many case studies across the United States of schools coming alive to their regional heritage by creating school gardens that honour local agricultural traditions and oral community knowledge (Kiefer & Kemple, 1998). David Orr (1994) challenges university educators to make college campuses models of sustainable living so that university students can participate in educational institutions that live what their urban design, landscape architecture and biology departments teach about interdependence. I know of no university that has yet taken up this challenge, but how very exciting when and if this does happen.

UBC Education professor Gary Pennington, Dean Moura Quayle in Landscape Architecture, education librarian Joanne Naslund and other faculty in diverse disciplines created a garden next to the Faculty of Education with their students a number of years ago to be a model elementary school garden and experiential learning site for teachers-in-training. The garden was removed in large part when the education library was expanded. Books made of dead trees encased in a building of steel and glass replaced the garden. I do not wish to imply that we do not need libraries at universities, but that we also need gardens designed as places for interactive and interdisciplinary learning as a vital element in the curriculum of a teacher-in-training. There is no program currently in the UBC teacher-training program that prepares the next generation of teachers for interdisciplinary environmental education in a garden even though the movement to green school grounds is expanding exponentially in Vancouver and worldwide. It is interesting to

note that the head of grounds for Vancouver public schools has over forty applications on his desk for school gardens in Spring, 2000.

### 3.3 The First Nations and the Ecological Artists

I agree with Dewey, Gebara, Colwell, Orr and Wilson that the changes must be fundamental in worldview and language if we are to give students the chance to explore a unified *earth system* in their learning. I must ask a question here which I cannot fully explore in the scope of this thesis, but which is integral to this project that is in a predominantly First Nations community. Does the very nature of our currently dualistic approach to life and thought through the European heritage that dominates our institutions of learning in the West exclude First Nations children from any kind of meaningful engagement in formal education as it is currently practiced?

This dualistic world-view which has dominated Western thought probably since man recorded that Adam and Eve were thrown out of the Garden of Eden opposes the world-view of the indigenous peoples of the Americas (Barman et al, 1986, Kirkness & Bowman, 1992). This indigenous world view, so beautifully expressed by Black Elk through John G. Niehardt's 1931 retelling in Black Elk Speaks celebrates the union of all life "two-leggeds, four-leggeds, the wings of the air and all green things that live". The First Nations people of the Americas have millenniums of history recorded in their art and oral traditions of experiencing all forms of life as "all my relations", a phrase used in sacred ceremonies much as monotheistic religions use Amen to end a prayer. It represents the acknowledgement of the human tie to all life, the sacred in all creation.

For millenniums the world-view of aboriginal culture has been one of the unity of life (Kirkness & Bowman, 1992). When European colonizers arrived on the American continents, both North and South, they presumed their own cultural superiority and set out to educate those that preceded them in these lands. These words of Bishop Laval from 1668 in Quebec illustrate my point.

As the King told me that he hoped we would attempt to raise in the manner of life of Frenchmen the little children of the Savages, in order to discipline them little by little. I have formed a seminary, into which I have taken a number of children for this express purpose. (Barman et al, 1986, p. 57 citing Tétu, 1913, p. 35)

I suggest that this several hundred year legacy of cultural oppression continues in the very framework of how we structure our schools physically and philosophically. If a school has no orientation to the natural environment that the First Nations hold as kin and we teach with a dualistic curriculum we are excluding them from understanding. We insert First Nation's children into our school system at age 5 and expect them to learn in a foreign framework. Are we not making it impossible for them to learn? Are we not setting them up to fail to meet "school" expectations? Who does this dualism serve? What right does our school system have to continue to operate in this way after so much research has been done to show the terrible devastation created by colonial policies of education for First Nations People (Barman et al, 1986, Kirkness & Bowman, 1992)? Does it not serve to perpetuate a system of them and us, man over nature, a tame the natives and the wilderness neo-colonial imperialism

A UBC study looks at why **only twenty percent of native children currently graduate from high school** in Vancouver and indicates that the school system does not currently meet the needs of native families.<sup>11</sup> This statistic rings like a fire alarm to me. Creating a more holistic learning environment for all the children at the school and honouring the traditional First Nations culture is a primary goal of our project. Because the First Nations community is the largest community at the school, because the school land is claimed by three traditional First Nations, their culture has been the one reflected in the first art project of the garden.

First Nation's art figures predominantly in the school's interior spaces and has held a very important role in the garden. The action research process I participated in with the community made it clear to me that First Nations art and architecture as well as native plants needed to hold a major place on the grounds. The totem poles that will welcome people to the outdoor classroom express a unity with the natural life of Raven, Orca and the mythical Thunderbird. In traditional cultures art is part and parcel of everyday life, not something done by a few for view in museums and galleries.

Ecological art also stems from local culture as well as from local ecology. Much of its inspiration comes from indigenous traditions of honoring the human connection to the Earth and her cycles. "The relationship of first peoples to their environment offers industrialized cultures important lessons in communication and psychological and social integration with nature" (Matilsky, 1992, p. 5).

Matilsky writes in her introduction to Fragile Ecologies (1992), a book about contemporary artists creating ecological, cultural and environmental restoration:

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<sup>11</sup> The Vancouver Courier June 7, 2000

Artists are in a unique position to effect such environmental changes because they can synthesize new ideas and communicate connections between many disciplines. They are pioneering a holistic approach to problem solving that transcends the narrow limits of specialization. Since art embodies freedom of thought, spirit, and expression, its creative potential is limitless. Art changes the way people look at reality. In its most positive mode, art can offer alternative visions. (Matilsky, 1992, p.3)

When I found this book and an article for art educators (Blandy et al, 1998) examining many ecological art works and their implication in the role of the contemporary artist in recreating natural sites in both urban and rural environments I felt that I had found a context into which the project at Grandview/ʔUuqinakʔuuh fits. The Blandy article challenges art educators to look at this very exciting field of worldwide ecological art and to examine its potential and meaning to them as artist-educators as they prepare their students for meaningful practice as artists. Ecologically restorative art work looks at the “use of ordinary materials, a consideration of nature and ethnicity, recycling and location, gender and ecofeminism, environmental devastation, sign tests, and ecological and cultural restoration” (Blandy, 1998, p. 233).

From our earliest cave dwelling ancestors who painted on cave walls pictures of the animals they depended on for their food and clothing to the re-creation of actual physical habitat for animals by contemporary artists people have expressed our profound interrelationship with other living beings through art. Betty Beaumont in 1980 built the *Ocean Landmark Project*, an underwater reef made of recycled coal ash bricks. The 150 foot-long ecosystem soon had many living marine tenants. Such projects show that humans can live harmoniously with a larger community of life. Art, art education, cultural and ecological restoration all can promote and enact stewardship of the earth (Blandy et al, 1998; Matilsky, 1992).

Beaumont’s work goes from this literal recreation of fish habitat to the poetic *A Night in Alexandria* composed of bookshelves covered in burnt books, themselves made of former trees. This installation evokes the burning of the great library in Alexandria with the destruction of contemporary rain forests. Both the library and the rain forest hold vast amounts of information that get destroyed through human greed (Matilsky, 1992). What Beaumont’s work is doing is challenging us to look with new perspective on our role as human’s in relation to the natural world. Do we continue to conquer and destroy or do we create new habitat and begin to heal the wounds we have caused with colonization and industrialization?

One of the ecological and cultural restoration projects that particularly resonates with our project is the *Isla de Umunnum* by Heather McGill and John Roloff (Matilsky, 1992). On a

fragile, 5-acre island surrounded by water and tidal marsh on California's coast, this project seeks to replace the imported eucalyptus trees with the native trees, Monterey cypress, in order to provide habitat for native species of wildlife. This area is a breeding ground for hummingbirds. The artists created two sculptures around which they planted honeysuckle vines, fuchsia and flowering manzanita to provide food for the tiny hummers.

*The Mound* on the island is a large re-creation of a half-excavated Native American midden. The cut-away side is reflected in a fresh water pond which reflects the various strata of the mound and provides drinking water to all the animals and insects of the island. The reflection becomes a full circle and an eye inviting us to contemplate the waste of the past that forms a midden and the type of waste we create today. Benches on the island bear the names of local hummingbirds in Latin and the phonetic translations of the Ohlone language of the indigenous peoples. Crushed oyster shell paths lead to these benches, again recalling the early inhabitants' refuse piles. We have a hummingbird garden of native plants on our site and crushed oyster shells shall ring our dissipation pond evoking a memory of the native middens that are along the shores of the Fraser River, Stanley Park and other locations in the greater Vancouver region.

Many of these major environmental restoration projects are done with artists in collaboration with the local communities with much labor being supplied by students or community members, like ours. The difference with our project is that the ideas for how our completed project will look and what purposes it will serve came from the people of the community, not just from my or Tracy's artistic vision. In this project we are all ecological artists creating our vision together, and a majority of the artists are First Nations people.

### 3.4 Turning the Earth

The soil is the great connector of lives, the source and destination of all. It is the healer and restorer and resurrector, by which disease passes into health, age into youth, death into life. Without proper care for it we can have no community because without proper care for it we can have no life. (Noddings, 1992, p. 134, citing Berry, 1977, p. 86)

"The activity of restoring the place where both our bodies and spirits reside waits on nothing"  
Ken Dunn, *Turn A Lot Around Resource Center*, Chicago (Hynes, 1996, p. 119).

The field of environmental psychology studies people's relationship to what surrounds them. Research shows us that patients in hospitals recover more quickly with a view of natural greenery, prisoners reconnect with life and improve their behaviour if they can work the earth,

(Clinebell, 1996; Hynes, 1996; Kaplan & Kaplan, 1982). As stated earlier Titman's (1994) study certainly shows children feel more cared for if their school grounds are full of natural life.

What about the environment and the kind of learning it promotes? I am concerned about children spending too much time at their desks at school and in their homes in front of televisions. Passivity does not develop the skills we need to shape our lives (Barman et al, 1986, Dewey, 1938). I am concerned by a passive form of education where the teacher is the banker pouring a pre-determined amount of knowledge established from outside the child into the child. Freire (1995) points out that this kind of teaching continues a hierarchical power structure that inhibits the development and intellectual freedom of the learner.

The impulse to learn how to do this community work, this education through action, comes from inside me. The most dynamic learning happens when we identify and choose to learn to solve a problem, when we ourselves choose what we want to learn (Dewey, 1938, Freire, 1995). This action research project is attempting to create an environment in which this kind of exploration and choice can occur at the school. On a philosophical level my actions, by nurturing an environment of caring for the people and the earth of the local community, challenge the dominant patriarchal attitude towards the earth, women and children as things to be conquered. On a very practical level I am co-creating a dynamic learning environment with children and the adults who care for them with the intention that this experience will be a bridge to further active engagement with real-life situations, steps on the journey to self empowerment and fulfillment of their human potentials. This project has served that purpose for me.

What has been written about the effects on children who are given the opportunity to work outside in cooperation with nature to learn from their own observations and actions? What has been written about children who take steps to improve their natural physical environment? "The earth allows children to be themselves, to be active rather than passive, to take control of their play, their time, their imaginations" (Trimble, 1994, p. 64). That was true for me as a child and continues to be true for me as an adult. My childhood experience has led me to this adult inquiry. Dewey gave much attention to the importance of children learning through practical activity so that they understood means and ends, cause and effect. Understanding these were basic to understanding and using the scientific method of hypothesis, experimentation, observation and conclusion and to developing the intellectual independence that made one capable of making a hypothesis in the first place (Dewey, 1938).

Where does this leave us with a holistic curriculum as something worth exploring and a garden as the place to do it? The best written resource I have found on how to start a school

garden, what curriculum is available to integrate the garden into daily school life and what research has been done to support gardening as a valid academic endeavor, has been written and published by the National Gardening Association in the US (Eames-Sheavly, 1999).

The Asset Based Community Development Institute at Northwestern University writes that voluntary community associations (The National Gardening Association, The American Community Gardening Association) are the life-blood of a community. They embody what the community values and what people choose to spend their time doing. Associations empower individuals, create effective citizens, and make democracy work (Kretzman & McNight, 1993). The excellent curriculum resources produced by the National Gardening Association and their teacher training programs to use these resources and the superb conferences hosted by the American Community Gardening Association show the dynamism of people pursuing what they love. Hynes (1996) makes this apt observation.

The give-and-take of working in gardens attaches their gardeners to a particular place through physical and social engagement. Community gardens create relationships between city dwellers and the soil, and instill an ethic of urban environmentalism that neither parks nor wilderness—which release and free us from the industrial city—can do. (Hynes, 1996, p. xv)

Hynes looks at the large number of women involved in the community gardening movement, changing for the better their mostly poor urban communities by running out the drug dealers from parks and vacant lots and planting gardens in their stead. Hynes' description of digging in the soil as an essential part of developing an ethic of environmentalism confirms my instinct as I work with the community that it is vital that people physically engage with the earth as we create these gardens. The fact that the children do not vandalize plants now that they are involved in planting them is evidence to me of how strong this connection to earth is once we dig a hole and plant a living thing. Once we show we care about another living thing through such an act, the caring seems to grow (Clinebell, 1996).

How children develop a relation to place is the theme of Nabhan and Trimble's moving and eloquent book, The Geography of Childhood (1994). Their essays examine their own childhood experiences with nature, the research they do about children's sense of place on ranches, in the desert, wherever home is and what this sense of place means to the preserving of wild spaces and the knowledge of these spaces. They don't explore school gardens, but they do discuss learning traditional native gardening methods from grandparents. This paragraph by

Trimble refers to four other writers who examine people's relationship to place and how we establish a sense of intimacy with the natural world.

In developing what the philosopher and ecologist Aldo Leopold called the "land ethic," regard for the wilderness often comes last. First comes a child's involvement with vacant lots, ditch creatures, and the leaves of 'weed trees'—discovering what environmental psychologist Rachel and Stephen Kaplan call 'nearby nature.' Such comparatively mundane experiences lay the foundation for what can develop into Edith Cobb's ideal, 'a living relationship between. . . a place—topophilia, rootedness, placeness, knowing where home is. (Nabhan & Trimble, 1994, p. 26)

Children who grow up in the inner city rarely have access to ditches, vacant lots or any sort of natural space to explore and begin to establish this relationship to the natural world on their own. In Latin American cities the urban poor live in an even more degraded environment than in Canada (Gebara, 1999). Access to natural places is one of the things we hope will become possible on the transformed school grounds: enough diversity of environments that children will find places to explore on their own. I know that due to safety policies of the school board the sort of hiding places children love and the streams that carry tadpoles will not be possible, and it saddens me that those won't be there. But there will be a wide diversity of life, perhaps something to catch the interest and create a sense of rootedness for each child.

### 3.5 Environmental Educators and Caring

Education that has to do with a sense of place, of rootedness in one's own culture and geography can provide a framework for integrating the standard school curriculum into a meaningful grounding in the basics of life (Nabhan & Trimble, 1994; Sanger, 1997). BC socials studies curriculum in elementary schools makes an effort to educate to a sense of place by beginning with home and neighbourhood and spreading to city, province, and nation. Since it is social studies curriculum it looks more at the civic sense of place than the biological. The concept of place is not woven through all aspects of the school curriculum. Many students do not emerge in grade 7, or from grade 12 or from UBC with a BA or BSc with a basic understanding of the ecosystems of their hometowns or of British Columbia.

Since many of the controversial issues in modern life deal with appropriate use of natural resources it would behoove us all to include an understanding of those natural resources and their interrelationships to humans in our curriculum. Nel Noddings devotes chapter 9 of The Challenge to Care in Schools, to *Caring for Animals, Plants and the Earth* (1992). She encourages that we not only learn about the animals and plants, but that we learn to care for them

as a part of our moral education. Noddings suggests that the ethical discussions involving environmental issues must be a part of school so that both critical intelligence and sensitive listening and response skills are developed. Noddings also addresses the need for children to learn to care for others and their community with real action (1992). Learning the impact of our own actions, about the impact of our footprint on the earth is vital to making decisions regarding not just how we vote, but how we live.<sup>12</sup>

A majority of BC students do not go on to a university education. When and where are they going to learn about the environmental issues of their own local community and their personal role in resolving these issues if they do not explore these fields in elementary and secondary school? In university a student may take a course in ecological biology or one in urban planning that gives them a piece of the picture, but we do not currently offer an integrated approach to these vital areas of human life even at a university level as a requirement for graduation for all students. (Orr, 1994) Is not learning to live on this planet in a caring way as vital a skill as literacy for the future of us all? Our education in "citizenship" does not include community gardening 101.

I do not wish to imply here that I think community gardening is the solution to all of society's social and economic problems. I will show through the literature that there is a strong case for gardening to be *one* way to offer children and adults a chance to learn in an experiential and integrated way some basic and useful science, communication and cooperation skills, as well as respect for the traditions and knowledge of a vast array of cultures by seeing how each has learned to honour the life that comes from the earth on which all human life depends. In fact, probably all subject areas can be explored through the garden from genetics to music, and at the same time people can learn to care for the earth, themselves and each other.

One journal article I found that is directly relevant to what we are doing at Grandview is by Lucy Kennedy Bradley (1995) about the desert garden designed and planted by an inner city school in Phoenix, Arizona. Lowell Elementary School has many parallels with ours socially and economically, but it is much larger, 600 students compared to about 180 at Grandview. The teachers and principal spent a year taking field trips to natural sites and participating in activities such as Project Tree ID so that the children would acquire an appreciation for and some knowledge of nature before they embarked on redesigning their school grounds to be a site for

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<sup>12</sup> See the website by UBC professor, William E. Rees, PhD for research on the impact on the earth each individual has due to lifestyle choices, our eco footprint. [http://www.rprogress.org/progsum/nip/ef/ef\\_main.html](http://www.rprogress.org/progsum/nip/ef/ef_main.html)

nature in the city. The staff took summer vacation time and personal funds to attend workshops on ecology and conservation. They used a planning day to break down the science curriculum and plan an integrated program for all grades using the garden to meet state requirements. The kindergarten class requested and planted a dinosaur garden with ferns and cycads outside their door. The grade 5 class is designing an Anasazi ruin and archaeological site outside their class.

Class activities included things that I hope will become a reality next year at Grandview/Uuqinak'uuh: Habitat Journals for recording all their observations and poetry and art projects based in their gardens; a Herbarium with leaves and drawings identifying all their trees and plants; a map of the school grounds with all plants identified. Lowell has been so successful in turning its courtyard into very creative garden habitats as a site for exploring many subject areas that it has been named the district magnet environmental school. Lowell hosted the Southwest School Garden conference in 1998. The article does not discuss how such terrific cooperation of all staff was developed, but an e-mail correspondence I had with the author revealed that the principal was extremely enthusiastic about environmental education and provided much leadership to teachers, parents and students. The fact that there is an annual conference for people with southwest school gardens and their accompanying challenge of lack of rain in that bio-region shows a network of professional support for teachers interested in teaching curriculum within a garden that does not yet exist in BC.

Bradley was the university-based horticulturist involved with planning the project with the school. She does not include interviews with the schoolteachers about how they got involved or how being involved with the project has affected their approach to teaching. There also is not any information about whether learning outcomes at this inner city school have improved, though it certainly sounds from the above activities described that many diverse subjects are active and alive in the desert garden. With several phone calls to the school I have never managed to talk to the principal or to a teacher to learn from their personal experiences.

I would like to know more of the path taken at Lowell Elementary to develop environmental literacy in faculty, parents and students. I would like to know some of the specific things teachers did to prepare themselves and what inspired them to use their summer vacations to do this. I hope that my inclusion of our process of developing the gardens and my interviews with teaching and auxiliary staff will be of use to others exploring these issues.

Bradley discusses the issues of Environmental Literacy as defined by several researchers, Harold Hungerford and Audrey Tomera of Southern Illinois University. The ability and willingness to make sound environmental decisions depends on three groups of factors: entry

characteristics, ownership and empowerment, and assuming personal responsibility as defined by Hungerford and Volk, (1990).

Entry characteristics include general concern for the environment and a basic understanding of the ecology and the interconnectedness of the world. Ownership entails gathering appropriate information, making the environment a priority, and assuming personal responsibility. Empowerment requires confidence in one's ability to make a difference and the knowledge of specific skills and strategies for achieving goals. (Bradley, p. 245 cites Chawla, 1994)

How to achieve these characteristics within the context of the school has been a big challenge. I would say that the majority of staff and students have achieved the entry characteristics. There has been some gathering of information by quite a few teachers at the school. Some children have sought information of their own accord and gathered plant material they want to have in the garden. Some teachers pursue their own interests, but many still rely on me to be an instigator of activity and provider of information. When people take initiative my sense of joy is enormous because I can see evidence of their ownership of the project.

Moving from concern to ownership is a key to the long-term success of the project for the teachers, children and parents. When the teachers get excited at pursuing personal interests with their classes in the changing environment of the school grounds they model enthusiasm and ownership of knowledge for their students. This is what our kindergarten teacher did who got butterfly chrysalises for his class to watch develop into butterflies and then freed them in the butterfly garden. He gave the children the experience of watching transformation, caring for it and setting the results free. Likewise Audrey, the teacher of the Eagles Nest class has initiated the three sisters' garden with her class and many First Nations learning activities tied to the grounds.

These issues of environmental literacy appear in a BC Ministry of Education document, Environmental Concepts in the Classroom – A guide for teachers 1995. The six Guiding Principles for environmental education suggested by this document are direct experience, responsible action, complex systems, consequences of actions, environmental ethic and aesthetic experience. Our project clearly embraces all six by giving students direct experience in their planning and implementing of the gardens, longhouse and totem poles. The potential is there for a very sophisticated level of engagement in these principles by any class who chooses to pursue in-depth topics or issues on the grounds. As the title of the document suggests, it is a guide, not a mandate for every school to initiate environmental education.

The 1977 Tbilisi conference on environmental education, the 1987 Unesco sponsored World Commission on Environment and Development, and the 1992 United Nations Rio Earth Summit all called for citizen participation at all levels in resolution of environmental problems (Emmons, 1997). What we are doing at Grandview has implications for environmental education and action in BC beyond our own school grounds.

If the teachers at Grandview can set up situations to encourage the children to pursue their own interests in the out-of-doors a major step to independent learning will be achieved. Dewey places this responsibility for the creation of the environment where education through experience can happen in a sequential and meaningful manner on the shoulders of the teachers. He goes on to examine the social process which education becomes in such an environment. "The teacher loses the position of external boss or dictator but takes on that of leader of group activities" (Dewey, 1938, p. 59). Freire (1995) terms this a horizontal relationship as opposed to the hierarchical one of more traditional education.

If the children can gain a sense of empowerment from their participation in transforming their school grounds and pursuing their own interests in the process perhaps that empowerment will carry into other aspects of their lives (Freire, 1995).

This kind of participation is not only conducive to intellectual development, but it is essential to the development of citizens who can participate intelligently in democratic processes. Issues of control and power arise here and must be resolved in favor of *empowerment*. (Noddings, 1992, p. 176)

The parents participating in the planning, building and planting of the community gardens have already developed new skills and the opportunity to provide very healthy food for their families. Some parents want to be involved in developing the signs and curriculum for the ethnobotanical garden and to participate in the adult literacy program in the coming winter. That participation will give them an opportunity to reclaim traditional knowledge of native plants and their uses, and to express their own cultures through the written word to their children and the community at large. We will make every effort to make sure there is a constant dialogue of the sort Freire suggests that is based on

critical thinking – thinking which discerns an indivisible solidarity between the world and the people and admits of no dichotomy between them – thinking which perceives reality as a process, as transformation, rather than as a static entity – thinking which does not separate itself from action, but constantly immerses itself in temporality without fear of the risks involved. (Freire, 1995, p. 73)

Interesting environmental education research relevant to our project took place in Belize. Emmons (1997) developed an environmental education project for young women students in Belize that involved students in positive environmental action. Emmons defines positive environmental action as “a deliberate strategy that involves decisions, planning, implementation, and reflection by an individual or a group. The action is also intended to achieve a specific positive environmental outcome” (Emmons, 1997, p.35).

Emmons designed her model program to be informal and in a natural environment to overcome the identified shortcomings of programs carried out inside schools. Student experience in and of the environment was the prime focus. The five-day program in a wildlife sanctuary included these components: action skills and procedures, environmental concepts, empowerment and ownership, sensitivity and attitudes. Each group participated in activities that would support the students to experience all of these.

The program and research Emmons directed involved ten female students who came in two groups. The groups were for adolescent women only because females are typically left out of field experiences in Belize. The first group of six students had a tacit program allowing them to pursue their recreation and learning at their own pace. Some unstructured activities were planned and included nature hikes, night walks and evening meetings. Their structured activity was an action project, which was voluntary. Each group also had the option, if they chose to participate, to choose an alternative activity. Participation became in a sense a test of the program’s ability to inspire students to action (Emmons, 1997).

The second group of four students received more explicit instruction than the first and engaged in more structured activities. The purpose was “to engage students in exploring and resolving environmental issues with an emphasis on lifestyle and social change” (Emmons, 1997, p. 37). This group had a long discussion with a young environmental activist from a neighbouring Mayan village plus other structured discussions and an action project of writing an article, “What the Rainforest Means to Us” that was published in the Belize Audubon Society Newsletter. Their article discussed environmental and conservation problems as well as the attractions of the park and ended with the message “We Can Make a Difference”.

When the smaller, second group returned to their school they decided together to ask their principal for permission to invite the young activist to their school that they had heard speak at the Sanctuary. This action was their own initiative and showed that they used action skills and procedures, took ownership of their idea, and displayed empowerment in this process. This particular action was an unexpected result of the visit to the forest and allowed Emmons to see

that the students had continued the learning outside of the field experience she designed. She suggests that more studies should be done” to properly document the relationships between learning and action, particularly continued cycles of action within and beyond the field setting” (Emmons, 1997, p.43). This action was one factor that caused Emmons to revise the model developed by Fien to include one positive action leading to another positive action in a model of dynamic learning.

The implications of Emmons’ research for what we are doing at Grandview are many. We are giving students and their extended families the chance to create environmental change and then to interact with this changed environment in the hopes that their environmental awareness, their affective development and their cognitive development all will grow through the process. One of our long-term goals is the empowerment of the students to take independent positive actions of their own initiative, which is exactly what Emmons students did.

Emmons research indicates that there is a good chance that this will happen for our students too. She had only a few days contact with her students, and we have on-going contact with ours so our possibility for learning together how to identify important environmental issues and respond to them proactively seems excellent. A significant drop in vandalism on the school grounds since the gardens began to grow indicates new community environmental responsibility already. We also see new environmental activism on the part of the parent community in reaction to the Sky Train destroying the trees in the Grandview Cut and bringing a transit stop for 80,000 people to within two blocks of the school.

Emmons students were more mature students than ours, but since we are involving adults also in this process I see a good chance of increasing environmental awareness and initiative throughout the age groups considering the initiative taken by her students after only a few days of consciousness raising activities. It is most interesting to me that the group exposed to a Mayan activist, someone passionate about protecting their ancestral home, is the group that took personal initiative. This encourages me to work with the staff, students and parents to find local people active in environmental work and cultural preservation to come and speak and work at Grandview, most especially First Nations people who have a direct tie to this land.

### 3.6 Children and Decision Making

Roger Hart, a geographer who has done extensive research into how children relate to and use place in their daily lives, has written a book on the issues of involving children in decision making about substantive changes in their communities (Hart, 1997). He warns about the shortcomings of involving children only superficially in important community issues that impact their lives. Hart describes a ladder of children's participation which goes from manipulation on the bottom rung to child-initiated, shared-decisions with adults on the top, the eighth rung. The second to the seventh rungs are decoration, tokenism, assigned but informed, consulted and informed, adult-initiated, shared decisions with children, and child-initiated and directed.

Hart describes manipulation as also sometimes involving deception by adults who wish others to believe a project that they initiated was done entirely by children and sites gardens where adults design the garden, but tell children where to put plants as a typical example. In our case children and parents had a great deal of design input so I don't think we fall at the bottom rung. The next rung, decoration, has children waving banners or singing songs at environmental demonstrations to promote a cause that the children have not considered themselves. Had the teachers and I not involved the children in discussions regarding the environment and had we not solicited their input in how they might care for it we could easily have stumbled onto the second rung. Tokenism, rung 3, is a place many well intentioned adults get caught who want to work with children but do not give full consideration to how to involve the children in thinking critically about what they are doing. The children are there at an event, but perhaps as a symbol and not as critical participants (Hart 1997).

Models of more genuine participation have an important element of choice involved in them. For instance those children who stay after school to work in the garden are doing so out of personal choice. Those children who only participate because they have to with their class are not genuinely participating of their own free will, but I have to hope that perhaps success in doing something they might not have initially chosen will lead them to choose a positive environmental action in the future for themselves.

The fourth level, assigned, but informed or 'social mobilization' is perhaps where this project began before I began reading about how important it was to involve children in all planning aspects of school grounds change. At this level children have been given the opportunity by adults to become informed about an issue and then the children are asked by the

adults to act on this information, often to educate their families at home. But the adults give the children the information and the action. At the fifth level, consulted and informed, projects are run by adults but children are consulted and their opinions taken seriously. In adult-initiated, shared decisions with children, the sixth level, children are asked what they would like to see happen. Hart suggests that projects like ours are a good starting point for community involvement of children, but warns that the children should not be left out of the process of taking initial design ideas through meetings with officials where inevitably great ideas get changed (Hart, 1997). If the children had been with us at the school board meetings where water features were categorically refused they might have been able to plead their case and at least come to a real understanding of what it is like to negotiate with bureaucracies.

Child initiated and child directed activities, the seventh rung up, happen in play such as the building of a fort in the woods where children find fallen trees or even spare lumber at home and cooperate together to create what they want. There are playgrounds in Europe that provide such opportunities for children and have adult facilitators who do not interfere but are on hand if help is requested. Hart cited a group of ten-year-olds that took it upon themselves to save some fingerlings when an oil spill affected the stream behind their school. Children who cooperate in such initiatives are preparing themselves through experience to contribute much to their communities (Hart, 1997).

The highest rung on the ladder of participation is child-initiated, shared decisions with adults. Hart sees great empowerment in children who initiate projects and then decide to consult with adults to further their cause. He sees this a sign of knowing how to access community resources for what they want to accomplish (Hart, 1997). It has been one of my personal goals from the beginning of this project to show to the community how many resources are out there for them to call on for help to accomplish what they want.

Hart's book has invaluable information for me, and his analysis of children's participation helps me to critically analyze what we have been doing at Grandview and see how we could involve the children more in further decision making as we implement and revise the plans in the future. Since a garden is a living entity it is always changing, and I am looking forward to involving the children in on-going critical reflection of what is working and what isn't working for them on the grounds and in their neighbourhood and involving them in all future steps of development.

For the most part I think our garden project has fallen at about level 5, consulted and informed and level 6, adult-initiated, shared decisions with children. Certainly in the planning

stages the children's ideas were as equally considered and used as those of the adults. But the decisions of what to implement first and how to do that has been by adults. The school garden committee made up of staff and me have planned the school wide harvest festival and Earth Day activities. Our plan is to next year involve students who wish to be involved in the garden committee, and that way they will be able to plan events and activities in the garden after consulting with their peers.

The children have been involved in building and planting everything. Not all teachers have been as involved because often they send their students out in small groups to work with volunteers or me while they carry on with indoor class activities. That pattern has developed because of the difficulty in working outside with twenty-five students at once. The logistics of large numbers of people working together in hands-on activities are always demanding, and it would be useful to know how other schools doing gardens support their teaching staff to be outside with enough help to manage such endeavors. We can't count on parents to help because many parents at this school are single mothers. They give their volunteer time to the school doing activities with adults because they need the social time with their peers.

Each day I look at what we are doing in the garden process to see what can be done in a way that further hands it over to the children. Perhaps if some children are involved in planning the major activities and festivals, they will develop more ownership and empowerment. Sam, the inner city project teacher suggested that at the weekly assembly students could take turns giving a garden report of what has happened that week in the garden. These reports could be in any form the students choose, and if the responsibility rotates from class to class some keen observers and reporters could develop. Joanna's grade 4/5 class did the first report for the June end-of-year assembly.

David Orr says that we need to "develop the first hand knowledge of nature from which real intelligence grows. This means breaking down walls made by clocks, bells, rules academic requirements, and a tired indoor pedagogy. I am proposing a jail break that would put learners of all ages outdoors more often" (Orr, 1994, p. 52). Certainly it is where I prefer to be as a learner. Whether I am digging in my garden, poking about in a tidal pool, or walking in the woods, I would rather be out than in. I like the stimulation to my senses that the out of doors provides. I like the freedom to move and use my body more freely than a chair allows. I felt that way as a child, and still do. Like Orr because I make the assumption that there are other children who also learn well from connecting to nature, and I enjoy working with them to help make this possible in the city.

### 3.7 Healthy Schools

Parents in Brisbane, Australia initiated an action research project to transform a dull and dangerous school grounds. Our projects have many similarities. Inspired by the Healthy Schools Program developed by the British Columbia Ministry of Health in 1991 these parents' initiative came from their concern for the physical safety of their children and for the general ethos of the school, very similar issues to those that involved me with Grandview (Davis & Cooke, in Atweh et al, 1998). Guided by the World Health Organization's (WHO) Ottawa Charter for Health Promotion, a health-promoting school looks at three main elements to involve all members of the school community in democratically taking charge of their own health. The three elements are the formal curriculum of health in the school and how it is taught, the ethos of the school created by its physical and social environment, and the relationship of the school and community. The goals of the formal health curriculum are to be participatory and geared to the direct health concerns of the students. It is understood that the ethos and community relationships of the school are the direct responsibility of all students, teachers, parents and community members involved.

The health-promoting school process is an approach that has, at its heart, the empowerment of all the members of a school community – children, parents, teachers and the wider community – in collaboratively making changes in the school environment, inclusive of all its social, political, physical, and personal dimensions. It is overtly a democratic, non-hierarchical decision-making process. (Atweh et al, 1998, p. 62)

This student centered approach to health where students become active agents rather than passive recipients of certain health knowledge is one of the overall goals of our project also. Likewise the socio-environmental approach which critically looks at what makes a healthy environment and then sets about to create that based on the answers given by the community is a foundation of our work too. I wish I had read this chapter before I wrote the thirty page Vancouver-Richmond Health Board grant that we did not get. I could have cited all the international and BC guidelines for community health cited by these researchers. I said the same things essentially in my grant application, but I had none of the official organizations to cite and support my hypothesis. The new director of our local community centre is a nurse with many years' experience working with First Nation's people. When she walked through our gardens and saw the vegetables growing and the beauty created by all the flowers she said to me, "This is good community health from the roots up."

Davis and Cooke used the BC Ministry of Health 1991 planning process guidelines for their action research project to create a shared vision, select priorities, develop an action plan, put the plan into action, evaluate and plan for the future (Davis & Cooke, 1998). We approached the same issues, but used King's (1989) co-design perspective. Davis and Cooke worked with other parents, with the teachers and engaged the Student Council in polling students for their opinions so that all voices were heard. They called on experts for design help when that was needed.

One major difference I noted in their process was that some criticism was leveled at some of the active volunteers by other parents for too much consultation and talk and not enough action in the early months of mobilization of information and support. We had no criticism. I think this is perhaps due to the sense of relief in our quite poor community that something positive was being done at the school with the children. Perhaps the lack of criticism came also from the way we specifically involved our community. I have no way of comparing our process to theirs on a subjective level because I don't know any of the Australians.

The Australian project took place in a middle class community with many educated and opinionated parents involved. I deduce this from the statements by parents involved and the fact that P&C funds were used to do much of the work. Families "bought" square meters of turf to help at the Queensland school. At Grandview/Uuqinak'uuh there is not money in the PAC and very few families would be able to make private donations for our gardens if that was requested. One more step in empowerment we need to look at in our project this year is working with the school community to find a financial support goal that is doable within the community, as all funding to date has come from outside the school, and it would not be good to have our project create dependency on those outside the neighbourhood.

What this chapter (Davis & Cooke, in Atweh et al, 1998) echoes is the broad, consultative nature of participatory action research that empowers all involved to take action to make changes agreed on by the community. These researchers felt that since the initiative came from parents the community development process was strong, and the school curriculum changes perhaps slower than if teachers had initiated it. The school garden in California that inspired the Life-Lab garden based science and math curriculum was a teacher initiative (Jaffe & Appel, 1990). What we have been seeking to do at Grandview is have parents, students and teachers all together embrace and create the

change from grounds transformation to garden-based curriculum use. Time will tell if this broad approach works. Involving students democratically in creating their schooling process requires a big change in orientation for most schools who operate by telling children what to do.

Grandview does get money from the BC Healthy Schools Program every year, but I wasn't aware of their guidelines until reading Davis and Cooke. When I watch the children harvest a salad and eat with pleasure what they have grown I wonder if that will lead them to long-term healthy eating habits. Personal health issues are issues of colonization when one sees what European diets in residential schools and loss of traditional food gathering methods did to the eating and health patterns of First Nations people post-contact. One of the purposes in the vegetable gardens and ethnobotanical gardens is to provide access to good food at school, to the chance to make good personal health choices. Whether or not a direct, rather than indirect, health curriculum develops from this I want to leave to the children and parents.

### **3.8 The Finished Compost**

The literature in First Nations philosophy, ecofeminism, environmental education, art education and action research makes deep humus in which to root our efforts to provide a model for students of interconnectedness. The First Nation's writers, Caduto and Bruchac, Barman, Hébert and McCaskill, and Kirkness and Bowman, and Cajete recall ancient connections of relatedness with all life forms, of the sacredness in life's cycles. Gebara presents us with an ecofeminist perspective encouraging an honouring of the earth, of women and children and of those marginalized by poverty. Colwell, Orr and Wilson encourage the academic world to present a unity and inter-relatedness in education that reflects our complex unified biological and physical world. Dewey encourages us to make life and life practices a part of children's daily school life, to give a space for practice united with theory in the school environment.

The ecological artists move between realms. Matilsky and Blandy, Congdon and Krug show us the possibilities of restoring the natural world through ecological art installations and honouring life's interconnectedness in the process. This physical expression of a life-honouring approach to the environment and to learning manifests in our school environmental and cultural restoration project. Emmons work shows us that actual environmental experience helps students to develop a willingness to take positive action in relation to the environment. Bradley and Davis

& Cooke bring the perspective and experience of other school grounds projects in diverse locations. The common denominator is adults working with children to create biodiversity and enriched learning opportunities on school grounds with children as partners. Hart provides us with an analysis of children's levels of participation in community development and provides guidelines for effective, democratic inclusion.

There is greater curriculum integration in the project described by Bradley, which was initiated by the school principal than in the project initiated by parents, described by Davis & Cooke in Atweh et al. The question of how to support the teachers to bring the curriculum of the garden into full use at Grandview remains a central issue for me. Hart brings the important perspective of working in a democratic manner with children, creating an environment where children can express and act on their own volition.

Bradley, Davis and Cooke, Hart, Hynes, Kiefer and Kemple, Kretzman and McKnight all look at the community building and empowerment that school and community gardens create. The literature applicable to school gardens and community transformation takes us from how to do it, to why its necessary, to the transcendental aspects of transforming the human spirit. From the practical issues of learning to grow food for ourselves and to provide habitat for wildlife, to the deeply spiritual and philosophical questions of how we live on this earth in harmony with its inhabitants the literature provides us with a pathway and a reason to travel it.

The Medicine Wheel in the garden speaks of a literature written in the earth with stones oriented to the cardinal directions. It honours all the cycles of life and of the earth, all the cultures of the people on the earth. It honours the way of knowing embedded in living in harmony with the Earth.

The sun's rays hit our plants and the chlorophyll in them uses the sun's energy and water to make sugars and oxygen through photosynthesis. We eat the plants as do other animals that we also eat. We all participate in this web that is the life of the garden and the life of the planet. By observing and working in the garden, we can learn everything from botanical chemistry to poetry to colour theory. Whether our discoveries lead us to physics, theology or art, tending the earth and her green plants can be a curriculum that lasts a lifetime and overlooks no subject matter. Children and adults can learn from working side by side with nature as a curriculum guide. The literature encourages me that we are on a garden path worth following and shows me ways to make that path more inclusive, more democratic, and more transformational.

The Developmental Studies Center, an organization of educational researchers based in California, has developed programs to support schools to become more caring environments and

includes gardens as one way to build community and caring. Their research on schools across the US indicates the poorest students seem to gain the most from the development of caring classrooms and schools (Battistich et al, 1995, 1997). All of this process we have engaged in comes down to caring, caring enough to listen. We care about the children and make this effort to change their neighbourhood and learning environment. We care about the First Nations' culture and find ways with their guidance to incorporate it more thoroughly into the school's life. We care about the local wildlife and provide them with a home and food and have a chance to watch them and learn from them. We care about the teachers and provide them with further resources to accomplish their goals of teaching their students in the best way possible.

## Chapter 4 The Harvest

### 4.1 The First Fall Crop

Thank you for the wind and rain  
And sun and pleasant weather,  
Thank you for this our food  
And that we are together.  
Mennonite blessing

The garden's first summer, September, 1999 ended with garden boxes full to overflowing with cherry tomatoes. Despite the many green tomatoes that had been used and tossed as balls, there were tons of ripe red globes to eat. The day-care teachers told me they had taken the little children out daily to harvest and that the children had learned how delicious the red tomatoes were, so they had quit picking the green ones. Now that elementary school was back in the elementary students also could eat tomatoes at recess and lunch, standing and grazing with their friends.

Short and tall marigolds, orange and yellow, lined the edges of the boxes. Tall, thick-stemmed cosmos in hues of pink and pure white waved in the wind from the lower boxes. I gave every teacher a small Chinese vase as a gift at the first staff meeting so that they could pick flowers with their students to bring inside to their rooms.

The Three Sisters garden had lost some of its corn and most of its squash to hands that couldn't resist temptation, but there was still enough corn growing for the Eagles' Nest class, only ten children. The beans had climbed to the top of the cornstalks and were producing well. The little Douglas Fir survived the summer dryness. I am quite sure that the day-care teachers' constant presence and attention to the garden had made a big difference in this positive outcome.

When school started in September our new staff garden committee put forward a proposal for a Harvest Festival on the Autumnal Equinox to celebrate the children's successful first harvest. A giant pumpkin surrounded by tiny pumpkins set the stage for the Harvest Festival. At the assembly every class except the two that had teachers new to the school prepared a song or poem that they performed.

Tracy and I beamed at this first successful growing season. Children had grown in experience and caring along with the plants they had raised from seeds. I presented each class with a gardening certificate that had a little poem I had written about the equinox and the harvest printed with a color photo of the garden in full bloom. All children came outside together to

admire what they had grown, to pick their own tomatoes to eat, and to eat fresh corn-on-the cob from a Chilliwack farm.

The Eagle's Nest class had an additional celebration to pick and eat their corn and beans and cucumbers. Some of the children who had planted had graduated and some of the children who got to eat the Three Sisters harvest were new to the class. They read the Iroquois corn ceremony outside before harvesting the vegetables to thank the Creator in a traditional way for the food. All the squash and pumpkins had disappeared, but we found a cucumber hiding under the big leaves. There was just enough corn for each person to have a piece. It tasted like manna from heaven.

We had many new books in the library purchased with our first grant money. Picture books for little children exploring nature in its infinite variety stood side by side with books suitable for the intermediates to do research on trees, butterflies and many other natural history topics. The spring teacher survey indicated a desire for more curriculum books for the garden, and we found excellent ones covering gardening, First Nation's cultural studies in relation to plants, and general ecology. Jan had put all these books in the shelves right by her desk so that they were easy for students and staff to find.

The staff annual retreat at Whistler began the day after the harvest festival. I was very touched that the staff invited me to attend. I received many positive comments about my efforts and the positive impact the garden was having on the children at that retreat. It marked the successful conclusion of our first growing season together.

What we had not yet accomplished in that first year was child-initiated activities. But Joanna, the neighbourhood liaison worker, established an after school garden club that fall that children came to by choice. In that context, those children began to choose what they wanted to do in the garden during its second year of growth. As I relate later in this chapter, little by little, other children began to make choices of what they wanted to do usually outside of class time.

This whole issue of making space for child initiation of activity is probably one of the most difficult and most important aspects of the changes in power dynamics within this garden project. I set out to create an environment where children could interact with nature, and I see choice inherent in that interaction. But how we adults set up an environment appropriate to children's needs and then back off so that they can discover it in each child's own way is a big challenge to accomplish, a big departure from the norm of adult directed activity within schooling. Since I have no official role in the school and I have no given responsibility for a particular group of children it is even more challenging to me because I don't have a class where

I can experiment. Therefore, I try to offer choices in each activity I set up for the whole school and follow the lead of children when they show me what they want to do by their words or actions. I want the children to be free to pursue their own interests, but it is hard to know how to structure that possibility within the formal school setting.

I had initially promised the school that I would volunteer my time to the garden through December of 1999, but I was well aware that with the size of the plans we had all developed together and the amount of money that needed to be raised to fulfill the plans a longer commitment from me would be necessary. Fortunately for all of us, now that Tracy had graduated with her degree in landscape architecture based on her plans for the school, she too wanted to continue her involvement and see the plans built.

The 1999-2000 school year has been a continued sowing and reaping of the educational and community seeds of the garden planted in the first year.

Tracy and Jock delivered the phase by phase implementation plan the school board had requested. We got a general approval by the committee as long as detailed drawings were submitted each step of the way for specific approval before anything actually got built or planted.

Tracy, the principal and I decided to use the \$2500 Van City had given us to begin the butterfly and hummingbird to hire the school district grounds maintenance department to build the raised beds we needed, move the garden boxes into place and plant an allé of trees. (There was a threat by the union to stop volunteer activities in the school, so we wanted to work with them, and not antagonize them by bringing in volunteers for this work.) The principal signed a work order for the school district grounds department, and we made plans to have the children plant the new shrubs and perennials. The maintenance people got so busy with installing portable buildings around the district they simply never came. This delay, which turned into six months, slowed our momentum, and of greatest concern to me, the integration of the garden curriculum into daily school life.

We had done the initial garden box building on our own without school district grounds employees involved. From here on in with major earth moving to happen we needed to work hand-in-glove with the grounds people. It took us another six months, but eventually after many phone calls and on-site meetings we formed a close, cooperative working relationship with them. I think they are as thrilled with the beauty and meaning of what we have created together as we are.

That fall, 1999 I suggested several field trip possibilities to teachers for outings to natural environments by telling them about these places and putting written information on the field trips

in all the teachers' boxes. I hoped the children would begin to understand what creating a natural habitat garden for birds and butterflies meant. No teacher took his or her class in the fall. It seemed that people were just too busy getting the school year going.

After a great start to the school year with the harvest festival it felt like inertia had developed and nothing could move forward. I did not want to impose myself on the teachers with my ideas, so I devoted my time to writing the many grants we needed to fund various aspects of the garden. Learning the proper professional relationship for me to have with the teachers has been a very challenging aspect of this project. I see so many possibilities to integrate the garden into the daily curriculum, but I am not the person trying to meet ministry-established mandates with a school population that presents basic survival needs each day. I don't know if it is best for me to play the role of the Mayan whose enthusiasm inspired the students in Belize or to play a quieter resource role. I offer my support and plan activities that they can choose to join if they wish.

I organized fall bulb planting in the planter boxes and a daffodil in a pot for every child to have to take home. (The children had made clear to me their need to take something of their own home.) I asked EYA volunteers to help and their mentoring of the children made the whole process run smoothly and joyfully because they bring such kindness, skill and enthusiasm with them. Last year I had seen some negativity from some older students working with their peers. I asked the older classes to come with their younger buddy classes. This pairing of older students with younger resulted in very caring behaviour, gentleness on the part of the older students as they helped the younger ones with their bulbs, a mirror of the mentoring to them by the EYA volunteers.

This buddy system already existed in the school, but I had actually not seen it implemented before. The Child Development Project, run by the Developmental Studies Center, highly recommends the buddy system for fostering a sense of caring and community in a school (Developmental Studies Center, 1994). As a result of the very positive results of buddies in our bulb planting I try to arrange the schedule so that is possible with all our hands-on activities.

In late May, 2000 we finally did plant our bird and butterfly habitat garden after the grounds personnel had constructed the necessary frames for it. There was a conflict with another school activity on planting day so I could not schedule the classes with buddies, but after school when we still had lots of plants to put in the ground children of all ages came to help together of their own volition. We had the four-year-olds from the day care planting next to the twelve-year-olds. The older students who had seemed unfocused during their class time, were completely on

task and enthusiastically digging holes for plants, planting them carefully and watering. I don't know if this was a function of older and younger students working side by side or the fact that school was out and the children who were there were present by choice and doing something they wanted to do.

I have found that each time that I am there during non-class times doing something in the garden the children that make a choice to come and participate work without any problems whatsoever. They are there because they want to be and doing what they want to do. This chance for choice seems paramount for enthusiastic involvement. I am sure that is also the case for the teachers which is why I feel the need to back off and let them choose their level of involvement.

In the late fall I did extensive volunteer teaching, especially in the Eagles Nest class. I did a unit on ecology by comparing the ecosystem of the desert region to our lush, green Pacific Northwest. We looked at photos of corn growing at the base of ancient pyramids in Mexico in the region where ethnobotanists think the native people developed corn. (See further discussion of this in the First Nations section of this chapter). We compared them to photos of our own region. I wanted to model interdisciplinary learning through this combination of anthropology and science. We also did skits on the photosynthesis process so those students could experience the physical transformation involved.

This time of working closely with that particular class gave me the opportunity to try out my ideas for interdisciplinary environmental education that gave respect and honour to the First Nations people of all the Americas. It was a testing ground for me to see what activities work well with elementary students. This experience gave me a chance to get feedback from the students and the teacher. I learned that with this class where many kids find formal school lessons frustrating they asked a lot of good questions about the desert photos and made excellent deductions about the environment from them. Any physical, hands on activity engaged them a lot. Their teacher extended the activities I did with the class with further written work in their journals.

Near the solstice I brought in photos of the "sun dagger" rock in Chaco Canyon, New Mexico. Over 1000 years ago the Chacoans carefully observed the sun and moon and created a solar and lunar calendar that marks the solstices, equinoxes, the daily path of the sun through the sky and the nineteen year cycle of moon by directing daggers of light to cut through spiral petroglyphs they incised in the sandstone rock face. We all admired together this extraordinary feat which is incomprehensible given the weight of the rocks they had to move to channel the sun's rays to bisect their petroglyph spirals. The attention paid by these people to their

environment, both heavenly and earthly, awed us all with its sophisticated scientific observation and calculations.<sup>13</sup>

We celebrated the solstice in that class just before winter vacation with a special ceremony of lighting candles with our intentions for the new year to come, the new light we each wanted to bring into our lives. Audrey, the teacher, brought homemade cornbread and I made tea from mint and lemon balm growing in the school garden. As we passed the talking stone to make our verbal intentions, I felt touched to be included in this special ceremony with the Eagles' Nest class. It ended 1999 on a note of hope and promise.

## 4.2 Funding

An important part of our harvest has been new financial resources coming into the school. When we met in the spring of 1999 with the vice-superintendent in charge of our school to show him our plans he loved what we were doing, but said we would have to arrange all the financing ourselves. The school district had no money at all to put into gardens. I wrote the first grant in October of 1998 and have continued throughout the project. Tracy began writing grants in the fall of 1999. (See Appendix 5 for a full list of grants and what part of the project each funds.)

As the project grew from a school garden to a community resource and urban cultural and ecological restoration project the budget also grew. The first grant I wrote in October, 1998 had been for a \$5000 project. Now in the spring of 2000 our total project budget is \$285,000. If our gardens can grow as fast as our visions and budgets do we will be picking fruit and eating it in the shade of an ash tree by next summer.

The challenge of how to submit grants that require legal societies for receiving and disbursing funds made the PAC at the elementary school realize that they needed to get all their paperwork done to get their Society status. The parents were concerned about the project being jeopardized because they were not yet a society. I was heartened with their genuine wish to see the garden happen and their effort to get their own business affairs in order to make it all possible.

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<sup>13</sup> See Joseph Campbell (1989) p276-279 for a full explanation and illustrations. See Bullfrog Films (1982) The Sun Dagger for an hour video telling this story of "America's Stonehenge".

Another important part of our harvest has been the strengthening and extension of our community connections. Britannia Community Centre who oversees the operations of the Grandview Terrace Childcare and has federal non-profit status agreed to be an umbrella for our grants since the PAC could not do that. They have an accounting office that can handle all the disbursements properly. Just as important, their moral support and \$5000 grant have given us a firm foothold in the community. We are moving towards becoming a satellite of Britannia and their community programming. They understand our vision and work with us to make it happen.

Those funders who, like Britannia, took the time to meet with us in person all gave us significant grants. The Vancouver Foundation visited the school to ask questions and understood our plans for an ethnobotanical garden to teach traditional native plant use and restore natural habitat to the area. They awarded us \$50,000, the most they give to any education grant. \$40,000 is for the garden and \$10,000 is to develop native plant curriculum to distribute throughout the province. They require that we prove to them that we have the money in place for maintenance of the garden before they will release the funds. The head of grounds has estimated the amount for maintenance to be \$2500 more annually than what is currently budgeted for the school by the Board.

The principal of the school has pledged \$1000 a year from school rental fees towards the \$2500 estimated for grounds maintenance. I made an appointment with the superintendent of schools to request his support. I sent a fax before the meeting detailing the money that Tracy and I had raised for the school and indicated the hundreds of hours we had given for over a year to the school. We asked that he come up with the \$1500 more annually that we needed for maintenance. He pledged the money to us and said he would write a letter to the Vancouver Foundation, which he has done.

This pledge of \$2500 a year towards the maintenance of the gardens has more significance to me than the dollar amount would indicate. The school administration at Grandview had not raised any of the funds for the garden and the school district had told us they would not help financially at all. To have them accept some of the financial responsibility for maintaining what is becoming an important school asset means to me they are embracing this project as being of long term value, and they have said as much themselves.

(Grandview/?Uuqinak'uuh administrators have spent their grant writing time in these last two years getting money for the literacy program in the school, the intermediate's camping outing that begins the school year, and other important school programs that the district does not fund.)

Some of our grants were not successful, including the ones we wrote to the provincial and federal governments for millennium funds. It was disappointing to not have the government support our efforts, especially since it can be argued that the social ills of the Grandview Terrace neighbourhood come directly from former government policies of the deliberate destruction of aboriginal culture. It is a pity that our province and our nation do not see the benefits of school gardens as a site for learning and give them the financial support necessary to make schools more welcoming and dynamic places.

I am hoping that the literacy program we obtained funding for that will be for adults beginning in 2001 will give some of the parents the confidence they need to write grants themselves. I am concerned that because of the constant pressure of time I have not given my time to helping other people develop grant-writing abilities. This is one of those areas where my writing the grants myself has created good visible results, but has not helped to develop other people's independence and skills. But it is impossible to do everything at once, and I hope we, the parents and skilled grant writers at the school, can work together to develop self-sufficiency in grant writing as well as in food production in the coming year.

### 4.3 The First Nations Cultural Harvest

Kachina Song  
 At the edge of the cornfield  
 A bird will sing with them,  
 It will sing with them  
 In the oneness of happiness,  
 And the hearts of the people  
 Will be filled with thanksgiving.

So the people and the bird  
 will sing together  
 in tune with the universal power,  
 in harmony with the one Creator.  
 The birdsong and the people's song  
 And the song of life  
 Will become one.

Hopi (Bruchac, 1996, p. 14)

This Hopi poem expresses the heart of this project: a place in the families' daily lives where they can be in contact with the natural world, hear the birds sing and rejoice with them in having enough food, shelter and love for people and wildlife in the inner city. It also expresses the hopes of the children who named the whole garden site "The Spirit of Nature". A grade 6 girl suggested this name. Out of the thirty- three names suggested by many students, a majority voted for "The Spirit of Nature". "Rainbow Garden" came in second. This name choice indicates to me that the children seek a communion with the spirit of nature and want beauty in their lives.

The First Nation's staff and parents made clear their desire to see their culture embodied in the garden project. The landscape and architectural design have honoured those wishes as have the curriculum I have introduced (Caduto & Bruchac, 1994, 1996, 1998; Denee, 1995). Cajete lists as "Foundational Characteristics of Indigenous Education: A sacred view of Nature permeates its foundational process of teaching and learning. Integration and interconnectedness are universal traits of its contexts and processes" (Cajete, 1994, p. 29). The name of the garden expresses the sacred. The process of creating all elements of the garden site embodies integration and interconnectedness. The First Nations cultural elements of this project had clear importance from its inception, but as the project grew it became apparent to me that they lay at the heart of what was happening within the school community.

People outside the school had warned me that there might be no interest whatsoever in gardening amongst the First Nations population. I was told that the First Nations people of this coast did not traditionally farm since game, fish and wild fruits and plants occurred naturally in this abundantly rich rainforest climate with no need of domestication of agriculture. In reading Nancy Turner's excellent book, Food Plants of Coastal First Peoples (1995) I learned that certain wild plants, such as Blue Camas bulbs were indeed treated almost as an agricultural crop, cared for and harvested. Certain areas that grew valued plants were claimed by Nations or clans, tended and shared. Certain plants abundant in one region would be traded with peoples from areas with other desired plants.

I am not of Canadian First Nations ancestry. I did not want to culturally impose my worldview on anyone at the school. For me, I feel that learning the customs of other people enriches my understanding of life, but I was never stolen from my parents, locked up in a residential school and forced to learn someone else's culture and reject my own. My view for myself may not be valid for others who have this devastating history in their families. The First Nation's parents and grandparents who are at the school told me that the elder at the school, Ramona Gus, was the person I needed to consult about any cultural issue.

Ramona grew up on Vancouver Island with a Nuu-chah-nulth father and a Squamish mother. Her parents did not speak the same aboriginal language so they spoke English at home. She shared with me her memories of going food gathering, especially camas bulb gathering and berry picking with her grandmother when she was a little girl before she was sent to a residential school. Ramona told me of some of her experiences in residential school, of Christmases locked in the dormitory with the other children while the school staff ate a turkey dinner in the dining room.<sup>14</sup>

Ramona has been very supportive of starting the gardens at school for growing food and flowers and the native plants. She said that native people have always traded plant knowledge with other aboriginal people and adopted things they liked such as potatoes which came from the Inca of Peru. She also said it would be very good if children could learn "old medicine".<sup>15</sup>

Ramona is a carver and has several masks and other ritual objects she has done on display in the central display case at the school. Our architect designed a Longhouse outdoor classroom with carved flat cedar boards mounted to steel poles. When I learned of the Public Arts grant

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<sup>14</sup> From an interview at the school, November, 1999.

<sup>15</sup> From a taped interview at the school, December, 1999.

through the city's office of cultural affairs I spoke with Ramona about doing the carving as a public art project.

Before I describe that extraordinary process, I must make a confession. I knew in my heart that the first public art project should be the poles for the Longhouse, but I was so frustrated at the school district not allowing us water, not even a drinking fountain, that I wanted to make a visual statement for water. I wanted to restore the streambed in art form on the grounds.

The ephemeral stream once ran through the school site on its way to False Creek, a salt water inlet only a mile and a half away. When the city grew in blacktop and buildings the stream was buried, its only remnants muddy pools on the school site in the rainy season. I wanted to do a project that allowed all the children to do a piece of art of their own that would be permanently installed on the grounds and evoke the memory of that stream's life. It would be a science and art project, a history of the stream project.

I know an Italian sculptor who does life-like sculptures of animals and plants that are exaggerated in detail, anatomically correct and artistically interesting. If he was willing to direct this project everyone at the school and surrounding the school could do a creature from stream life, a plant, insect, fish, amphibian, or mammal and these creations could be cast in cement. With them we could recreate a stream across the playground through the swale to the dissipation pond. The artist could do the work on the drinking fountain we planned, and tie it visually to the stream.

I showed the artist's work to Daphne, the First Nations resource teacher and to the administration to get their approval. They all liked his art and gave me permission to contact him. I approached the artist who said yes first, then two days later changed his mind when he realized the huge scope of the project. When he said no I realized that really, as I had known in myself all along, the poles came first with Ramona as the director of the piece. She was the school elder and she was a carver. This was her place to do a public art piece if I could get the grant. It was not correct for me to follow a personal whim.

This was one of those experiences that helped me to deeply experience that my role in the project was as facilitator, not director or decision-maker or even artist. I knew the project could only succeed in being useful for the community if the community made the decisions and made it happen. I could write grants, but they had to be for what the community decided it wanted and needed, not what I personally envisioned. The First Nations culture came first.

I met with Ramona to discuss what a public arts grant would require of her. Not all artists can or want to share the art process with people who are not artists. But Ramona had worked at the school and volunteered at the school for years teaching First Nations art, so she was very keen to do the poles as a public project. I suggested she get an assistant so that all the work didn't fall on her since she is in her seventies, and she agreed that would be a good idea. She gave me the price per foot for totem poles (\$1000 per foot) and I applied for a grant to carve two for the welcoming poles of the Longhouse, When we learned six weeks later that we got \$20,000 for the poles we were ecstatic. The next week we learned that Tracy's grant to the Real Estate Board Foundation had netted \$52,910 to build the Longhouse. These grants felt like an incredible affirmation of First Nations' culture in the school community by the broader community.

I interviewed both Ramona and Daphne within weeks of those grants coming through. When I asked Daphne, the First Nations Resource teacher what the significance was for the students to have the chance to help with totem poles for the school and have a Longhouse on site she replied. "How will a Greek child feel who goes to Greece and sees Greek culture? Put that light on for a child who lives in an inner city. They grow up here in the city, but then imagine how it will feel to see their own culture honored at school."

When I asked her about her own feelings as an adult concerning the establishment of a physical site for First Nations education she answered,

I'm just pumped. The feeling that comes from everything that's happening, it feels good for everybody, for kids, for the teachers. I like the community inclusion, everyone making the decisions, how it started, the questionnaires, how everyone from child to grandmother has been involved. All the stakeholders are involved: school, community, parents, people in walking distance. All the ideas generated: boxes, maps, field trips, discussions, democratic process. Everyone is consulted. That's why the brainstorming and the list and everyone choosing 10 ideas help us understand what can be done, what is obtainable. What they'd like to see...that worked. How you documented it with pictures, with videotape...so its accurate. The kids want water. The school board doesn't want it. How many people in the school board were involved in the process?  
(From a taped interview at the school, December, 1999)

Later on in our conversation we realized that we had both had exactly the same feeling about the proposed drinking fountain sculpture for the Salish patio next to the Longhouse. The drinking fountain should stand at the center of the site, its water a symbol of life for all the gardens and living beings who will use them, animal, plant and human. It had occurred to me recently that the drinking fountain should be oriented to the cardinal directions. Each side of the fountain should have art that represented the people of that direction with the top of the fountain

representing the people of this region. Daphne said exactly what I had been thinking. "I think the drinking fountain should represent all the cultures."

The way the whole project has fallen into place, the right people at the right time to do what is needed often makes me feel we are all following a script created so that this can happen with us as the players that bring it into being. I learned I am simply playing a role I need to play at this time. For now the school district grounds rules prohibit any water, but the students and staff all want at least a drinking fountain so we have plumbed the area by the patio with a water line, should we be able to persuade the school board to allow it in the future.

Water and wood are basic garden elements; fortunately the wood has been relatively easy to get. After many phone calls in search of a cedar pole we could use for carving, I found BC Recycled Woods. They receive the old cedar phone and hydro poles and then mill them for picnic tables and chairs or other suitable uses. Ramona, Tracy and I went one snowy January day to see what they had. Ramona preferred to do a whole pole, but nothing in stock had a big enough diameter so we left the minimum dimensions needed with the manager. February 7, 2000 a truck brought the poles, and a front-end loader lifted them out and onto the waiting saw horses in the school parking lot.

Ramona's assistant, Doran, was there with his chain saw to begin roughing out the shapes needed on the two poles, one eight feet long and the other six feet. (Inspired by the Musqueam tradition the Longhouse has a sloped roof with one side shorter than the other making necessary the two different lengths of the poles.) The smaller 6-foot pole would become a raven, the trickster, a principle character of many stories. Ramona had designed a traditional Nuuchahnulth image of a thunderbird lifting a killer whale for the 8-foot pole. This comes from a time when her village was prevented from going fishing because their ocean cove was filled with whales. They called on the Creator for help and a giant thunderbird came, lifted the whales up and took them to the top of a mountain where the Thunderbird ate them. Once again the people could fish. Doran discovered the poles were water logged, probably from being stored in the ocean. When we moved them inside so they wouldn't be stolen, the dry indoor heat began to crack them. We found a room where they could be stored by an external wall in the gym that didn't have heat, and that kept the cracking from being too extreme. Doran filled the cracks with glue.

Doran worked on the carving and sanding of the poles under the covered area of the playground blacktop. The cedar dust can be very poisonous so the carving and sanding had to

happen outside, and he wore a mask. Ramona didn't feel the children or any of the parents could be involved in the carving, only in the painting because of the hazards of dust and sharp tools.

I fretted because the public arts grant spelled out public participation including the carving. I had to just trust that it would all work out and the city wouldn't get mad at us for not involving people in every aspect of the project. Ramona understood totem poles, how they needed to be carved and their place in her community. I had to surrender my own idea of how things should happen and trust Ramona.

Ramona spoke about the poles at the school multicultural night so that all the parents would know what was happening and invited everyone to participate in the painting of the poles. Almost every day children, the entire school staff and parents and visitors could see the poles take shape, one at a time, since they were outside being carved in a roofed area by where the children played. The February to May carving from chain saw to fine cut lines was a public process. I learned by watching school life go on around Doran as he carved that we had in a way recreated village life where an artisan practiced his skill not in isolation, but in the middle of children playing. Pre-schoolers and grade school students all wandered by in the course of their day to stand and watch the pole take shape. This was art education of a traditional nature, very suitable to the context.

In the meantime, Ramona organized many First Nations parents and grandparents and other volunteers to make gifts for the pole raising potlatch. Every day women and sometimes children sat and made quilts, book bags, pencil holders, knitted hats and many other items filling the entry hall with enterprise and creative activity. Ramona told me she was working way more now that she was retired than when she was a paid resource person at the school. I was glad the grant had a good fee in it for her.

By late April the first pole was ready to paint. I established days with Ramona and Doran for the children to paint and arranged the sign up times with the teachers for five or six children at a time to paint for about ten minutes each. I was fascinated to see the total focus of the children. Not one child misbehaved. No one ever fooled around with the paint or brushes. Ramona handed them a brush, told them what color they could paint where. Each child did it with complete concentration and focus. We all did it. It felt like a meditative practice to paint Raven a bold black.

I had seen some of these children not very able to focus on a task. I had seen them misuse tools in the garden. I wondered how they would be painting with permanent paint on an object destined to outlast their lifetimes. I realized quickly that I couldn't ask them questions when they

were painting. They didn't talk to each other. Talking broke the concentration necessary for the job. Painting the totem poles brought each child into a wonderful state of quiet concentration.

I learned from watching this process which did not give the children any choice about color or form, but was all done according to tradition, that there is something grounding in the practice of a tradition. The children were very calm painting the totem poles. That calm allowed them to complete the task at hand and feel good about a job well done. Since I do not come from a culture where anything is done just so and no other way, this was a first and very enlightening thing for me to witness. The individualism of European culture that has shaped much of my thinking and personal approach to art education has also routinely disregarded the traditions of indigenous cultures to the extent of wiping them out. The carving of the totem poles at school and their painting by the students gave us all the chance to experience a collective tradition that brought dignity to the community.

The First Nation's parents and grandparents worked with Ramona to organize the pole raising potlatch with some help from the First Nations staff at the school. It was not done by school administration. This marked a significant shift in power dynamics in the school. The First Nations took charge. I realized that the poles were a catalyst for a very important renaissance of First Nations culture in the school. They had become the creators and doers in the school rather than the receivers of services. At the potlatch they would give a formal thank you and gift to each of the donors to the garden project.

The potlatch opened on May 11, 2000 with prayers and songs from the Burrard, Musqueam and Squamish nations that claim the school territory. Each singer and dancer received a gift after their performances. Ramona and Doran, Jock, Tracy and I and funders for the garden all received beautiful hand made gifts. The Intermediate children drummed on their African drums. This potlatch embodied multiculturalism by honoring all cultures present. I was thrilled to see the coming together of the community. My husband was videotaping the event for our future documentary. He told me he overheard one woman say to another, "This used to be the saddest place to come, but look at it now. It's wonderful."

During the potlatch, which lasted 6 hours, children carried around trays of drinks and cake to offer to the guests. The feeling in the school gym was of gratitude and graciousness. I was deeply moved by the quality of feeling, very honored to be invited to my first potlatch. From the wonderful feeling in the room I can only surmise that the Canadian government outlawed potlatches out of fear for this big spirit which is present and perhaps not

comprehensible to the rational side of the mind. Giving thanks to the Creator comes alive in a potlatch.

Vancouver Television sent a TV camera to the school and presented a series of images of the children dancing and the poles being un-veiled for broadcast. They interviewed one of the First Nations students and me live on the 5 o'clock news that night. We were able to tell Vancouver viewers what transformations we are all creating together. The other big news story that night was the celebration of the first day of the Nisga'a Nation's self-government with the election and initiation into service of their own officials. It seemed to me we participated through our potlatch in that historic event for the Nisga'a. We were sharing the same process of native people reclaiming their culture.

The First Nations community shared the strength and tradition of their culture with all the rest of us by organizing this beautiful potlatch and inviting us to participate. This coming together of parents, elders, and community members with the school has manifested in other significant ways also. The core group of parents and grandparents who run the PAC joined with a Vancouver Community College representative and me to write an adult literacy grant mentioned earlier. What they want is to help write curriculum for their children to learn about native plants and participate in writing the signage for the ethnobotanical garden. They generated many ideas of how to use the whole garden project to increase the education level of parents at the school.

At the groundbreaking ceremony in March one of the school grandmothers, Lorelei, did a ceremony to bless and cleanse the land. Ramona stood as her witness, and her granddaughter helped so that she could begin to learn how to do this ceremony.<sup>16</sup> At the end of the smudge with sacred smoke of everyone there and the smudge of the land Lorelei prayed, "We ask the Creator to bless us that we work together to heal the land and heal ourselves."

Healing has indeed been an important part of what we are all doing. The huge importance of the ethnobotanical garden as a place for culture to be revived became very apparent to me when I was reading Nabhan's (1994) description of his research on native plants and culture with the Tohono O'odham and Yaqui people of the desert of southern Arizona and northern

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<sup>16</sup> "From the Indigenous perspective, the purpose of training in learning and thinking is to bring forth your personal power; training develops your personal power through focused attention, repetition, and context. Indigenous people recognize that personal power; learning and thinking are expressed through doing. Therefore, learning the doing is an essential process. It recognized that culture and its reality are invested anew with each generation" (Cajete, 1994, p 31).

Mexico. He discovered that children no longer knew the names in their native language of the plants and animals that surround them in their homeland. Only their grandparents know these. The children also discounted their grandparents' knowledge perhaps because it comes from life experience and not from institutionalized learning. Yet Nabhan claims the most valuable knowledge he has gained of the desert has been from these same grandparent elders.

When I read about this research it occurred to me how important it would be that we label the plants of our ethnobotanical garden with their First Nations names as well as with their English and Latin names. (Even though I wrote that in my mission statement in September, 1998 I don't think I really understood how totally vital it was until I read this research and then had it reinforced by the interest of the parents.)

I get very excited imagining the herbarium the children, parents and teachers can make of all the native plants in our garden. We can all begin to learn a local First Nation's language while doing it. I wrote a sizeable piece of the ethnobotanical budget to create signage. We will have not only the names of the plants, but their traditional uses on these signs. Perhaps we can get the help of elders, linguists and UBC students in ethnobiology,

In the same chapter on the loss of traditional biology and language knowledge by these desert people's younger generation Nabhan quotes the director of education for the Tohono O'odham nation, Rosilda Manual. Her view about the meaning of environmental education expresses well the scope of what our garden project is doing.

For a long time, whenever I heard someone talking about environmental education, I thought they were just wanting to upgrade science education about the environment. Then last year, I realized that environmental education can be cultural education too. I was fortunate to grow up with a grandfather who taught me to respect other ways of life, those of animals, plants, Whites, Blacks, other Indians, He taught me that we have a special way of looking at the world, but others do as well (Nabhan and Trimble, 1994, p. 92)

My own dual nationality has made me interested in learning about other cultures and their traditional connections to the earth. The summer following our first spring of gardening, July 1999, I attended an education conference in Mexico. I was near Puebla where archaeologists have found the tiny corncobs that are about 7000 years old. Ethnobotanists believe these show the intentional creation of corn by the cross-pollinating of certain grasses by the people of that region (Balicck & Cox, 1996). I took photos of the area including the corn and amaranth fields growing at the base of the Cacatla pyramid where the colored murals show paintings of corn from ancient ceremonies for the rain God, Tlaloc. When I shared my photos with the Eagles'

Nest class their teacher, who is Cayuga of the Iroquois nation, told me that her people believe that corn was a direct gift from the creator to the people.

That was one of those interesting cultural, spiritual and anthropologically sensitive moments. We were talking about people's relationship to plants and how ancient and important it is as the plants provide food, life for people. Whether the creator inspired the people by the gift of their intelligence to search for ways to create a more stable and reliable food source or indeed just gave corn directly, I certainly don't know. Neither do experienced ethnobotanists know definitively how the first corn came to be, but can only hypothesize based on the tiny corn cobs found in the cave in Mexico along with the remains of other grasses and grains. We presented to the children both ways of looking at corn's entry into the people's diet as possible.

I observed myself in this communication about the origins of corn to have an understanding of myth as metaphorical truth, not literal truth. I was confused by attempting to understand the corn creation story literally. I realized that when Europeans arrived and told Bible stories to indigenous peoples they were attempting to replace indigenous creation stories with their own and whether people took them literally or not, it must have been very confusing.

This interchange between a teacher, a class of students and me illustrates well what I find to be so rich in the potential of this project to open doors into many subject areas, the interconnectedness of human experience and knowledge. The creation stories of corn, the art portrayals of corn in weavings, on pottery, in murals, the ways of preparing corn as a food, even simply a list of the cultures of North, Central and South America growing corn offer interdisciplinary study worthy of a child or a graduate university student. Did corn spread by trade, war, as a gift of the Creator who caused it to grow in each region for each nation? The result of this conversation was that I sought out and bought more books for the school with First Nation's stories about corn and other food crops (Caduto & Bruchac, 1997, Dennee, 1995).

The same week of our origin of corn discussion the grade 5/6 teacher, who is Chinese, found a First Nations' corn myth telling how people learned to save seed with help from the Creator for future plantings. She gave that story to the Eagles' Nest teacher who in turn read it to the whole school to open our harvest festival. I, in turn, found a story on the Moon Festival in China which celebrates the fall harvest and gave it to her to read to her class.

This project offers many opportunities to study ancient and modern practices of our shared human ancestors around this primary human activity of growing food. Modern urban life removes most people from these cycles of life that until very recent times were the shared cycles of all people on the planet growing food for their daily life and to save against future calamities.

Even though agribusiness has taken most of us to grocery stores instead of to the fields for our daily dinner, growing food on school grounds is giving these students a taste of what the rhythms of life geared to the planting cycles are.

A part of our harvest has been adventures further afield for the students. An excursion we did in March of 2000 gave the Eagles' Nest class the chance to explore the native plant garden at the UBC Botanical gardens with the UBC students who were just finishing their course in Ethnobiology. The university students, some of whom were First Nations themselves, prepared hands-on activities for the elementary students as part of their course requirements outlined by their instructor, Dr. Brian Compton. Dr. Compton hopes to continue this cooperation and alliance with Grandview/?Uuqinak'uuh. Our plan is to use the ethnobotanical garden at our school as a lab for the UBC students in the future, so that the multigenerational learning and teaching can continue and grow.<sup>17</sup>

The field trip had its problems when the children ran away from their supervisors at the First Nations House of Learning. (Their regular teacher was away at a funeral, which may have prompted them to cross reasonable boundaries of behaviour.) By the time we crossed campus to the garden they were attentive to the activities given to them to experience. Everyone was thrilled when the pond bullfrog, not a native, made an appearance. Students sang a song about a willow tree and learned that indigenous people used its bark as a painkiller. Scientists followed this clue and isolated the chemicals of aspirin from willow.<sup>18</sup>

I found it very enjoyable to see the children able to explore a natural environment of berry bushes, tall cedar, nurse logs and many smaller plants. We ended with a terrific treat. One of the UBC student's grandmothers had flown in a package of frozen soapberries (*Shepherdia canadensis* L. Nutt.) so that everyone could beat the berries to a froth with sugar and taste soapberry ice cream. This was a treat I had heard of all my life, but never tasted. I was very touched to know a grandmother so wanted to support her granddaughter's university work that she went to the airport early in the morning to send the berries to Vancouver.

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<sup>17</sup> Characteristics of Indigenous Education: "It presents something for everyone to learn, at every stage of life. (Cajete, p. 29)

<sup>18</sup> There is now a program in Central and South America called Shaman's Apprentice begun by ethnobotanist Mark, J. Plotkin of Harvard to have young indigenous people train with the old, traditional shamans of each culture in order to preserve the vast botanic knowledge these people have of the plants in their local environment. Drug companies who benefit from this traditional knowledge must share their profits with the tribes that have provided them with the knowledge and the plants for research. (Plotkin, 1993)

This spring the Eagles' Nest class is planting its second Three Sisters garden. They filled their new 10 foot by 10-foot garden plot in the community garden with topsoil themselves. They appeared to relish the labor of filling the wheelbarrow and trundling it to their box to dump. Some of them helped to weed the parents' garden patch of horsetail weeds that came as unwanted invaders in our city compost. One girl asked me if she was going to get special recognition for working in the garden. I told her that the garden was a place to do things for pleasure, not for a grade or special prizes. She accepted that with a smile and picked up a shovel to help put dirt in the bed. One of the girls told me I was so nice when I agreed to stay at the garden at lunchtime so that they could haul more dirt.

As an educator I believe in transformational approaches to education where the student initiates what she wants to learn (Miller & Seller, 1990). This project is by my volition and desire, not suggested to me to do by someone else. This inner desire of mine drives me forward, fuels me to explore and expand on my learning daily. I am a mature adult with a lifetime of experience to inform my desires and choices. I am working to discover a way to find an appropriate way to set up the opportunities for children to follow their own interests.

When the children misbehaved on the field trip and had privileges removed on their return to school I felt badly. I felt that I had inadvertently set them up for this negative experience of getting in trouble in my eagerness to have them get what I considered an exciting opportunity and not consulting with them first. I didn't ask the class if they wanted to go; I just set the trip up with their teacher's agreement. So I apologized to the children for not consulting them first. I don't know if it would have made a difference, but it would have been more respectful of me. It is very difficult in an environment where children have few opportunities to experience the broader world to know how to present these opportunities to them in a way that gives them proper boundaries and a choice. What is the best way to support them to try something new that they might not know exists and therefore wouldn't initiate on their own? I have certainly learned from this experience to consult with the children first as well as with their teacher.

#### **4.4 The Community Harvest**

I began this action research project with the intention of creating a situation that would lead to a positive change in the school community because of my commitment to providing an enriched learning environment to children who face economic and social challenges. I also wanted to direct my own learning experience as I pursued my Masters degree and do something

creative that would challenge me and allow me to work in community. When I first visited Grandview/?Uuqinak'uuh I did not see enough resources in the school to adequately provide for the needs of the children. Resources to me meant money, people and environment. It seemed to me that there should be one adult for every four children to help, care and teach, based on the huge social and learning needs of the children. What has been achieved to date?

Based on what the school community identified they wanted to do outside on the school grounds we have a full landscape plan that has been implemented over the last year, most of it in the last three months. Currently we have the classroom garden boxes (as per school board specifications) for vegetables and flowers in place and planted for this season. The students have even harvested their first spring salads this year, enough for every class of a variety of lettuces, carrots, beats and radishes. They picked, washed and ate these spring greens with great gusto. The children have also built nine larger boxes for Japanese snowbell trees so that if the school district needs to bring in more portable classrooms, the trees can be moved safely.

The hummingbird and butterfly garden, built by school board employees and planted by preschool and elementary school students with many species of mostly native shrubs and perennials, has bloomed in a glorious profusion of color. On Earth Day, 2000 we had the garden naming ceremony and grade 7 students planted a Shore Pine (*Pinus contorta*). In all we have planted 23 new trees in the past year. In late May, 2000 we planted our millennium sunflower garden of over 1000 sunflower seeds.

The twenty-four community garden boxes, built by volunteers, were completed the last week of May, 2000. Most of the community gardeners have their first seeds and bedding plants planted because the first eighteen boxes were completed on Earth Day, 2000. Yesterday the children filled in with dirt the planting area for kiwi and grapevines behind the retaining wall built by school board employees at our cost. There is space there too for a wheel chair gardener to plant, should we have someone join the community garden that uses a wheelchair.

The dissipation pond, which will never hold water just dissipate it, has been filled with rock, sand and gravel and lacks only the crushed oyster shells and moisture loving plants around the edge. The mound is there, a mini mountain for all to climb, but fenced off till it has new grass and wild flowers growing well. This fall a medicine wheel will be installed with rocks marking the cardinal directions, the solstices and equinoxes. The ethnobotanical garden and native plant edge will be planted in the fall, as will the bosque of maple trees. The Longhouse has gone to tender for bids for construction, and the bids came back twice what the architect and engineer estimated, so we are once again searching for more money. The first two totem poles,

the welcoming poles in the Longhouse, are carved and blessed with the celebration of the potlatch.

The Eagles Nest class has researched and done designs on graph paper of Coastal Salish weaving patterns that will be used to create a pattern in bricks in the patio by the Longhouse. Our entry gate with the garden name "The Spirit of Nature: Grandview/?Uuqinak' uuh Community Gardens" will acknowledge all the funders. It is designed and awaits funding for its manufacture.

The basic construction of all built elements and all major plantings should be completed by April 2001. Earth Day, 2001 the school will celebrate its 75<sup>th</sup> anniversary with the official opening of the grounds as a site for cultural expression and environmental learning and stewardship.

Tracy and I have generated to date (June, 2000) \$156,760 in grant money. I have given 20 months of my time as a professional educator, grants writer and community organizer to the school, free of charge. Tracy has given seventeen months of her time as a landscape architect, grant writer and general project contractor. The architect of the Longhouse, Bruce Carscadden has given his professional services for the last 17 months to attend community meetings, and to design the Longhouse according to the community wishes. He arranged for an engineering company to donate their services to prepare the building specifications and documents for bidding and continues to supervise the contracting process. We have held countless meetings with school administration, teachers, parents, school district grounds personnel, neighbours of the school, and the local community centre Board of Directors to answer their questions, get their input and gain their support. I believe that all three of us have modeled excellent professional cooperation in our work with the school

New people have become involved on a regular basis with the school. The Environmental Youth Alliance, an organization whose mandate is to support greening efforts in the city and promote environmental stewardship in the community, have brought their volunteer teams of young adults to help us with all construction and planting projects this year. The EYA volunteers (usually a team of six to eight people in their twenties) are fantastic role models for all the children with their enthusiasm, skills and knowledge willingly shared side by side, hammering garden boxes and planting seeds and plants.

Last spring two N.I.T.E.P students (Native Indian Teacher Education Program) came to help students transplant their seedlings as part of their course choice requirements for the UBC class I taught them in physical education. The totem pole project brought two First Nation's

artist/carvers to work at the school, Doran Lewis and his son Doran Lewis, Jr. to assist Ramona Gus. Professional artists working at the school essentially as artists-in-resident gave a new dimension to art education for staff, students and parents, all of who participated in painting the pole.

Audrey invited a First Nations elder to do a presentation on the Medicine Wheel to the staff and interested parents. A group of young First Nation's artists, Collective Echoes, have agreed to help us lay out our own medicine wheel on the grounds. We shall have elders involved as well. Collective Echoes has also offered to help with installing the Salish patio based on the weaving patterns the Eagles Nest class prepared. We hope to hire them to design the drinking fountain planned for that patio, but that has to wait for school district grounds and facilities policy to change regarding water on school grounds. The Eagles Nest class has also worked with Collective Echoes on a public art installation which marks buried stream sites with fish to recall the city's waterways.

Other gardening organizations are lending their expertise and human kindness to our project. Evergreen did a presentation on native plants to all our staff. As an organization they have been very helpful to us and want to include us in their next case-study survey of schools across Canada doing greening projects. The individuals who did the paid presentation to the staff are now volunteering their time to the children to help plant the native plant butterfly and hummingbird garden and to share their expertise with children and staff.

Master Gardeners have become involved with our butterfly and community garden. Two, besides me, have come to teach workshops and work side by side with our fledgling family gardeners as they plant their first gardens this spring. City Farmer has done worm workshops with eight of our classes. The instructor is volunteering her time to help plant our bird and butterfly garden too and plans to volunteer regularly next year.

Parents and grandparents from the school, children, our vice-principal and his children, local Mennonites, EYA volunteers, my husband and daughter and the new community gardeners all joined to get the community garden started on Earth Day, 2000. Well over fifty people hammered together boxes and hauled dirt and compost. The Mennonite community has given us not only a grant for the community garden, but many people hours as well to help get it started. A group of young genetic researchers who work in a lab with our community garden chairperson volunteered their time to help fill the last six community garden plots with dirt and cover the pathways with bark mulch, and worked alongside our students. Each time enthusiastic adults work with our students I feel the students are exposed to a new perspective on life possibilities.

Hundreds of people have attended our groundbreaking ceremony and Potlatch to celebrate these community greening initiatives: First Nations people, foundation representatives, our M.P. and MLA. This is what one First Nations' elder, Irene Schmidt, wrote.

I attended one of the most inspirational and refreshing events of my entire life on March 9, 2000, the ground breaking ceremony at Grandview/Uuqinak'uuh Elementary S. School. As adults we need to listen more to the children as they have many of the answers to save Mother Earth. Being in the gymnasium made me feel like spring with a great variety of plants and the children had decorated the walls with poetry and drawings. Everything was positive in that room and the children were extremely well behaved. (From the newsletter, "Elder's Sharing Circle News", Vol. 2, p.13. April 2000)

Ms. Schmidt goes on to describe the whole ceremony in detail with total joy for everything she witnessed. It is the positive feeling in the school which is so apparent now. It is the collective result of many people's initiatives, not just this garden and cultural project.

Joanna Cupples has worked in the area and with the school for many, many years. As the neighbourhood liaison worker who runs programs for both parents and for students after school she said this about the garden project.

My hope is that this garden will draw together a lot of the people in the community that we haven't been able to attract because they don't have kids here. This is the beginning. It breaks the ground for a comfortable feeling, for a full service community school. I hope the area will be safer with people out and about in the garden. It is a real learning experience for the kids. I don't think they are out destroying things as they have in the past. I've overheard kids say to other kids 'Don't do that. Don't spoil our garden.' I heard a little 7 year old say to a big boy I did not recognize. 'Don't kick that box.' The big boy responded. 'What's it to you?' The little one answered, 'You're hurting the roots.'<sup>19</sup>

#### 4.5 Are we going flowering?

Last fall when we were planting fall bulbs and winter pansies I walked into the grade 4/5 class and L. looked up at me, smiled and asked "Are we going flowering?" This new gerund "going flowering" makes me smile inside every time I remember the smile on his face, his eagerness. We are all going flowering together. We put the flowers in the ground, they grow, and we grow.

One day this spring two little girls from the same class approached me and asked me if I wanted to buy a package of seed to grow a staghorn sumac. I confessed to not knowing what a staghorn sumac was. One girl brought me a branch to touch. Sure enough it felt like the soft

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<sup>19</sup> From an interview at the school, April 2000.

velvet of a stag's horn when they first grow in the spring. The girls had been given a branch with a seed pod on a field trip they took with their class to study the trees at Van Dusen garden. They were so enthused they had started a little seed enterprise. I happily bought a package, very sweetly sealed with a star, for twenty-five cents. They gave me an extra package of seeds and told me they were making lots of money. I was thrilled at their initiative and at my opportunity to learn from them about this tree, They are initiating intergenerational learning by sharing their knowledge with me.

Their class has done a lot in science because of the garden. Two teachers teach them. One did a unit on trees and the other on the rain forest. One of the teachers told me her life has changed because of the garden. Joanna has a father who is a gardener, but she planted her first seeds last spring with her class and me. She raised lots of seedlings in the classroom with the children, then this spring she planted seeds in flats all over her kitchen, leaving the lights on all night to speed germination. She is growing twenty-one different kinds of flowers right now.

Joanna V. has been here longer than any other teacher. She said there wasn't even a playground when she first arrived. She has noticed excitement with the kids about the garden. They ask to go out and water. They want to help. They wrote glowing letters of thanks to EYA volunteers whom helped them plant seeds. "Before your time when a teacher tried to plant anything it got torn up, but not this year," she told me.

Joanna is keeping her own garden journal at home of everything she is planting. When I asked if she would like her class to keep a garden journal, she said yes. She thinks all the group activities of planting and building have been great and says the children still remember what they learned from last year's soil drama when they played sun, minerals, water and worms. Joanna told me that before she began gardening she never wanted to stay home. She was always out and about. "Now I want to garden. I stay home and garden, and my kids play in the yard. We talk about what I am planting, and they fight over who gets to use the shovel."

One day this spring one of the girls in the Eagles' Nest class stopped me in the hall at recess. "Stay right there," she commanded. "Stand still." She took off up the stairs. Since her classroom is on the third floor it took her awhile. She returned with a plastic bag all tied up and handed it to me triumphantly. "Open it." I struggled with the knots and she pulled it open. Inside were dahlia tubers and a few irises.

"A lady gave them to me when I was at the community garden at McSpadden Park this weekend. Can we plant them?" I was holding a trowel from the morning's activities, so we went outside together and spent recess planting her dahlias in the flowerbed along the front wall.

“Some kids think gardening is boring, but when I get into it I really like it,” she confided. I was delighted to have her invite me to join her in her own initiative to grow flowers in the garden. This incident indicated to me that she feels the garden is hers to shape and color. She feels empowered to take action.

Burt’s grade 6/7 class helped the kindergarten class plant bulbs in the fall. The kindness showed by the older children to the little ones models the kind of caring I hope to see from the gardening activities. Burt’s classroom is full of large tropical plants lining the windowsill. This very green environment and Burt’s attention to plants has supported his class to grow their seedlings conscientiously. They planted perennials, Rudbeckia and hollyhocks, for the butterfly garden, and I hope they will come back when they are in high school and see the flowers blooming.

Several of them have pointed out to me the tree they planted this spring on Earth Day and asked me to tell them its name again. When we planted one thousand sunflowers this class again came to help with the kindergarten and grade one. One of the boys was having a hard day and asked me if he could go and help shovel dirt in the community garden. I told him it was fine with me if he got permission from Burt. Burt told me that this time to work out distress with a shovel and dirt was really important to the student. It is something I certainly know from my own life experience, digging in the earth is a calming activity. I have several times seen some of these older boys change in their demeanor by becoming focused and helpful when they are helping with a digging task outside.

When we were filling up the last six community garden boxes with soil a lot of kids asked to help during recess. Several even wanted to weed, a needed task because the city gave us compost full of horsetails, morning glory weeds and thistles. One boy asked me to show him how a cultivator worked and asked me why it was called a cultivator. We had a real exchange of information that he wanted. Many asked to stay and work when the bell rang so I told them I would meet them at lunch hour. Fifteen kids, mostly boys, but some girls, turned up to enthusiastically shovel dirt into wheelbarrows and haul it to boxes. One boy got permission to stay out most of the afternoon to work.

I was busy planting sunflowers with all the classes so the school board grounds people who are on site kindly supervised him, showed him how to use tools properly, and he worked with total focus. He filled the new retaining wall planting area for fruit vines with beautiful topsoil and compost. He provided a real service for all members of the community garden.

The desire children have to do physical work that results in something visible to see is so basic. We need to provide children in school with more opportunities to do things that are real and accomplish something in the end that the school community can appreciate. That is indeed one of the great purposes of the garden. The work is real, meaningful and brings pleasure to those who do it and to the passerby who just looks at it.

I began this project with a belief in this kind of experiential learning as natural and beneficial, but had not had the chance to experiment with it on a large scale in a formal school situation. The children's pleasure and excitement in what they are accomplishing confirms my commitment to continuing to experiment. I have learned that I have much still to learn on setting up the optimum situation where there is the right amount of structure and the right amount of freedom combined for optimum learning. I also have learned that I can consult with the children on this and together with their teachers we may all forge some new trails in this direction.

Several times since the butterfly and community gardens have been planted I have found Jock wandering through them, pausing to examine what is growing. He told me he comes out to the garden when he has had a hard day with difficult situations in the two schools for which he is the principal. The garden makes him feel calm and gives him hope, he said. He is eager to place a bench in the butterfly garden where he can sit and see the children play on the swings. This will be the personal memorial he leaves to the school.

The pre-school has lined their outside deck with flowers grown by the children. Their cook has leased a community garden plot where she is planting vegetables with the children for them to eat at daycare lunchtime. Several of the pre-school/day-care teachers have told me that gardening is the absolute favorite activity of all the young children. Unlike the elementary teachers, the teachers of little children are free from curriculum demands and can spend as much time as they feel like in the garden. Much of it is right by their play space. The daycare teachers take a lot of responsibility to water the elementary school class garden boxes and the butterfly garden. They have told me that since the gardens developed frequent vandalism to their play space and little garden have stopped. It gratifies me to know that the children who stay in the neighbourhood and go on to grade school at Grandview will spend their whole childhood helping things to grow and participating in the transformation of where they study and play.

One first grade has their classroom filled with pictures of garden critters that they have made. Bumble bees and lady beetles fly through the air. Flowers bloom on the walls. Spiders climb. One class made banners for the groundbreaking ceremony with garden quotes from all over the world and decorated these with flowers of all sorts. These cheerful communications

have decorated the gym and hall for several months. Now the class has done a math/art assignment in symmetry and decorated the hall with stunning butterflies.

These teachers initiated art, science and math activities based on and in the garden. Since environmental education is not part of teacher training generally I think some of the teachers are happy to have me take leadership in creating gardening activities. That concerns me somewhat because I am not an employee of the school and will not be there next year or in ensuing years to the degree I am now unless I am hired in a paid position. I will soon meet with staff to learn their desires for the curriculum I will be writing for the ethnobotanical garden. I need to know what kind of curriculum format most suits their needs so that it gets used, not just shelved in the library.

We will have a quarter of a million-dollar asset on our school grounds once everything is planted and built. How the teachers, administrators and parents use these gardens in the future to strengthen children's knowledge of the natural world they inhabit will impact the children's lives, the surrounding community, and the practice of education in Vancouver and our province. It doesn't matter to me if the children use the garden for observing plants and birds to sketch or to do scientific studies. It just matters that they be in it and learn from what they do and see, begin to make choices based on personal interest and through their own endeavors.

Ecology comes from two Greek words. *Oikos* means home, *logos* knowledge. Knowledge of home is essential to living well and sustainably on this earth. It is time to infuse the formal school curriculum with the First Nations traditional knowledge of this province so that all of us can live more wisely together than has happened in the last 200 years. We have done this at Grandview/ʔUuqinak'uu Elementery School with our "Spirit of Nature" gardens. We will continue to learn together as our gardens grow and we learn how to tend them, care for them and harvest them into the future.

As a next step to ensuring the garden's future, we will also approach the Parks Board for a long-term cooperative effort in maintaining our school ground as a park-like natural environment. Except for a small pocket park, Grandview/ʔUuqinak'uu provides the only green space in a neighbourhood bounded by four major traffic corridors. We are essentially creating a public park with all that we are doing, and cooperation from the Parks department would be very helpful for long term maintenance.

Sam has suggested to the city that since the sky train extension will destroy many of the trees in the Grandview cut bordering the school, the city should close off the street running beside the school and turn it into a park to replace what will be lost. The park would be an

extension of our gardens managed by the city. When I first approached the school Sam suggested creating a green corridor all along Woodland Drive for the walk to Britannia Community Centre. This school has very few parents with personal cars. People walk and use public transport. Turning the road by the school into a green space would support the more environmentally friendly mode of transportation of walking within this community. It would definitely help the air to be fresher, and the sound scape to be full of birdcalls rather than car and truck noise.

The transformation of the Grandview/?Uuqinak'uuh school grounds into a site for alive, interdisciplinary learning has been the physical, visible result of this action research project. The development of a community of gardeners in the neighbourhood has brought new adults to work with the school. The First Nations culture has taken a place of visible honour on the grounds and in the community. The children call me "garden lady" when they can't remember my name. It is an epitaph I enjoy.

## Chapter 5 The Reflecting Pond

### 5.1 A Personal View

Through experiencing the natural world in its fullness as I was lucky to do as a small child and through my awareness of the social injustice in our world, I was moved to initiate this action of creating a garden with a community and to look at the results of this action for myself and for the community. Some theoretical physicists, some contemplatives, some artists and others come to a sense of union in creation by other paths, but the path this thesis has explored has been through nature and bringing contact with nature back to the school grounds, to the school day, to the school child. Whether it is by observing the stars at night or the sunflower sprouting and reaching up to the warmth and light of the sun, the use of the natural world as a place for learning can bring back a sense of wonder at creation to the schooling process.

In Miller and Seller's outline of the characteristics of transformation curriculum the garden fits them all. It offers "interdependence of phenomena, self-actualization, self-transcendence and social involvement, learning which focuses on integration of the physical, cognitive, affective, and spiritual dimensions that is interdisciplinary" taught by teachers who are willing to work on themselves and see life as a process of being. Evaluation is informal and experimental (Miller & Seller, 1990, p. 167). I, as a community based teacher, am willing to engage in this process of personal work on myself that is necessary to practice this approach to education. I cannot demand that of others, but can hope that indeed the process may encourage others to embark on a similar journey as Joanna discussed in the changes she has seen in herself since we began this garden.

This work has required me to suspend all the old learning patterns drilled into me in my formal schooling that demanded that I be right. I have to catch myself from simply handing over information when I am asked a question in order to engage in a more expansive critical dialogue with others. I have begun to develop my skills as a facilitator rather than as a leader. It has been necessary for me to not say what I envision so that others can say what they see and hold it up to the light for examination. And always I can see how much more I need to learn about this kind of facilitating so that each person can take initiative and own the results.

As I have learned to be a better facilitator, I have learned to be a better collaborator. I have seen the incredibly powerful results when I don't push forward my own vision, but make a space where the community can envision together. Never would I have imagined such immense

change possible were I to have done this alone. The collaboration has created a transformation of the grounds and of many of us who have worked together to make it all happen.

When I was eighteen years old I had an experience confirming my connection to this earth. I was sitting with a friend on a sunny spring day on a hilltop of wild flowers overlooking the Pacific Ocean above the coast of Northern California. I became aware of ants crawling on my legs and flies landing on my arms, but the insects, rather than irritating me were one with me, not separate from me. I sat there in a state of bliss enjoying this very profound feeling of unity that I felt with all life. I don't remember how long this experience lasted, but it hummed within me ever after.

At the Society for Values in Higher Education conference that I attended where I was inspired to begin this action research project, I had a renewed awareness of my connection with our planet. I was co-leading a workshop called "The Wisdom of the Earth". We were fourteen women and one man, all sitting on the ground by a pond on the Reed College campus. We took turns sharing how our relationship with the earth nurtured our spiritual lives. It was a Sunday morning, and we intimately experienced our communion with the earth. At the end of this peaceful session the one man present told us that Father X was saying mass at 12:30 if anyone wanted to go. We stood up, found our shoes, and several of us walked up to the church service.

I was not raised Catholic, but Episcopalian. The liturgy is much the same, and I have felt comfortable attending Catholic masses in the past. On this occasion I heard the mass with new ears because of the intimate sharing of earth spirituality that had just occurred with many women together. I was struck that the liturgy had no mention of women or of the earth. It was all Father and Son. There was no recognition whatsoever of the feminine aspect of God.

I felt like I was beaten over the head with this realization of how totally excluding the words of the sacred ceremony of the Eucharist were. I was deeply offended, and left the mass not comforted, but furious. I walked out beside a man I did not know and when he asked me how I liked the service I told him. He agreed with me. He told me he was a Catholic priest who found it offensive to say the mass when the majority of his parishioners were women and they did all the work in the church, but never were mentioned. He was thinking of leaving the priesthood for this and the general authoritarian attitude he faced in the Church.

My own spiritual practice of the last thirty years is not a religion, but an exercise that brings whoever is doing it to a greater understanding of what her own inner nature is and what meaning lies in her own religion and in other religions also. I am being guided to a new awareness of the structure of the Christian church that is very much in line with the ecofeminist

view espoused by Gebara (1999). I view the structure of the church as something quite different from the teachings of Christ. The institutional structure has developed to serve men.

I was very touched last summer in Mexico to walk into a Catholic church in the village of Santa Ana where on the altar there was a Holy Family in sculptural form. The woman was Anne, the mother of Mary and she was holding the hand of Mary depicted as a child of about eight. Holding Mary's other hand was her father, Joachim. On the ceiling of the church were depicted several women of the Bible, Sarah, Rebecca, Rachael and Naomi. I felt respected as a woman in that place where the family was elevated to the altar of Life in a village named for the mother of Mary.

The Spirit of Nature, our garden, is also a place for families and a safe place for women and children. It is a place where Mother Earth is honoured along with Father Sun. We welcome snakes too, especially some garter snakes to come and eat the slugs. I hope it will also be a place where people feel safe to connect with their spirituality. A group of single mothers shares one garden plot in the community garden. One of these mothers planted several varieties of squash for all of us to share in the communal planting ledge where next year we plan to have kiwis growing. This communal food reveals a spirit of giving.

The wholeness of life in all its manifestations I celebrated at the Summer Solstice, 2000 around the First Nations Medicine Wheel at Van Dusen Gardens. I stood in the shade of a little grove of aspen trees. Their particular sound of leaves rustling in the wind and their quivering shadows returned me to the playful contentment of childhood summers in the high Rockies. I was grateful to be there sharing in this ancient ceremony of life and its cycles with a circle of multicultural people honouring these human connections to the path of the earth around the sun. We are but tiny creatures spinning through the universe on our humble little planet, and the medicine wheel helps us to acknowledge our inter-connectedness to all of life including each other.

I was grateful to experience this ceremony which honors the wholeness of life, the four directions, the four seasons, the four elements of earth, air, water, and fire, the four periods of our lives, the four symbolic races each connected with a color. The medicine wheel calls on people to bring forth the four qualities within themselves of respect, relevance, reciprocity and responsibility. As I listened to the teachings of the Medicine Wheel I hoped that by next year they would be part of what guides and informs our lessons in astronomy, earth science, poetry

and art, for they are wise and simple and deserve a place in the curriculum.<sup>20</sup> Love is at the center of the medicine wheel, the center of the human curriculum for life from the First Nations perspective, and the center of what we are doing on our grounds. (See Appendix 6 for a Medicine Wheel drawing.)

At the Learning Love Conference at UBC in May, 2000, I attended a presentation on the Medicine Wheel by Gloria Alvernaz Mulcahy of King's College, the University of Western Ontario and Alannah Young, the First Nations House of Learning at UBC. This is a quote from their handout to us.

We are inextricably bound together, connected by the elements which make up the universe. We share atoms, which cannot be created nor destroyed, only transformed, with everything else in creation. Thus everything that returns to the earth undergoes a transformation process, as it becomes part of the Great Cycle of Life once again. (Mulcahy & Young, 2000)

As my father puts it to me when we are standing in his observatory looking at a star cluster millions of light years away, "We are all made of star dust." We people holding hands on the solstice with the rocks at the center embodied these teachings and made me reflect once again on how our garden and has the power of embodied learning. It is not philosophy of environmental education; it is lived environmental education.

## 5.2 A Political View

Besides the personal and spiritual dimension of this approach to learning and teaching, there is the political and social aspect as well. We cannot forget that education is as much a political process as a personal one, because the educational system is a public one run by the government with government established goals and government funding. Public education is also becoming increasingly private as reflected in the difference in amenities offered to students in schools in wealthy neighbourhoods as opposed to those not offered in poorer neighbourhoods where parents can't fundraise in a similar manner. "Critical theorists agree with interpretivists that there are multiple truths, but believe that there is one truth which undergirds all the rest, and is not dependent on who is observing it; that truth is the reality of political and economic power" (Sipe, 1996, p. 158).

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<sup>20</sup> Shared Learnings: Integrating BC Aboriginal Content K-10 published by the BC Ministry of Education in 1998 offers excellent lesson suggestion for doing this in an integrated manner.

In 1494 in the Treaty of Tordesillas the Pope divided the Americas between Spain and Portugal, giving Portugal the Eastern side. Portugal claimed Brazil in 1500 when Pedro Alvares Cabral sailed to its beautiful coast (World Book, 1998). The idea that men, popes, can divide up continents and give them away lies at the base of the disregard for the earth and for people which resulted in the carnage of colonialism. This attitude continues today in a world economy of industrial and technological expansion and environmental and human degradation. At Grandview/?Uuqinak'uuh we have been reclaiming a little piece of the earth the Pope gave away five hundred years ago for children and their families to have a healthy grounding in an urban environment.

The proclamation called "The Rights of the Child" made by the United Nations during the Year of the Child guarantees all children the right to freedom of thought, conscience and religion and the right to an education. Article 29 details the direction of education to respect each child's culture of origin and to develop each child's individual talents and abilities to their fullest potential. Section e agrees to "development of respect for the environment" (Hart, 1997, p. 13). We make an honest effort in this project to fulfill these rights of children.

The political and economic realities of the world make it so that rich children most often have a better education with more resources at their disposal than do poor children as mirrored in our province. Anisio Teixeira made huge efforts to change that equation in Brazil, and died for his efforts. "The critical theorists check out the surrounding realities, finding injustices caused by the domain of power, and mobilize participants to co-create a better world" (Sipe, 1996, p. 161).

As I examine my youth as a peace activist and early member of the women's movement I can see I set myself on a path that has led me to what I am doing now to work for children who are economically and politically disenfranchised. It became clear to me very early in my involvement with Grandview/?uuqinak'uuh that I could not alone do what I envisioned was possible to change the educational environment for the children to a more enriched and equitable one.

When I reflect on my experiences at Stanford attempting community transformation during the war in Viet Nam I see that we had collaboration amongst some students and staff, but never with university administration, never with government, except for a few brave congressmen and senators labeled. It was a them and us situation, and they proved to be much stronger than we were because they held all the authority and power. For me as a student the results were pretty disastrous. I believe that this time around in a university and in this research project I have learned how to help create win-win situations.

UBC has supported my work with a Graduate Student Fellowship. The City of Vancouver and the Parks Board have given grants, as have numerous local foundations, At Grandview/?Uuqinak'uuh I have found many dedicated co-participants, including the administration and the superintendent of schools.

As this project has developed within the community I have experienced how much power there is in many people from different backgrounds working together for change. No one person and no one group has the answer. The answer, the vision, the growth, the transformation lies with the many. The constant challenge is to remain what Freire calls "co-investigators" with all involved, so that we can continually deepen our critical awareness of reality and thereby have the courage to change the reality to one we see as more just (Freire, 1995).

I have always been a person who likes to do things collectively rather than alone. I like to work towards a common goal with each person doing the piece that feels right to that person. I have been very fortunate in this project to work with like-minded people. There has never been anyone who has tried to take over the project or get others to do things in any one way. Each adult involved has taken on the role he or she chooses and done it well. I hope that this adult collective, co-operative effort for positive change will be a model for the children.

What I have learned in this project is to invite people to join in this process, to consult actively and not just assume people will jump in. I need to consult with the children, not assume their interests. Not everyone feels equally entitled and invitations need to be extended with sincere intent of inclusion and awareness of what economic and social factors might prevent inclusion, like a need for child minding provided to be provided for meetings or the need for food to be served.

### **5.3 Sustainability**

The issue of sustainability and actual care of the gardens concerns all of us who are working to establish them. The solution lies in the number of people involved; no one group, not students or teachers or parents or community gardeners alone can maintain all that we have begun together. The future lies in many people becoming gardeners, both in fact and in philosophical alignment. When I go over to check out the community garden I feel so happy to see people out working in their plots and talking to each other. Each connection made in the garden is like a root enriching the life of the garden now and in the future.

Each time a child asks me a question about something in the garden or wants to plant something I see their involvement in their own learning grow. Each teacher who does a class

activity in the garden strengthens the whole garden by his or her engagement. Each parent who becomes involved helps the grass roots of community to grow. Even the conversation I had with a parent who arrived with a bucket and pail to steal compost and top soil to carry home seemed to help this person understand that a community garden is to come and be involved in and enjoy by helping it to grow.

I wish that we had had more time to develop a full academic base of support within the school for the garden before we actually began it as Lowell Elementary did in Phoenix (Bradley, 1995). But the fact that Tracy had to have her plans drawn before April of last year for her graduation requirements meant that we had to move fast. The disadvantage to that is that I feel like we are still playing catch up with integrating the garden into the curriculum. The advantage is that the momentum of the time schedules that both Tracy and I have had with school has kept the project moving forward. The principal and vice-principal have each told me they have never seen any beneficial change happen so fast in a school as this garden.

The director of grounds for the school district and I stood outside admiring the tiny white blossoms just opened on the Japanese Snowbell trees in the planters the children built, admiring what we have all created together and cooperatively. He would like to see projects like ours at all the schools, but not all the schools have two volunteers like Tracy and me willing to give two years of time to fundraising, planning and implementing. The school district has no money even to repair the aging trucks the ground crews use, let alone start environmental projects.

I have to ask why as a society we do not value our children to the extent that we are willing to pay the necessary taxes to make their schools wonderful places to be? Why do children whose parents have million dollar homes have schools with more facilities than children who live in co-ops? Why do schools on the west side of Vancouver have crossing guards while the children at Grandview have no crossing guards even at major traffic corridors to help them get safely to and from school? If we want to leave a legacy of a decent society where all people are valued equally we have to begin at the beginning and provide excellent facilities and educational services to all children.

I have applied to become a Canadian citizen. The booklet the federal government sent me to study to prepare for my citizenship test has a section on sustainability at the very front.

The Canadian government is committed to 'sustainable development.' Economic growth is crucial for the future of Canada. But growth cannot come at the expense of the environment. A healthy environment is important to our quality of life. We want our

children to live in a country that is green and prosperous. Citizens must begin now to act in a responsible manner toward the environment. (A Look at Canada, p. 6, 1999)

I invite the federal government to put some tax dollars towards environmental education in this country. I look forward to the Ministry of Education of each province acting on this federal statement and supporting dynamic environmental programs like ours. I might be able to get a paid job doing what I love if that happens.

#### **5.4 Growing a Community Educator**

I see myself as a community educator now. I am not sure I would have called myself that before this project. I have learned a lot about listening, listening especially to people whose life circumstances are very different from mine. Listening has been one of the most important skills to develop and practice, and I still have much to learn. This was not a situation where I needed to eloquently present my ideas, persuade others of their efficacy and then make them happen.

We listened first to the community before planning what shape the garden would take, and that is how the community garden came to be. I would never myself have suggested public access garden plots because I would have assumed the school board would have prohibited them. But once we heard how many families wanted them it became obvious that the community garden would help build the garden constituency, the garden sustainability and its value for the community. The size of the project has come from community listening also, and though it has meant more fundraising and work, it also has resulted in a far larger positive impact than the little garden I had first envisioned by myself would have made.

All my life I have tried to cram as much as I can into any allotted time, I always think I can do more than is really possible in a given time period. In the first four months of this project I was taking three classes at UBC, teaching one class and spending a minimum of one whole day every week at the school volunteer teaching with the whole school population. This year I decided to limit myself to the implementing of our garden design, grant writing for the funds to do it, taking the Master Gardener course at Van Dusen Gardens and writing my thesis. I believe I was wise not to try to do more.

Community building takes time. The time I have been able to give to the school this year has been important to build trust with the parents and to continue my involvement with the

teachers and students. This year I have brought in more community volunteers to work with teachers and students so that I am not the only gardening resource person attached to the school.

Developing this garden with the community has also helped me make peace with time in some subtle way. There is never enough time to do everything I would like to do, but I can accept that better now, and I am not quite sure why that is so. Maybe it is acknowledging there is no way I can control the outcomes of what we are doing. I can't make any of the trees grow faster than they do by nature. I know that I am responsible for my part of the project, for holding the vision, for helping to make it a reality, but it is not my responsibility alone. I can leave it to time and factors I can't even imagine now to come into play and help it evolve. Perhaps I am at peace with time because even if I am hit by a truck as a ride my bike to the school today, I have been part of a group of gardeners that has tilled the earth together to create a beautiful garden for all to enjoy.

In a way I have seen that a community can evolve just like a single organism. I have evolved from being quite excited to pursue my own ideas as an individual to finding great energy in pursuing ideas and dreams in community. I have experienced the power inherent in following a collective dream. I have learned humility and gratitude through playing a role that has been given to me through my own willingness to pick up the script, the shovel and begin.

This garden project has been about social justice and providing stellar services and opportunities to the economically challenged children of our public school system. It has also been about introducing a dynamic model of education to the children and teachers at Grandview/ʔUuqinak'uuh that has included valuing children's input into planning their learning environment. It has given the opportunity to children to physically shape and change where they play and learn.

Each child who pounds with a hammer, digs with a shovel and waters with a hose is doing something that enables them to learn a practical skill from doing that skill under the supervision of a caring, competent adult. Their actions benefit their surrounding community at the same time. When they are working with adult volunteers like those in the Environmental Youth Alliance they are experiencing an example of community environmental commitment in action, responsible global village citizenship. The students are also learning physical skills of life and the cause and effect of their own actions. They are creating a place where their cognitive and affective skills will be developed through observing life grow around them.

None of this is new educational theory. It is based on how people traditionally lived and learned in many cultures around the world where older people show younger people how to do

the necessary tasks of daily living simply by living side by side (Hart 1979; Barman et al, 1986; Kirkness & Bowman, 1992). But many of these daily tasks of life have been removed from home and school life. John Dewey began the last century with just this model in his laboratory school at the University of Chicago, but it is not common today.

My observation of the deep satisfaction the children take from doing something real with visible results in their school day has certainly convinced me that this approach to education is worth my continued pursuit. I watched a child pick the lettuce she had grown from seed, wash it, and arrange it beautifully on a platter with edible flowers to share with classmates. I know that the nutrition lesson that happened in that process is worth at least a hundred drawings of a food pyramid in class followed by an exercise where each child has to list the elements of a good diet. A child who prepares and tastes a good diet from the roots up learns a life-long lesson, and I am thrilled to be part of setting the stage for the process to occur.

I feel joy when I am with a child in the garden and that child is excited to watch a butterfly make its first flight or to pull out a carrot and see what a funny shape it has grown all crowded in with its neighbours. I feel a deep contentment when I see two people sharing a community garden plot, pulling out the weeds and talking while they do it. I feel a gratitude for the chance to work with so many diverse people to help our garden take shape and grow. I feel at peace with this work I have done. I feel that I have been put in this place to do this because it's necessary for these children and their families, and I have done it as best I can. I know that its viability will lie in the community that works in it constantly welcoming new participants and creating the next steps, the growing vision.

The Discovery channel has filmed a segment of a show on healthy living featuring the pre-school children in our garden. The Vancouver Sun has done a two-page spread on the garden and children. The BC Teacher's Federation has put us on the front page of their paper in full colour. The wider world sees the transformation we have collectively grown.

How has this garden creation process changed my practice as an educator? This process has affirmed my belief in community process and given me much more active experience of it. It has shown me the great capacity of children to envision what they want and to be real partners in the making real of their visions. I want more experience of working in this way with children, and want to learn better how to partner with them. I look forward to seeing what it is like to do a similar process with children in Brazil where there is not all-day public school (mornings only) and where the level of poverty is far more extreme. The future we create now is the children's

future, and they need to have a say in how it will be. We adults need to learn how intimidating our power can be and step back so that the children can step forward.

I was not an expert gardener when I began this project, nor an expert teacher or community organizer. I have learned some of the skills I have needed, consulted with many people and books, and brought in others whose skills complement mine. Each step had a next step. I have wanted to do this so I have overcome my sense of inadequacy as an educator, as a learner, as a listener, as a person, learned from those accompanying me and just done what was in front of me to do. I have learned much from the First Nations people about their lived culture and traditions. I am still not an expert in anything, just a *Master Gardener In-Training*, as my nametag says, with half a lifetime of learning ahead.

Even though we have done a lot of community consulting there are ways to do it more inclusively, and they all take time and money. We need to post meeting notices more broadly and translate them into Chinese. We need to have interpreters at meetings in order that English-as-a second-language participants have a voice. (We have only had a Vietnamese translator, and we have had none of the Chinese parents involved.) We need to respect different cultural traditions that require that we provide food for meetings. Though we often have food it hasn't always been possible. Food makes people feel welcome, shows caring for their needs and is expected in the First Nations culture.

This project has made me want to plan a provincial conference on native plant education, if I can get a grant to do the planning and find others to collaborate with me. Encouraged by Tree Canada-Wild Bird Trust and Evergreen, many schools have begun to green their school grounds, but there is not really any broadly distributed curriculum on the native plants of BC and how they were traditionally used. A conference of band councils, native cultural centres, elders with plant knowledge, BC ethnobotanists, teachers and the minister of education for our province could gather together the human resources and whatever literature people have published locally could be shared and holes in curriculum could be identified. I want to see training programs started for teachers to familiarize them with the fun of outdoors learning and to give them the skills they need to be successful at it.

### **5.5 Ripples on the Pond**

I went to a conference this spring on "Community Wisdom" that I helped to organize. A presentation on the indigenous cosmology of Indonesia, taught by anthropologist Salamah Pope who worked for many years at the Universitas Nasional in Jakarta, had much in common with

the Medicine Wheel cosmology. Salamah told us that the Indonesian model was similar to that of many indigenous cultures. The Indonesians also see life in fours, but these fours are part of a cycle, not a circle. With this slight geometric difference I would say that the similarities are many.

In the Indonesian cycle, all life processes have four components mirrored in multiple dimensions: earth, water, air and fire; senses, feelings, thought, intuition; conception, growth, completion, result. What I found most fascinating was the concept of chaos, separation, union and transcendence as a part of all life cycles.

Salamah explained this cycle with the metaphor of a jigsaw puzzle. When you open a box containing a puzzle, the pieces are a jumble, chaos. You take them out and separate them by groups into the edges, the corners, and the sky, etc. You assemble them into a whole, the union. Then what happens? What are the results? You won't know till you do the puzzle. You may decide to do another puzzle or give this one to a friend. You may decide to go dancing instead. The result will take you to a new level of chaos and on to the next cycle.

I realized that what most formal education does not want to allow for and usually prohibits entirely is chaos and transcendence. Many teachers are not comfortable with chaos. They have been taught to maintain order. The cost is usually loss of creativity, loss of the vital energy that comes from chaos and moves through to union, separation and finally transcendence. By truncating this natural cycle we take the life out of learning.

In this cosmology, intuition is identified with transcendence. The kind of insight that comes after doing a full cycle from chaos to transcendence is indeed intuitive, and that kind of knowing is often not honoured in academic circles. But in reality many scientists cite moments of insight which have led them to discoveries. My goal is for all of us to experience the thrill of discovery and the full cycle of learning.

In doing this project I have claimed the freedom to set out into the unknown. I have thrown myself into chaos by attempting something I have never done before with no road map to guide me except for my desire to create a better environment for the children, some information in books, and my intuition. I have chosen to learn from attending community gardening conferences and from visiting schools in the United States, Canada and Sweden with gardens. I have immersed myself in a community that is only fifteen minutes from my home by bicycle, but which I did not know until I began to work with them. I have learned by doing. The energy of pursuing a vision I helped to create has kept me going, not a pay check, not an extrinsic reward

of any sort. The garden has been its own reward, the development of the children and the community.

I return to my fellow countryman Paulo Freire. "All arguments in favor of the legitimacy of my struggle for a more *people-oriented* society have their deepest roots in my faith. It sustains me, motivates me, challenges me, and it has never allowed me to say, 'Stop, settle down, things are as they are because they cannot be any other way'" (Freire, 1998, p.104).

I have followed an intellectual and a personal, inner journey to this garden. My sense of oneness with all life, my faith in the love present in Creation and my intellectual curiosity have all been constant companions on this path to a more just and exciting educational experience for a community. For me as an adult learner pursuing an advanced degree I have stepped somewhat outside the standard academic mold to follow my passion in education. I want all kinds of learning to be valued, all kinds of ways of knowing about the world to be exercised and developed through this creative process.

I am eternally grateful for the warm reception I have received from Jock, Harry and Sam and all the staff at Grandview who welcomed me to follow a dream of how education could be in the inner city. My partnership with Tracy, the collaborative and cooperative adventure we have shared in a transformative process, shines like a golden apple in the trees we have planted with the children. I thank the teachers, children and parents who have shared their lives and wisdom with me in so many ways and have worked hard to plant every little seed, plant and tree that have made the transformation real.

I look forward to our first harvest of the community garden in the fall, to the children's second harvest, to the completion of the Longhouse. I look forward to creating curriculum for the ethnobotanical garden with the children, teachers, parents, elders and ethnobotanists in the fall of 2000. In January, 2001 I go to Brazil to work with educators and people dispossessed of their land by agribusiness to help start a community garden and an ethnobotanical garden with children and parents in a small town, Santo Angelo in Rio Grande do Sul. It seems with these activities yet to come that the garden has already produced seed of its own that is sprouting.

Hope, caring, curiosity, environmental knowledge and a feeling of community have grown in many of us along with the plants and the children. I look forward to each new idea from each person that will begin as a seed and will take root in the fertile soil of community that we have all been preparing together. Who knows what else may flower?

That brings us back to the beginning, the basic carbon, nitrogen, hydrogen and oxygen molecules of life. That unity of life which biologists and physicists know through their atomic

and DNA evidence and that the indigenous peoples of the world know through their traditions and their faith is one and the same unity. By co-creating a place with an entire school community for life in all its fullness and complexity to be honoured and nurtured parents, teachers, children and community members like me can all experience our birthright. We can participate in the full cycle of life: chaos, separation, union and transcendence over and over and over again.

## Appendix 1

### Garden Project Mission Statement

September 15, 1998

Since this will evolve over time, I will date each revision to my mission statement so that I can follow the evolution of my ideas and intent.

**Intent:** To create a community garden of vegetables, fruits, flowers, herbs and native plants with the children, teachers, parents, grandparents and interested community volunteers at Grandview School in order for this community to learn together how to nurture natural and healthy life in all its varieties, human, animal and vegetable, on the school grounds.

The garden would be a living laboratory for soil science, weather science, botany, zoology, nutrition, literature and the arts. Students would learn community problem solving and cooperation as they decided what to plant and where and how to divide up the work so that it all gets done. They would learn how to grow their own food and flowers. They would learn to share in the abundance that they produce collectively.

**Possible activities:**

Building compost boxes and decorating them

Building raised beds,

Designing areas for rest and contemplation with fruit trees for shade and places to sit

Designing a safe water feature for the birds and the pleasure flowing water brings.

Keeping a garden journal

Planning festivals for preparing the land for sowing and studying the festivals of other cultures

Planning festivals for the harvest

Studying indigenous plants and their uses by the First Nations People

Designing and creating uniform signage for all plantings so that plants common English and Latin names and indigenous names are included.

Learning nutrition and cooking

Holding art classes in the garden so that students can draw from life

Creating art specifically for the garden like whirligigs, sculpted walls,

Designing art projects that will enhance the garden like whirligigs, bird houses, sculptures

Designing flower, vegetable and herb beds for colour, texture and scent

Learning permaculture and sustainable development

Mapping the garden

Mapping the school gardens all over the lower mainland and all teaching gardens

Learning to access community services that are relevant and bringing in guest presenters from Van Dusen, the Songbird Association, Evergreen, etc.

Having students record their personal psychological responses to working out of doors with living things over the course of the year.

Encouraging student initiated projects in the garden

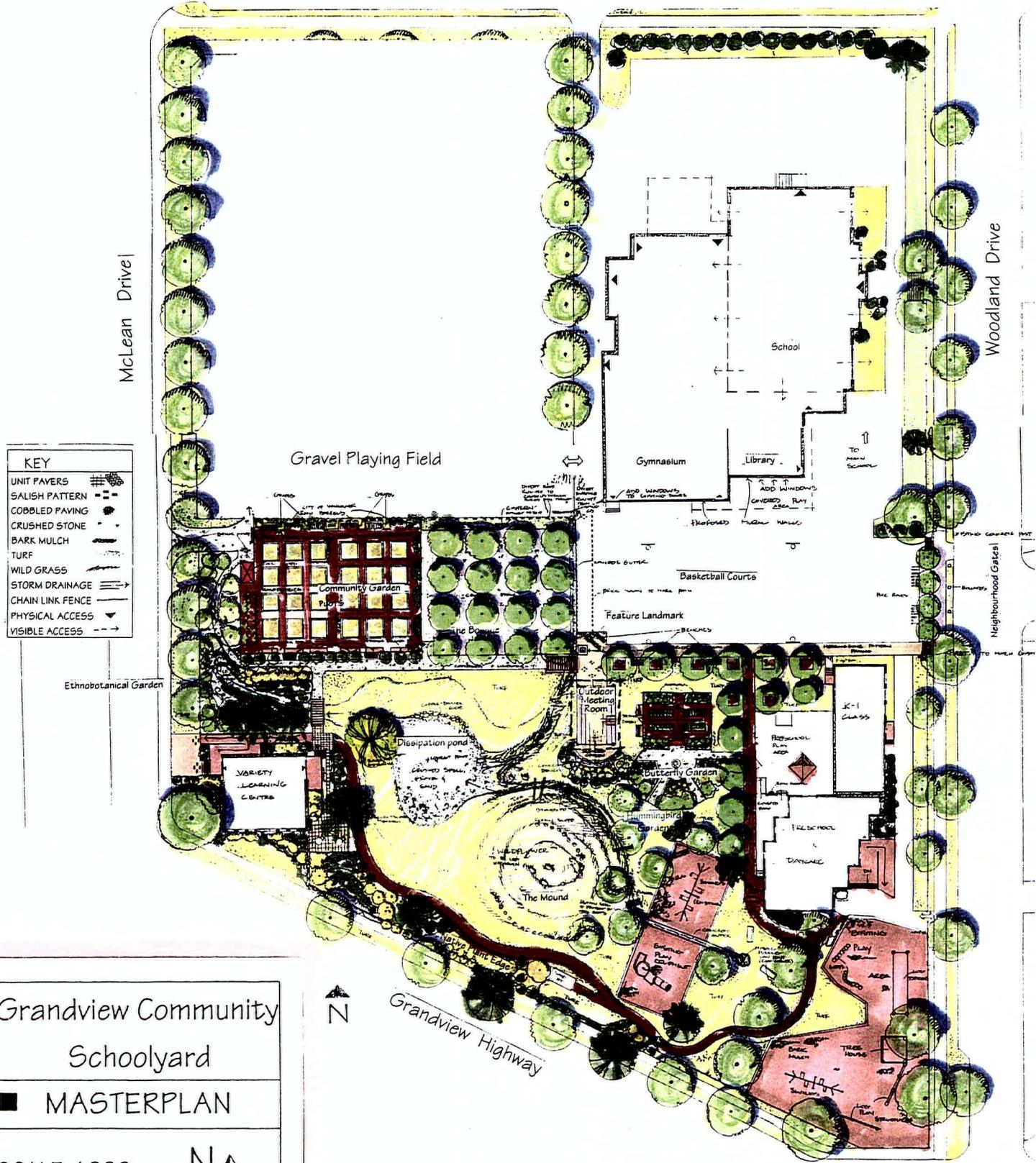
Investigating national and international links to the gardening world for children

Writing a book

Making a video

Appendix II

E. Fourth Avenue



**KEY**

- UNIT PAVERS
- SALISH PATTERN
- COBBLED PAVING
- CRUSHED STONE
- BARK MULCH
- TURF
- WILD GRASS
- STORM DRAINAGE
- CHAIN LINK FENCE
- PHYSICAL ACCESS
- VISIBLE ACCESS

Grandview Community  
Schoolyard

■ MASTERPLAN

SCALE 1:200  
N.T.S.

NA

Drawn by: Tracy Penner April, 1999



Grandview Highway

1. The person filling out this Neighbourhood Matching Fund grant is Illène Pevec. TEL 879-4021, EMAIL: pevecom@istar.ca She will serve as the facilitator-coordinator of the project. The project location is GRANDVIEW/ʔUUQINAK'UUH Elementary School, 2055 WOODLAND DR., VANCOUVER, BC V5N 3N9 Sam

2. The project is a community garden for the students, staff, parents, and surrounding community members of the Grandview Elementary School and Grandview Pre-School and Child Care Center. This project's purpose is twofold: to encourage children, parents, grand parents and interested community members to learn to plant, tend and harvest organically grown food, flowers and indigenous plants thereby gaining a valuable life skill as well as nutritious food and to build community in a multigenerational manner. The garden will be a focal point for interdisciplinary learning for people of all ages. The garden will host community celebrations for planting, harvesting and other festivals. The garden will be a center for the flowering of community arts as well as community food. We will invite artists in the community to do projects in the garden with children and their extended families and neighbors.
3. The process of developing this garden project will be based on Action Research. "Action research is research by particular people on their own work, to help them improve what they do, including how they work with and for others. Action research is research that treats people as autonomous, responsible agents who participate actively in making their own histories and conditions of life, ...and as collaboratively potent in the construction of their collective history and conditions of life...it encourages people to work together as knowing subjects and agents of change and improvement." Kemmis, Stephen and McTaggart, Robin, The Action Research Planner, 1988. Illène Pevec will use this garden as the basis for her Masters thesis in education at UBC. To record the planning and development of the garden all participants will keep journals of what they do in planning the garden and what they do physically in the garden. These journals could be part of a community display at a future date if participants wish.

Action Research requires a collaborative community process. Students, teachers, family members and interested members of the community will be working together to plan and implement the development of the garden. There will be students and professors from the University of British Columbia involved in providing information and physical labor as well. Artists, gardeners, carpenters and others members of the community with skills they wish to donate to garden development will be invited to planning and work meetings. By inviting the community to participate in the garden we hope to curtail the vandalism of the existing flower and vegetable beds at the school.

The details of how much work will be done during school hours and how much outside of school hours have yet to be established by the teachers and students of the elementary school and the day care center which is on site. The garden development will provide healthy, community building activities in after school hours to those children attending the day care center. It is likely that Brownies, Guides, Scouts and other interested citizen groups will also be able to participate after school hours.

A garden by its nature brings diverse people together throughout the growing season on site, and in the few cold months of the year to plan for spring. It is expected that once the garden is well established it will continue to draw interested community members to it and be a source of pride for all members of the school community and its neighbors.

The school site has much level ground with good sun exposure and plenty of land for playing as well as for the garden.

4. Letters from the schools on site and other community members will follow.
5. Mid-November Planning meetings: elementary school- Sam Phillipoff & Illène Pevec
  - January 6 Planning meeting with Pre-School/DayCare Parent Association
  - January Planning with teachers, parents and students at elementary school
  - Set up biweekly gardening planning meetings for rest of school year
  - Community meetings with neighbors of school
  - Determine how many raised beds needed and type of fencing to be used
  - Meet with UBC Landscape Architecture student to design garden
  - Begin worm compost boxes in classrooms
  - Put up Student made sign at school explaining the garden
  - February Ongoing community meetings focusing on school neighbors
  - Begin seeds indoors for spring transplanting including flowers for Mothers' Day and for elderly community members
  - Construct raised beds based on planning decisions
  - Construct outdoor teaching area/stage
  - March Construct Garden Gate with community artists
  - March 22 Start of Spring Planting Festival for whole community during school hours-Plant first seeds
  - April Plant cool weather crops
  - Transplant seedlings started indoors
  - Plan summer garden maintenance with staff running day care programs on site for summer — potential for summer environmental programs for children
  - May Plant warm weather crops
  - First Harvest festival of cool weather crops and giving of flowers to Mothers and elderly community members
  - Continue planning for summer gardening programs for community
  - June End of School Year celebration in the garden
  - July-August Summer community programs for children in garden
  - September Harvest Celebration with community
  - October Review of Garden development of process with schools and community members-Begin planning for next year
  - November Plant cover crops for winter

This timeline will incorporate monthly meetings with the community by the facilitator.

NEIGHBORHOOD MATCHING FUND

Budget:

Home Depot has provided tools, seeds, some building materials in the past and will continue to support the garden.

EXPENSES

School educational expenses:

Curriculum books	\$125.00
Garden Journals for all students and teachers	\$500.00
Garden Journals for community members	\$200.00
Potting soil and pots for indoor sprouting	\$200.00
Seeds	\$200.00
Untreated lumber for raised beds	\$600.00
Lumber for the Garden Gate	\$350.00
Lumber for the raised stage/teaching area	\$1500.00
Food & Drinks for Planting Festival	\$ 500.00
Drinks for Spring Harvest Festival	\$150.00
Drinks for Fall Harvest Festival	\$150.00
Art Supplies for banners, Masks, on site, etc for festivals	<u>\$300.00</u>
Total Expenses	\$4775.00

REVENUE

Home Depot donation of seeds, soil, some Lumber	\$ 500.
Private donor	\$ 500.
Volunteer hours of people to do work of building beds, stage, gate 300 hours=	<u>\$3000.</u>
TOTAL REVENUE	\$4000.

We are requesting \$3775. In Neighborhood Matching Funds.

**PROJECT BUDGET (ESTIMATED EXPENDITURES)**  
**GRANDVIEW COMMUNITY SCHOOLYARD**

January 7, 2000

Cost estimate based on Landscape Standard Fees and includes materials and installation unless noted.

VOL. - volunteer labour ✓ Funding secured

\* Funding pending

\*\*Funding applied for

Project #	DESCRIPTION OF WORK	COST	FUND- ING?	SOURCE
1	Site preparation: Total	\$ 7910.	✓	. Real Estate Foundation
2	Community Garden: planters, benches, shed, tools, paths, fencing, fruit trees. Total	25,000.	•	. Van-Richmond Health Board . MCC
	The community garden club will bear some responsibility for raising funds or in-kind donations for tools and operating materials.			
3	The Bosque: preparation and planting 16 trees @400., plus gravel pathways @ 600. Total	7000.	**	. Canadian Pacific
4	Outdoor Longhouse Class and Meeting Room Architecture: donated by Bruce Carscadden, Roger Hughes and Partners Building costs, per square metre: includes foundation, paved floor surface, steel framing, rooftop construction Traditional carved <i>sulia</i> panels (separate estimate) Scented garden Total	35,000. 20,000. 2500. \$57,500.	✓  ✓	. Real Estate Foundation . City of Vancouver Public Art
5.	Feature Landmark--Salish patio and drinking fountain Total	6150.	✓	. Britannia . Parks Board
6.	The School Garden: 6a. Playground allee (planters included) 12 @ \$600. Total	2600. 7200. \$ 9800.	✓ ✓	. Parks Board Matching Grant . Can. Pacific
7.	Butterfly and Hummingbird Gardens and Walks 7a. Allee of trees (east side walkway) Total	5250.	✓	. Hamber . VanCity . Tree Canada
8.	Benches (school board approved) 5 @ \$600. each	3000.	**	Can. Pacific Van Found
9.	Neighbourhood Gate--gates, trees, bollards, signage, flags	6000.	**	Can. Pacific
10.	Murals on gym:(public artist fee included)	3000.	**	Canada 2000
11.	Special paving--paths and patios	7000.	**	Vanc.Found.
12.	Ethnobotanical Garden (signs incl.) Native Plant Edge Total	\$ 8000. 3000. \$ 11000.	** **	Vancouver Foundation
	SUB-TOTAL	148,610.		
13.	Miscellaneous @ 5% of sub-total	7430.	**	Canada 2000
	CAPITAL EXPENSE TOTAL	\$156,040.		
	• Annual Maintenance Endowment Fund	10,000.	**	Can. Pacific
	• Project Management Fee @ 10%	15,600.	✓(part)	Real Estate
	• Professional advisory(@4%) and accounting fees (@5%)	14,000.	✓(part)	Found. BC
	• Community Educational Program set-up fee	65,000.	**	Vanc. Found
	• Ethnobotanical/heritage curriculum development	15,000.	**	Van-Rich Health
	Grant-writing fees	10,000.	**	Canada 2000
	SERVICES AND PROJECT DEVELOPMENT FEES TOTAL	\$129,600.		
	<b>TOTAL ESTIMATED COST OF PROJECT</b> (Does not include volunteer labour and anticipated in-kind donations).	<b>\$285,640.00</b>		

Prepared by Tracy Penner and Wlene Povee

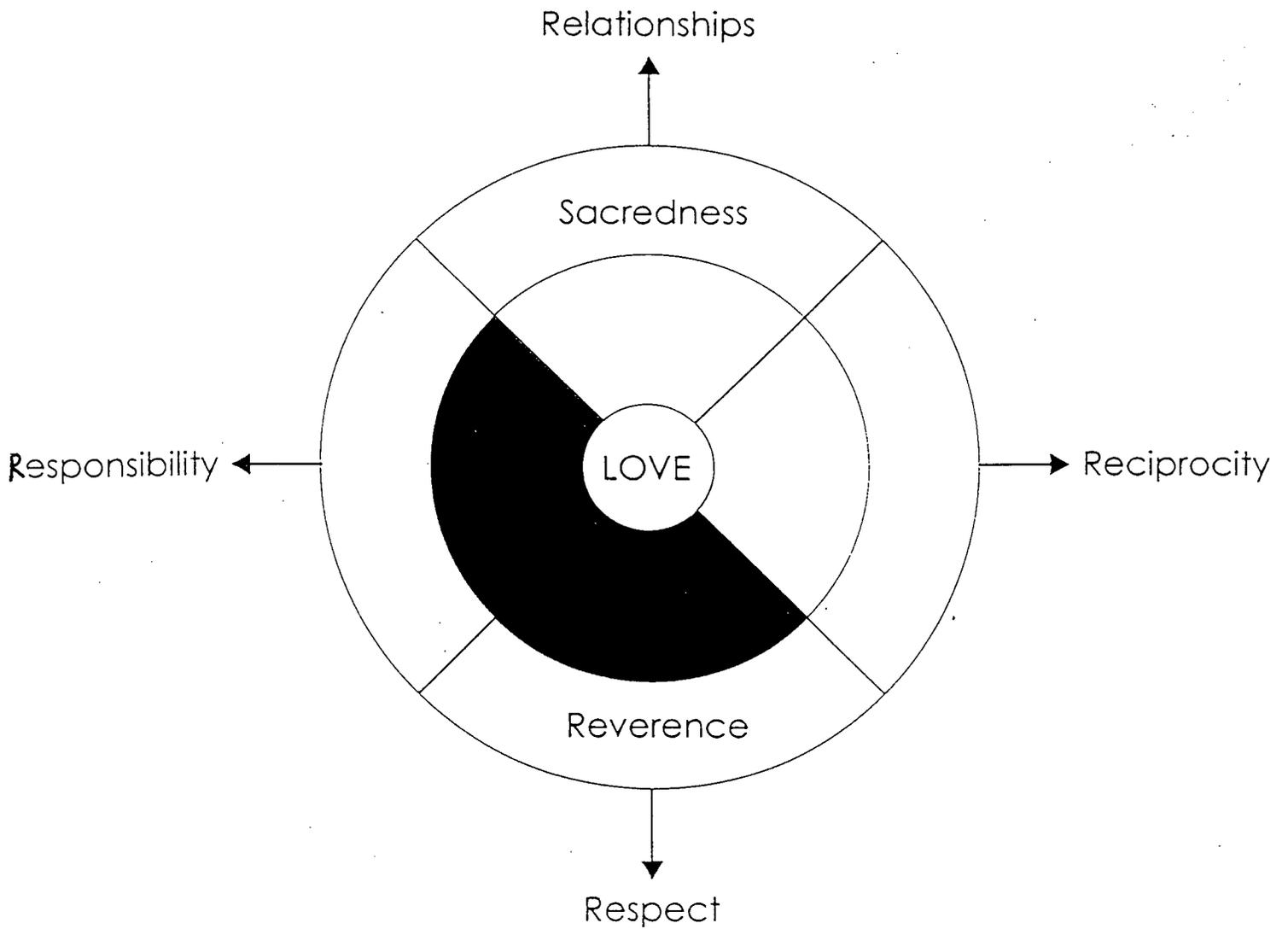
**Grants successfully brought in by Illène Pevec and Tracy Penner to Grandview /?uuqinak'uuh School for the Grounds Revitalization**

The Real Estate Foundation of BC, Grounds preparation and Longhouse	\$52,910
The Vancouver Foundation Ethnobotanic garden and curriculum	\$50,000
City of Vancouver Office of Cultural Affairs Public Arts program, Totem poles	\$20,000
Mennonite Central Committee, Community garden	\$7,350
Canada Trust Friends of the Environment, Ethnobotanic garden	\$5,000
Britannia Community Services Association, Salish patio	\$5,000
The Vancouver Parks Board, Classroom garden boxes & community garden	\$7,000
BC Hydro Community garden	\$3,000
Vancouver City Savings Credit Union Hummingbird and Butterfly garden	\$2,500
Trees for Kids, Allé of trees, all large trees	\$1,500
the Hamber Foundation Hummingbird and butterfly garden	\$1,000
HSBC Bank, Teacher workshops, worm workshops, seeds	<u>\$500</u>
Total Raised to May 2000	\$155, 760

Still needed:

Longhouse construction and site preparation	\$30,000.
Bosque	\$5000.
Entry gate with donor signs, bike racks	\$10,000.
Community Garden—labor for brick wall	\$3000.
Programming costs including curriculum	<u>\$30,000.</u>
Total Needed	\$78,000.

# ALL MY RELATIONS



From printed materials, Kirkness, Verna J., & Barnhardt, Ray. *First Nations and higher education: The four R's - Respect, relevance, reciprocity, Responsibility*. Adapted by Gloria Alvermaz Mulcahy. King's College, The University of Western Ontario and Alannah Young, First Nations House of Learning. The University of British Columbia, May 2000.

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