How Does Your Garden Grow?
Or, a Poststructural Uprooting
of the School Garden

by

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A thesis submitted in conformity with the requirements
for the degree of Doctor of Philosophy
Department of Curriculum, Teaching, and Learning
Ontario Institute for Studies in Education
University of Toronto

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Abstract

A school garden is an organic emergence. A dehiscence opened as the collaborative play of the natural world and human interaction with the earth, the garden provides a motif for the opening and exploration of research and the research space. Like the garden, research and the research space is full of life, of actions, of inter-actions, of play, growing beyond, beneath, and over the boundaries and structures already in place. With deconstruction and différance in mind, this dissertation meditates on the school garden as both content and context for learning as well as its opening of spaces for difference in curriculum, pedagogy, research, and representation.

The research space opened traces the experience of an urban elementary school garden and presents the story of a year spent with and in the City Public School community. Along with day-to-day reflections, it shares the space of research opened by a school garden-related participatory research project done with a group of grade six students in which the young researchers were actively involved in all aspects of the research, from creating research
questions to collecting and analyzing data to dissemination of findings. The work highlights the unique uprooting and upsetting of taken-for-granted binaries in curriculum, education, and research.

In the re-presentation of the research and the research space, I play with/in Jacques Derrida’s discussion and use of the postcard. *Envois* – sendings, parcels, letters, dispatches – are used to share the research narrative which, illuminated through a deconstructive reading, is *always already* situated within philosophical, historical, methodological, cultural, social, institutional, ethical, and personal contexts. The dissertation plays as well with the linear flow of the thesis, necessarily forgoing the traditional architecture of academic representation in favour of an open text of multiplicity and difference, one of columns, insertions, marginalia, images, and quotations that is at once separate and connected, and inherently at play.
Acknowledgements

I must of course open this space with thanks, with a humble expression of the gratitude, and indebtedness, and love that I feel toward those who have taken this journey, explored these paths through the garden, with me.

My deepest thanks to the Cool Researchers. You taught me about your school garden, about doing research, about honesty and humility, and about being OK with letting go. Thank you for being patient with me as we explored the research space and thank you for so openly and generously sharing with me your questions, your curiosities, your wisdom, and your friendship.

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Amy Gullage, countless walks and runs in the woods, and through the Forest, with you have helped me to pull together my ideas and my courage to create this dissertation. Thank you for making me uncomfortable by asking the hard questions.

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Oh, James Eslinger, your BDE has guided me like a shining beacon through this dissertation, as has your brilliant example of deconstructed text that set the bar so high.

Erin Sperling, thank you for putting up with me and my wallpapering of our very small and windowless office, and for always listening when I needed a rant.

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Jim Hake and Nick Ostoff at the Art Gallery of Ontario, thank you for asking me to “take an object, do something with it, and then do something else with it,” and for providing me with opportunities to do so.

J, Jacques, I wish I could share this work with you and tell you of my thanks for inspiring and leading me into difference. I can only hope that this work, in its openness and in its honesty, shares your presence in your absence.

R, Reader, I thank you for taking the time to engage with and in the text and for accepting my invitation to take up the pen and write a text that is to come.

And of course, to my mum and to my sister, Sally Jagger and Heather Ashdown, thank you for walking with me along all of the paths that I explored in this dissertation. I know that it has not been an easy journey and know that you both took on my struggles as though they were your own. Know that your support and your love on this walk helped me to open up the paths that are traced in the work.
Dedication

Dear Dad,

You wrote this in a small book that you gave me when I was finishing my teacher education, be-coming a teacher. The book is called "To my daughter with love" and Dad, I dedicate this book, this dissertation, to you, in your memory, with love.

You are through every page of this text, every word traces you, as those qualities of you carried on in me. Your care for others is in my relationships with the Cool Researchers, with the participants, with the community. Your honesty can be found in my efforts to re-present a story that is open to difference, a story that can tell many stories. But perhaps most of all your stubbornness came through in the work, in the process and the product, in my insistence in writing the dissertation that needed to be written one without compromise, the one that I now dedicate to you with love.

Thank you, Dad.

Love, Susan
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Take an object, do something with it, and then do something else with it.

(Johns, 1963/64, p. 31)

Or,

Reflecting on his choice of easily recognizable images, Johns said that he was interested in “the idea of knowing an image rather than just seeing it out of the corner of your eye.” The map of the United States, in its ubiquity and iconicity, is “seen and not looked at, not examined.” Preserving the overall proportions of the country and the shapes of its states, Johns’ energetic application of paint subverts the conventions of cartography, as do the stenciled names of states, such as Colorado, which is repeated in several locations. Map invites close inspection because its content is both familiar and imaginary.

(MOMA Gallery Label Text, 2007)

... prelude. The birth of the author.
We got to welcome her with our research
- John Cena, Cool Researcher

Or,

The uncontested dominance of the modern world view has definitely ended. Like it or not the West has become a plurality of competing subcultures where no one ideology or episteme dominates for long.

(Jencks, 1992, p. 11)
Dear J,

How to write a card to you, where to start, what to say, how to say it.

I must first express my thanks to you for providing a precedent for me to follow, a body of work that justifies to the academy my desire to share my work in a way that is, within that space and at this time, unconventional, unique, and different. I did not start my doctoral studies intending to work so closely alongside you through your work. Indeed, I always thought that I could not do philosophical work, that it was much too difficult for me to understand, and that it did not fit in with my work anyways. I had been warned against using language whose background I had not read deeply enough.

And so I kept my distance. I also allowed myself to be steered away from alternative representations—created maps, altered books, and so on—of my understandings, urged to “please just write a paper.” Engaging with you through your work has allowed me to open up my research

Dear R,

It is wonderful to be able to share this work with you but it is not without hesitation that I do so. My work is always very close to me, so personal, it is often very difficult for me to share what I have written. By reading this dissertation, it is as though you are, in a way, reading me, coming to know me, through what I present to you and how this gift is presented.

And so there is the sharing of this very personal story. But there is also the worry of ethically, fully, and honestly allowing the voices, ideas, and understandings of the children that I worked so closely alongside to come through. Will they be heard? Can I even begin to share the story of the research? Is it possible to do so? And if so, how might this be done? So, dear R, I begin with the very real, and inherent, and perhaps inevitable, possibility of failure in this task.
to the multiplicity and difference that is *always already* within it.

And so I must begin this postcard to you with my sincerest thanks.

This dissertation begins not with an introduction but with a postcard to you, R, and also another postcard, to J. Why have I done this? What am I trying to do here?

You might read these *envois* as the preface to a book that I have not written.

It would have treated that which proceeds from the *postes, postes* of every genre, to psychoanalysis.

Less in order to attempt a psychoanalysis of the postal effect than to start from a singular event, Freudian psychoanalysis, and to refer to a history and a technology of the *courrier*, to some general theory of the *envoi* and of everything which by means of some telecommunications allegedly *destines* itself...

As for the “Envois” themselves, I do not know if their reading is bearable.

You might consider them, if you really wish to, as the remainders of a recently destroyed correspondence. Destroyed by fire or by that which figuratively takes place, more certain of leaving nothing out of reach of what I like to call the tongue of fire, not even the cinders if cinders there are [*s’il y a la cendre*].

Save [fors] a chance.

A correspondence: this is still to say too much, or too little. Perhaps it was not one (but more or less) not very correspondent. This still remains to be decided.\(^1\) (Derrida, 1987, p. 3)

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Here, in this very forward (foreword), and afterward, in the envois and in the afterward (afterword), I play with your discussion and use of the postcard. *Envois*—sendings, parcels, letters, consignments, raisings, kickoffs, dispatches, missives, transmissions—are used to share the

Typically we send postcards—though now they have been replaced by emails, facebook updates, and tweets, but this is another conversation—to share with others the highlights of holidays, memories of places and events, and brief stories of

\(^{1}\) Throughout this dissertation, and rather than be set within quotation marks, direct quotes are indicated by **bold Tahoma font** to clearly distinguish another (an other) text within the text.
research narrative with an audience whose extent I will never know. To whom shall I address these _envois_? I write to you, J, and to R, but once the cards leave my hand, should I decide to release them, what path will they take? Will they arrive at a destination? And what will that destination be? How will they be read? How will they be understood? These very conditions of _envois_ trace a dispersal and deferral of meaning that is already running through the dissertation.

Through the cards of “Envois”, the writer—could it be you, J...we cannot be sure—describes an illustration found, one of Socrates and Plato. Plato stands behind his teacher Socrates and appears, so it would seem, to be directing Socrates’ hand, directing the hand of his teacher, reversing the role of student to that of teacher.

Like the (apparent) move of Plato to direct the hand of Socrates, J, there are too reversals, upsettings, overturnings of binary oppositions throughout this dissertation and at all levels. What is is typically what is experiences abroad. They hold the quick jottings to a friend back home made while in a moment of rest and reflection on a train, at the beach, in a café. They really are romantic and intimate artefacts.

And yet they are also public. Their text is available for anyone to read, exposed and vulnerable outside of the safety of the sealed envelope. The postman, the nosy neighbour, the suspicious spouse.

---

Figure 1. Plato and Socrates. From Paris, M. (13th c.). _Prognosttica Socratis basilei_. Reprinted with permission from the Bodleian Library, Oxford.
not. Nature and environment are recognized alongside culture rather than dominated by it. Children's voices are validated and heard above those of adults. The expert is the student. The student is the expert. Research is researcher. Deconstruction, of course, is at work within this work, as in all works.

And, for me and in this dissertation, this turn was a necessary and ethical movement.

You see, J, I had grown, and still am, at once frustrated and saddened by the seemingly endless empirical studies of elementary school students and environmental education done by university experts—often with no or very little and outdated teaching experience—swooping into elementary classes for the briefest periods of time and, after a short episode or two of observation and perhaps a five point Likert-type survey, making direct and unquestioned assertions about what they see happening and what should be done to improve teaching and learning, all of which are shared in scholarly journals and academic

The postcard reveals itself to all who turn their gaze toward it, drawn in by the colourful image on one side, the possibility of an intimate—perhaps heartwarming, perhaps heartbreaking—personal story on the other.

While one postcard may have the same picture on its front (or back), each tells a different story depending on its writer (and reader). This dissertation is like—and includes—a series of my postcards to you, R, and to J, sharing the research story that I have interpreted and have here represented.

Along with the openness of meaning—the lack of a fixed signified—the postcard also presents another dilemma that further extends the impossibility of a fixed reading: with post comes the very possibility of non-arrival. The postcard—and any text that it holds—may simply be held up or lost in transit, mirroring the dispersal and deferral of meaning in différence (which, while already
conferences.

I wanted to reverse the role that I took and also that the students took. I was not the expert—really, the students that I was able to learn with were, they were the experts. And it is with humility that I thank them for sharing their time and ideas with me.

I chose to reverse the role throughout the research project—a group of students worked with me as researchers (the Cool Researchers). I tried to step back as best I could (and it was not easy, I found myself falling back into my elementary school teacher shoes) and allow them to direct their research, from brainstorming ideas of what to research, to planning data collection and collecting data, to analyzing data, to finally sharing findings with the community (both at the elementary school and at the university). This process really opened up a space in the research for difference, différance, and multiplicity of voices.

While these postcards, to you, J, and to R, present only glimpses into the creating delays at every word of this dissertation, will be discussed much more in the pages to come).

Derrida writes of this potential non-arrival in, among other works, *The Post Card* (1987), a collection of three texts—“Envois”, “To Speculate-on ‘Freud’”, and “Le facteur de la vérité.” “Envois” presents a series of postcards interspersed with images written over the course of two years, beginning with 3 June 1977 and ending with a final card dated 30 August 1979, along with a (forward) foreword note from Derrida on 7 September 1979. Through the postcards, the writer (is it Derrida himself, this is not certain) meditates on the postal effect or principle whose condition is the delivery of a text to an addressee and inherently carries with it the possibility of non-arrival (Derrida, 1987).

And so we have the impossibility of fixed meanings and the possibility of non-arrival. But, leafing through
research story, they do allow for that openness to permeate the dissertation and for the talk to be walked (hopefully) honestly, ethically, humbly while embracing the impossibility of knowing and the inherence of the unknown. And so, through these postcards, I am taking small steps.

J, I must admit, as you will surely see, that my gait is modeled after yours (though my steps are hesitant but becoming more confident) in *Glas* (Derrida, 1986a), as well as in *Cinders* (Derrida, 1991), and “Tympan” (Derrida, 1982).

I think what could first strike readers is how at once this dissertation does not look like a traditional thesis. This is not only a thesis on the experience of the school garden—although its written text will focus on this; it is also a play on the very architecture of the dissertation.

**Let us space.**

Leafing through the pages, or scrolling down, down, down, the reader sees that there is not an this dissertation, you will see another process at play within it and throughout it. This dissertation does not look like a dissertation. The text does not read uninterrupted from the left margin to the right and from top to bottom of each page and each page following the preceding and preceding the following. However, linearity is not set aside completely as the individual texts forge paths through the pages of the dissertation. There are (always) multiple texts on each page and multiple exchanges between and within those texts. There is space, allowing the text to be further opened.

The art of this text is in the air it causes to circulate between its screens. The chainings are invisible, everything seems improvised or juxtaposed. This text induces by agglutinating rather than demonstrating, by coupling and uncoupling, gluing and ungluing {en accolant et en décollant} rather than by exhibiting the continuous, and analogical, instructive, suffocating necessity of the discursive rhetoric. (Derrida, 1986a, p.75)
explicit introduction, literature review, methodology, results, and discussion—introductionliterature reviewmethodolog yresultsdiscussion. I have not separated myself from these traditional thesis components, not at all. Instead, I have playfully upset the structure of the dissertation (saying that I destroyed it seems too harsh, or perhaps by playing with the structure of such a structure as the dissertation I have destroyed it) and now, and here, traces of these elements, the remaining cinders, can be found lingering, playing, scattered throughout the dissertation.

Along with the absence of introductionliterature reviewmethodologyresultsdiscussion, I have chosen to play as well with the traditionally linear flow of the thesis. As you can see, I have followed your lead and created a thesis of multiple texts, in columns and foundational rows. While the multiple texts are separate, their content (and context) speaks with one another. They are inherently and necessarily connected.

In this quote from *Glas*, written in 1974 and following *Speech and Language* and *Of Grammatology*, his first major works on signification and language, Derrida turns his gaze to writing and responds to its formality of spacing and organization by opening the text, both in the visible print presented to the reader on the pages of *Glas* itself and its infinite meanings to be made of the text itself.

Physically, *Glas*—and *Cinders* that followed a decade later—has structured dimensions, measuring ten inches by ten inches with an area of 100 square inches. Within these boundaries though the structures are broken down. *Glas* does not begin with an introduction, foreword, or table of contents (though there is a brief note to the translation in Leavey, Jr. and Rand’s English translation). Instead, *Glas* begins in what seems to be mid-discussion, not even starting with a capital letter.

"what remained of a Rembrandt torn
today, for us, here, now of a Hegel? (Derrida, 1986a, p. 1)

Interspersed throughout are visual images, quotations, and comments which, while disturbing the text also bring the elements of the text together. In this, I have attempted to create pauses and crossings over (attraversiamo) to the other texts. These insertions have also upset the boundaries of the texts; rather than stand alone, the texts literally and necessarily circulate, climb, and flow together.

In writing’s spacing, during the trial of the narrative {recit}, the vertical lines (necktie, rain, glaive, cane, or umbrella tip {eperon}) cut the horizontal lines of the newspaper or the book, of the wings or the spokes of the umbrella. Language cuts, decollates, unglues, decapitates. The sentences coil around a direction like a liana along a truncated column. (Derrida, 1986a, p. 74)

And so, how to read this text? Of course, this is not for me to say. In writing the text and passing it along to you, I am putting down my pen into small, very regular squares and rammed down the shithole” is divided in two. (Derrida, 1986a, p. 1)

And here, Glas opens into two columns of text: on the left an analysis of Hegel’s philosophical works and on the right an exploration of Jean Genet’s autobiographical work. This columnar presentation follows that of Genet’s essay, “What remains of a Rembrandt torn into four equal pieces and flushed down the toilet” (and ironically, or not, the English translation of Glas was published in the year of Genet’s death).

But Derrida’s play with literary representation does not stop there. He inserts, throughout the text, quotations, excerpts, and musings as marginalia and embedded interruptions within the text’s columnar linearity.

And there is play as well between the texts themselves—the columns, the insertions, the marginalia. They converse with each other, and relay back and forth, each informing.
and letting go of authorship; I am dead. As Roland Barthes reminds us, 

**a text is made of multiple writings, drawn from many cultures and entering into mutual relations of dialogue, parody, contestation, but there is one place where the multiplicity is focused and that place is the reader, not as was hitherto said, the author. The reader is the space on which all quotations that make up a writing are inscribed without any of them being lost; a text’s unity lies not in its origin but in its destination** (1977, p. 148).

Of course, this does not mean that traces, cinders, ashes, memories of my presence in my absence are not woven in and within the text. Yes, I have consciously (and unconsciously) inserted my signature throughout the text. Like the climbing, coiling, twisting, turning, reaching stems of *Thunbergia* spp. outside my window, I quietly but persistently linger throughout, *always already* there. Here again, I am playing with the text and with the reader. I am hidden in seemingly plain sight but can you find me? Can you escape me?

Directing, shaping the others.

And so, this presents a dilemma: How to read the text?

There is no one way to read *Glas*. Likewise, there is no one way to read this dissertation. It too presents texts that are (in)visibly bound to each other. In the inter/ludes, three texts relating to methodology, history, and philosophy at once face off and engage with each other as they situate the research story of the school garden experience. The envois shares the research story through, as here, a series of postcards to J and to you, R, alongside a deconstructive reading of those postcards. This reading is informed by methodological, historical, and philosophical contexts discussed in the inter/ludes. Following is an afterward of postcards to J and to you.

**The birth of the reader must be at the cost of the death of the Author** (Barthes, 1977, p. 148).
Once the Author is removed, the claim to decipher a text becomes quite futile. To give a text an Author is to impose a limit on that text, to furnish it with a final signified, to close the writing. Such a conception suits criticism very well, the latter then allotting itself the important task of discovering the Author (or its hypostases: society, history, psyche, liberty) beneath the work: when the Author has been found, the text is ‘explained’—a victory to the critic. Hence there is no surprise that, historically, the reign of the Author has been that of the Critic, nor again in the fact that criticism (be it new) is today undermined along with the Author. In the multiplicity of writing, everything is to be disentangled, nothing deciphered; the structure can be followed, ‘run’ (like the thread of a

But, beyond outlining these components of the dissertation, I cannot tell you how to read the text.

We can take Glas—translated as the death knell, the ringing of a bell signalling the time of death—as the toll marking the death of the author and the birth of the reader.

Your reading of the text will differ from that of another. In fact, you are, through your reading, and your interpretations and your understandings of the text, taking over authorship of it. Roland Barthes has poignantly related this passing of the text from the author to the reader as a necessary mortality.

And this passing of the Author takes with it any possibility of the text having a fixed meaning.

The opening of the text, this dissertation, has allowed for the continuity, instruction, suffocation, closure to be released, limitations removed, and within this space, the
stocking) at every point at every level, but there is nothing beneath: the space of writing is to be ranged over, not pierced; writing ceaselessly posits meaning ceaselessly to evaporate it, carrying out a systematic exemption of meaning. In precisely this way literature (it would be better from now on to say *writing*), by refusing to assign a ‘secret’, an ultimate meaning, to the text (and to the world as text), liberates what may be called an anti-theological activity, an activity that is truly revolutionary since to refuse to fix meaning is, in the end, to refuse God and his hypostases—reason, traces of the research are freed and dispersed.

There are said to be certain Buddhists who ascetic practices enable them to see a whole landscape in a bean. Precisely what the first analysts of narrative were attempting: to see all the world’s stories (and there have been ever so many) within a single structure: we shall, they thought, extract from each tale its model, then out of these models we shall make a great narrative structure, which we shall reapply (for verification) to any one narrative: a task as exhausting (ninety-nine percent perspiration, as the saying goes) as it is ultimately undesirable, for the text thereby loses its difference. This difference is not, obviously, some complete, irreducible quality (according to a mythic view of literary creation), it is not what designates the individuality of each text, what names, signs, finishes off each work with a flourish; on the contrary, it is a difference which does not stop and which is articulated upon the infinity of texts, of languages, of systems: a difference of which each text is the return. A choice must then be made: either to place all texts in a demonstrable oscillation, equalizing them under the scrutiny of an in-different science, forcing them to rejoin, inductively, the Copy from which we will make them derive; or else to restore each text, not to its individuality, but its function, making it cohere, even before we talk about it, by the infinite paradigm of difference, subjecting it from the outset to a basic typology, to an evaluation. How then posit the value of a text? How establish a basic typology of texts? The primary evaluation of all texts can come neither from science, for science does not evaluate, nor from ideology, for the ideological value of a text (moral, aesthetic, political, alethiological) is a value of representation, not of production (ideology “reflects,” it does not do work). Our evaluation can be linked only to a practice, and this practice is that of writing. (Barthes, 1992, p. 3-4)
The postmodern world is without guarantee, without ‘method’...All we can do is invent. We must construct and exemplify the rhetorics of the future...through...endless stories. Like this one.

(Tomlinson, 1989, p. 44, 57)

Or,

Students writing dissertations will typically be expected to follow very formal and explicit analytical procedures to produce a scholarly monograph with careful attention to methodological rigor.

(Patton, 2002, p. 436)

... inter/ludes
environment— *environ + -ment*

environ— surround, encompass; from Old French *environer*, formed on *environ* surroundings, around, formed on *en* - in + *viron* circuit, formed on *virer* turn

educate— bring up, provide schooling or tuition for; formed on past participle stem of Latin *educare*, related to *educere* (see *educe*)

educe— lead or draw forth; bring out, develop from a latent condition; from Latin *educere*, formed on *e- + ducere* lead

research— intensive searching; investigation directed towards discovery,;
from Old French *recherche* (see *re- + search*)

re— in response to a stimulus, with intensive force

search— examine thoroughly; look for; from Old French *cerchier*, normal development of late Latin *circare* go round, formed on Latin *circus* circle

Environmental education research has a long history of applying methodologies and methods that...

In the early 19th century, what we now identify as *environmental education* was described in many ways. Repton (as cited in van Erp-Houtepan,

Modernism, for a start

The defining and framing of modernism is problematic and depending on the theorist, modernism and its theories, ideologies, and politics vary. Modernism signifies a break from the old or traditional and with this break comes the sense that the new is somehow superior to the old. In the arts, modernism is

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have predominantly privileged experimental, objectivist, instrumentalist, and behaviourist approaches that are modeled on positivistic and post-positivistic forms of scientific research (Gough, 1999). Through the 1970s and 1980s, the majority of environmental education research projects consisted primarily of quantitative measurements of environmental knowledge, attitudes, and behaviours (Palmer, 1998). The almost exclusive use of such applied scientific methods, while contested, was not addressed until the 1990s when a broader range of alternative paradigms and approaches began to be embraced within the field. These include included within nature study. Wilbur Jackman's 1891 Nature Study for Common Schools encouraged taking school children outside to learn across the disciplines through first hand explorations of the natural world. Key in nature study is bringing the learner into intimate and emotional contact with nature; it was an integrated and place-based educational movement. Nature 1986) identifies a garden as a piece of ground fenced off from cattle, and appropriated to the use and pleasure of man: it is, or ought to be, cultivated (p. 227). Etymologically, the fencing in of space demarcates a garden — garden stems from the Old English geard or fence (van Erp-Houtepan, 1986). Garden, yard, garten, jardin, giardino, hortus, paradise, characterized by a break from the artistic methods, styles, and attitudes of classical methods of expression (Peters & Burbules, 2004). Here we see a movement away from realism, and from narrative, toward experimentation, abstraction, and play of materials and functions of art. Philosophically, modernism began in the Renaissance, built upon the foundational assumptions of the Enlightenment and leaning heavily on the later works of Francis Bacon and Rene Descartes (Peters & Burbules, 2004; Usher &
action research, case study research, descriptive curriculum research, and evaluation studies which have applied qualitative and mixed methods (Hart & Nolan, 1999). But, environmental education, and in turn, environmental education research, is complex and it is multidimensional; social, cultural, philosophical, political, historical, and environmental elements inherently form, inform, and reform environmental education practice, theory, and research. These elements must be critically considered within the research texts both in rhetoric and reality.

While much work in environmental study’s philosophies recall the theorizing of Jean-Jacques Rousseau who asserted the importance of children’s everyday experiences and interactions with their environments in their learning and moral and character development; *we begin to instruct ourselves when we begin to live* (1911/1966, p. 42). Nature study also identifies as bounded natural spaces for

Edwards, 1994). Modernism asserts that knowledge is objective and is grounded in a legitimate, and legitimating, centre. Faith is unquestioningly placed in rationality and science. In modern thought, science is identified as being objective, universal, value-neutral, and following a set method. Progress – of knowledge and of humans – through experience and following the scientific method is key and is one of the metanarratives, an accepted truth, of modernism (Peters & Burbules, 2004; Usher & Edwards, 1994). In
education research continues to be done within positivist and postpositivistic traditions where knowledge is defined as separate and something to be discovered (McKenzie, 2005), the philosophy underlying environmental education anticipates the research that Lincoln and Denzin (2000) envision as an extension of current trends in qualitative inquiry, a type of scholarship and participatory research that shows us how to act morally with passion, respect, and responsibility, to engage the future in complementary, rather than competitive, destructive ways. This kind of inquiry represents a call to action and morally informed social criticism, they say, that connects modernism, the advancement of knowledge results from the critique of traditional beliefs (Peters & Burbules, 2004). Lyotard (1984) defines the term modern to designate any science that legitimizes itself with reference to a metadiscourse . . . making an explicit appeal to some grand narrative, such as the dialectics of Spirit, the hermeneutics of meaning, the emancipation of the rational or working subject, or the creation of wealth . . . This is the Enlightenment narrative. (p. xxiii)
personal to historical and social (and we would add environmental) dimensions of discourse-practice (Hart, 2002, p. 159).

There have been in environmental education research calls for the adoption of research approaches that recognize and re-present multiple subjectivities that are reflective of the diversity of experiences (Gough & Whitehouse, 2003). Such approaches trace the social, cultural, philosophical, political, historical, and environmental veins that are always already within and throughout environmental education. Barrett (2007) shares the challenges in embracing a limits which define a single process. Just as two points define a straight line, so the present standpoint of the child and the facts and truths of studies define instruction (Dewey, 1902/1966, p. 11). Furthermore in nature study, the influence of environmental writers of the 19th century, including plants and expands that definition to acknowledge the necessary care and attention given to the garden by humans beyond its initial planning and design.

Miller (1993) problematizes the narrowness of simply identifying a garden as an enclosed space for growing fruits and vegetables and instead broadens the scope of the garden to include any personal to historical and social (and we would add environmental) dimensions of discourse-practice (Hart, 2002, p. 159).

Modernism embraces positivism and is grounded in its accompanying assumptions. Positivism characteristically asserts that philosophy should be scientific and that metaphysics – the study of the nature of reality – is

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nonsense— that which is not sense; formed on non- + sense after French nonsens

non— prefix expressing negation, used with substantives, adjectives, verbs,
different way of doing and representing research, of traversing the gap (p. 219) between rhetoric and reality, and her struggle to allow herself space to step outside of the Academy and what was privileged as intellect there. Noel Gough (1999) notes this tendency toward the privilege of empirical-analytical research by many researchers – or [the representation of] their research as such in order to have it accepted for publication (p. 37).

Also, and responding to the institutional structures present in our educational system, Gruenewald (2004) invites us to not dilute environmental education nonsense (non-sense). Instead, positivism maintains that there exists a universal scientific method and that the role of philosophy is to analyse that method. It further asserts that there is an objective and independent reality,
(and I would add environmental education research) within a single discipline, a practice that is an assertion of disciplinary power and an expression of the root metaphor of modernism, but rather to acknowledge its socially and ecologically transformative potential and open conversations for renewed ecological metaphors to be realized. This invitation to environmental educators (and I would add environmental education researchers) to critically analyse and re-act is presented again in Gruenewald’s (2003b) critical pedagogy of place. Related to understandings of place and to educators (and researchers), he calls for us to be **challenging each other** understanding of its underlying philosophy by followers and that the practice of nature study does not fit within the rigid structure of school organization. (Disinger, 1983/2001).

The **conservation education** movement of the early 1900s focused on the conservation of natural resources for human use — forests, soils, water, fish, game, spaces composed exclusively of artificial elements would not qualify as gardens. Next, a garden requires open sky or air exposure; this characteristic would eliminate a number of sites where plants are in greenhouses and orangeries. Finally, and perhaps most importantly, a true garden provides for more than physical necessities. A garden can also offer aesthetic, sensual,

truth is correspondence to reality, and that through science, truth can be discovered. Positivism argues that reductionism is possible and desirable and states that facts and values can be distinguished from each other. Positivism has also accepted further assumptions as in its application in the social sciences. In research, quantitative data and experimental methods have been privileged over qualitative methods. Also, positivism has been associated with behaviourism and operationalism with a focus on analysis of the individual
other to read the texts of our lives and to ask constantly what needs to be transformed and what needs to be conserved. In short, it means making a place for the cultural, political, economic, and ecological dynamics of places whenever we talk about the purpose and practice of learning (p. 10-11).

And so, this dissertation presents a turn in environmental education research, and educational research more broadly, as it opens to the reader, should the reader be open to the opening, the complexity of the experience of the school garden—its history, its culture, its politics, its ecology, its realization. And in this gentle but determined

minerals, and oils. It was intended to maintain these resources for the common good, to be used by humans in a way that would allow them to be used by future generations. Natural resources, and the natural world, were to be managed and used wisely. The conservation movement originated largely from government interests and resulted in legislation, enforcement, and

spiritual, and emotional experiences. It is here that some identify a blurring of boundaries between nature and art and the garden can be recognized as an aesthetic entity (Miller, 1993). T. Turner (2005) further extends the garden beyond biotic boundaries in his categorization of gardens supporting the body (e.g., medicinal and beer gardens), encouraging

(Peters & Burbules, 2004).

Henry Giroux (1991) views the complexity of modernism through the lenses of three traditions – social, aesthetic, and political modernism. Social modernism aligns with social and economic organization under increasing capitalist production, matching a bourgeois idea of modernity that places trust in science and technology and the progress that they enable, recognizes
play with and in the research text, a range of research methodologies and methods have been at work within this work, this dissertation, and are described and discussed below. Description of the approach taken.

finally science-focused education. Overall, conservation education focused on resources rather than education more broadly (Disinger, 1983/2001).

Outdoor education involves using resources outside of the classroom for curriculum and instruction. Its roots reach back to the 1920s and are aligned with the philosophies of Dewey, namely learning by doing. According to Francis Bacon, the garden is the purest of human pleasures; it is the greatest refreshment to the spirits of man (1625). This opinion, however, is not universally held and has been notably
time as a commodity, and situates freedom within a framework of abstract humanism. History follows a linear path of progress – advances in science and technology, division of industrial work, economic growth, and the displacement of traditions that block or hinder this trajectory. Within the social tradition, modernism mirrors civilization and reason is universalized. The human subject is central to social modernism and is the source of meaning and action. Aesthetic modernism is expressed in the literary and
social— allied, occurring between allies; marked by mutual intercourse; pertaining to human society; from Latin socialis allied, confederate, companionable, sociable

real— pertaining to things; actually existing or present; that is truly what its name implies; from late Latin realis, formed on res thing

Dear J,

What is reality? How can it ever be known if it is created continuously (this brings to mind Hegel). Noted by Sharp (as cited in Disinger, 1983/2001), one should teach outdoors what is best taught outdoors, and teach indoors what is most appropriate there (p. 19). Like nature study, outdoor education has the potential to bring together all areas of the curriculum – art, language, literacy, music, science, social studies, physical education – in its teaching. Cost has been a disputed by Hegel. Acknowledging that gardens could provide cheerful surroundings (p. 699), Hegel (1975) also asserted that the purpose of the garden is to provide, for diversion and the pleasure of strolling, a place which is no longer nature as such but nature transformed by humans to meet his need for an artistic movements that represented art as a criticism, rebellion, and resistance against the bourgeois values. A diversity of forms and expressions are celebrated – from surreal to conceptual – and perceived borders are crossed between art and politics, and life and aesthetics. Finally, political modernism turns its focus away from epistemological and cultural concerns and seeks to liberate and empower individuals with the capacities to move beyond ideologies and forms that perpetuate domination. This freedom is
created continuously by those who participate in it. The qualitative researcher becomes involved with and can develop a relationship of care for the research participants (Gall, Gall, & Borg, 2003) and this unique situation can make it possible to gather information that mind your discussions on presence—a fleeting concept that is always past) and also created socially? The difference between members of the social groupings would inherently lead to differences in reality. What is actually existing and barrier to outdoor education with schools simply not able to afford to include outdoor learning opportunities, for example camping and field school experiences in their budgets (Disinger, 1983/2001).

Other educational movements informed the developing discipline of environmental education. Resource-use education, the social studies partner of environment created by himself (p. 699). To Hegel, the garden represented the mismatch of nature and art, and on its own is worth nothing (1975, p. 700).

While the garden has held multiple definitions, a shared thread running through is one of relation between humans and nature. Crawford (1983)

related to political liberalism and the principles embodied in the western democratic revolution (Giroux, 1991).

**Structuralism**

Structuralism is a method of study used to describe and analyse phenomena. It considers the entirety of a process or institution where each component of
is otherwise unavailable (Silverman, 2006).

Though these explorations can follow a number of paths, Creswell (2007) outlines several characteristics common across all qualitative approaches to research. First, qualitative research is situated—data is collected in the natural setting where the system defines, and is defined by, other components of the system. Phenomena being described and analysed are characterized by underlying structures that are themselves defined by relationships among constituent components (Cherryholmes, 1988). Structuralists assert that a stable textual meaning can be found using a code that identifies how textual elements relate to each other and in turn make meaning. These identifying codes include transcendental signifiers, meanings that are held in a privileged position or

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natural— from Latin naturalis (see nature)

nature— essential qualities or innate character of; vital powers of; inherent power dominating one’s action; creative and regulative power in the world; material world; from Latin natura, formed on past participle stem of nasci (see natal)

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conservation education, centred on geography and economics where conservation education focused on natural history. Progressive education was a pedagogical movement that focused on the needs of the child and its curriculum and instruction were shaped accordingly. Here, we see humans and nature as forces...in which the conflicting interaction brings into being some third object (p. 49).

true? Can we ever hope to know? And if not, how do we know that there is even then the possibility of a reality?
Dear R,

And so the researcher becomes the instrument, the tool, the device with which to collect and analyse data—were they not always? This new role still seems set apart, almost sterile within the phenomenon is experienced by the study’s participants (Patton, 1987). Next, the researcher is a key instrument in data collection and analysis; she or he gathers information through interviews, observations, and document audits and tends

Grounded in the work of Dewey, Rousseau, Pestalozzi, and Froebel, progressive education followed a more holistic approach to teaching and learning. Resource management education presented a professional relationship between humans and the environment through teaching of topics including interacting to create a new entity, the garden. A garden has been said to be a mirror of the society which creates it (Bequette, 1997, p. 44) but what does that mirror reflect? Who is present and who is absent? What is and is not represented? Gardens are symbolic of our relationships with, in, and within the natural

are situated as hubs around which other meanings turn (e.g., democracy, freedom, family) (Stanley, 1992).

Structuralism seeks rationality, linearity, progress, and control through the metanarratives of knowledge and science. Structuralists maintain that objective, systematic knowledge is possible and aim for such knowledge by accounting for the relationship between form and meaning (Cherryholmes,
not to rely heavily on structured questionnaires and generic instruments (Creswell, 2007). The researcher is the instrument (Patton, 1990, p. 14). From these data, the researcher tends to work inductively, drawing from emergent themes and working between these themes and a developing research.

Dear J,
It is here that I find an opening in the research. By focusing on the participants—the students and myself—the shift of the research makes a turn away from the commonalities stated in the literature. It is a decentering and a shift.

Noted by Culler (1982), structuralists take linguistics as a model and attempt to develop ‘grammars’ – systematic inventories of elements and their possibilities of combination – that would account for the form and meaning of literary works (p. 22). Structuralism is rooted linguistically in the

1988). This assumption is common among structuralists, positivists, phenomenologists, and some hermeneuticists (Stanley, 1992).

In search of the Good Life: Sacred Groves in Ancient Greece

Although its plains were rich, the mountains, valleys, and rocky islands of world. Further, looking back on the cultural history of gardens allows us to map traces of our changing relationship with the natural world as we consider and reflect on our place with, in, and within it.
ancient Greece did not easily support garden culture. The landscape did however make for strong fortresses and most Ancient Greeks lived within the safety of the city walls. Cities were very crowded and their courtyards were used as open-air workspaces for cooking, doing laundry, and keeping animals; the dense urban development simply left no space or water to support the perceived disciplinary boundaries through its integration of knowledge.

Beginning in the 1950s and gaining momentum in the mid to late 1960s, with shifting social and political climates and an increasing awareness of environmental issues (e.g., pesticide use, water and air pollution, etc.), there was significant renewal of interest in ancient Greece did not easily support garden culture. The landscape did however make for strong fortresses and most Ancient Greeks lived within the safety of the city walls. Cities were very crowded and their courtyards were used as open-air workspaces for cooking, doing laundry, and keeping animals; the dense urban development simply left no space or water to support the perceived disciplinary boundaries through its integration of knowledge.

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work of Ferdinand de Saussure and a series of linguistics lectures given by Saussure between 1906 and 1911 at the University of Geneva, and published posthumously in 1916, outlined his central ideas on language and strongly shaped structuralism and structural analysis. First, Saussure identified the linguistic sign as bringing together a concept and sound image, defined the word sign as inclusive of the whole of the concept and sound image, and replaced concept and sound-image with signified and signifier respectively.
prescribed, in qualitative research the process can quickly shift as the researcher’s understanding of the site and participants develops ( Creswell, 2007 ). This emergent quality is present in my proposed study as I expect the research path and procedures to evolve over the course of the study. Instead, landowners tended to tend to fields and gardens outside of the city. The land beyond the city walls was viewed as an escape from the city’s close quarters and a place where one could enjoy the openness of the countryside.

Homer referred to three types of designed outdoor spaces: courts, gardens, and groves.

Variations on these terms have been used by theorists since then and have been expanded to include object, referent, extension, and reference to identify the phenomenon to which words ( signifiers, signs, symbols, expressions ) and concepts ( signifieds, interpretants, thoughts, intensions, senses ) refer. Next, Saussure sees signs as arbitrary. Words are linked to definitions by conventions and usages and the assignment of words to ideas or concepts varies across languages. Third, signs do not exist outside of a system. To
The qualitative researcher becomes part of the inquiry as her or his interpretations of the data are informed by his or her own background and understandings. Finally, qualitative research seeks to realize the planned and lived curriculum; and 4) How can students be included in the environmental education research process and how does this involvement inform environmental education research—

Saussure attending to signs and not objects is concerned with how language is organized and used, not with truth. Other thinkers, those including object, referent, extension, and reference, do speak to truth as the sign system suggests a structure of objects. Saussure highlights the interdependence of terms in language, asserting that words hold meaning because of relations with and differences from other words—the value of each term results solely from the simultaneous presence of the others (Saussure, 1916/1966, p. 31).
to communicate a holistic representation of the problem or issue of study, highlighting the complexities and intricacies of social and human phenomena (Creswell, 2007).

**Participatory Action Research**

Action research projects in education are

114). Fifth, language (*langue*) and speech (*parole*) are distinct from each other and structuralism focuses on the whole language, as previously discussed, and not individual utterances. Sixth, structural analysis is synchronic and, by occurring at one point in time, excludes beginnings and endings. Next, since language is determined by the relationships between and difference among words, the content of the structure is defined by binary oppositions or distinctions. Finally, structural analysis asserts ideological neutrality – it tells and offerings to that deity were made at altars within the groves. Statues and their shelters became temples and the grove’s springs and caves were valued for their water which, as well as being in short supply, and perhaps in part because of it, was understood to be miraculous. Groves were sites for rest (*stoas*) and exercise (*gymnasiums*). Not only were groves
done with the goal of improving teaching and learning in mind. The research is done by those within the particular education setting—typically by teachers—and consists of gathering information about how the setting operates and from those findings, improving teaching and learning within that context. A major component of the action research process is the educator’s active reflection on the research; this reflection, along with data used for sport and leisure but they were also important spaces for philosophers and their students to learn about natural order and experience nature. It was here that philosophers were able to enjoy quiet reflection and contemplation, a feat that was much more challenging within the busy public spaces of crowded cities and towns. Relationships between humans, gods, and nature, and

As a means of analysis, structuralism highlights the wholeness of a system rather than its units or parts and on systemic relationships between elements rather than on the unique individual characteristics. It is the relationship
Reason, truth, and knowledge were actively debated within the boundaries of sacred groves. Aristotle attended one such grove, where he founded his school, the Lyceum, and would walk about its gardens while discussing philosophy with his followers. Plato and his own students were similarly peripatetic, strolling garden paths while engaging in philosophical discussions.

Mills (2006) identifies two forms of action research: practical and producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution (Stapp, 1969/2001, p. 34). Objectives within environmental education context (Creswell, 2008).

Dear R,

And so (typically) in practical action research we see the teacher taking on multiple roles—researcher, learner, reflective practitioner—with the goal of producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution (Stapp, 1969/2001, p. 34). Objectives within environmental education context (Creswell, 2008).

Structuralism was an alternative to the dominance of functionalism—an approach that focuses on the relationships between constituent elements that defines the structure—they are its reality. The emphasis on relationships decentres the subject from the individual to the relationship. Structures are also identified as being self-regulating where the relationships present direct the permission of activities (Cherryholmes, 1988).
A topic of regular discussion and contemplation by philosophers while walking in the garden was that of the good life. Here it is important to consider what was classically meant by the good life as it differs considerably from more current notions of the term. Now, the good life typically includes financial wealth, ease of living, and the biophysical environment, and that man has the ability to alter those interrelationships (Stapp, 1969/2001, p. 34), an appreciation of the natural and man.

A practical—pertaining to practice or action; from French *pratique* or late Latin *practicus*, adoption of Greek *praktikos* concerned with action.

Participatory—from *participate* + -ory

Participate—take part (in); formed on past participle stem of Latin *participare*, formed on *particp-*, *pars* part + -cip-, form of cap– of *capere* take

Participatory. Practical action research typically focuses on local educational issues and, of improving practice. But where are the voices of students? Can, and should, students be part of improving practice. But where are the voices of students? Can, and should, students be part of practical—pertaining to practice or action; from French *pratique* or late Latin *practicus*, adoption of Greek *praktikos* concerned with action.

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through its of the process? examination of And what might specific school this look like? concerns, seeks to improve practice. In practical action research, the teacher as teacher-researcher is also identified as a learner and reflective practitioner. These roles are inextricably linked in practical action research and inherently inform the research process and product (Mills, 2006).

While practical action research centres on individual teachers finding solutions to specific classroom problems, participatory action research (PAR) has a much broader orientation as it seeks to made biophysical environment and its place in society, an understanding of biophysical environmental problems “confronting man” and how these problems can be solved by responsible citizens and governments, and a concern for environmental quality that motivates citizens to participate in environmental problem solving (Stapp, 1969/2001). and enjoyment of the material elements that come with such a life—fine wines, relaxing holidays, spacious and well-appointed houses, and luxurious automobiles.

However, in ancient Greece, the good life was not centred on material wealth. Instead, the good life was identified as the human good — eudaimonia — happiness and well-being, the activity of

British Columbia and an extensive analysis of the aboriginal mythologies of the Americas and the binaries that they present; the latter was presented in the volumes of Mythologiques, including The Raw and the Cooked (King, 2011).

The assumptions presented by structuralism have been heavily critiqued on multiple grounds. The individual is decentred and meaning comes from the
Contribute to society and structure of relations. As structuralism focuses on a phenomenon at a single instance in time, the historicity of the occurrence can be lost and the cultural values and traditions coming before can be overlooked. Of most importance, though, is that assumptions held by structural thought are supported by arguments that, when examined, fall apart (Cherryholmes, 1988). These critiques, and in particular the deconstruction of the arguments supporting structuralism, have paved the way for poststructural thinking and analysis.
Cooper (2006) discusses how the classical garden was recognized as a place where, through practices in the garden, virtues could be induced and the good life realized.

Gardens and garden practices, such as designing and maintaining the communities through empowerment and emancipation within those social groups.

Informed by the works of Freire, PAR is inherently action-oriented as it seeks to improve the quality of lives and communities through the empowering of those within the contexts of study (Creswell, 2008).

I use the term participatory action research (PAR) to describe the intellectual, spiritual, meditative, character forming, and physical acts.

Cooper (2006) discusses how the classical garden was recognized as a place where, through practices in the garden, virtues could be induced and the good life realized.

McInnis (1972) outlined features of effective environmental education that later part; 2) aware of the associated environmental problems and management alternatives of use in solving these problems; and 3) motivated to work toward the maintenance and further development of diverse environments that are optimum for living (Roth, 1970).

Il n’y a pas de hors-texte: Derrida, différance, deconstruction

Poststructuralism explores the relations between language and how it is used to make sense of experience (Martusewicz, 2001). Where structuralism seeks systematic inventories, knowledge, and fixed meanings – transcendental signifieds or transcendental semantic meanings – poststructuralism instead
collaborative and reflective research methodology used. This term encompasses community-based action research (Stringer, 1999), critical action research (Mills, 2006), emancipatory research (Mills, 2006), and participatory research (Clark, 2004; Kirby, 2001) as used by other researchers.

Features of participatory action research

Kemmis and McTaggart (2005) describe the self-reflective spiral (Figure 2) that is inherent in doing PAR. The spiral turns, coiling formed the foundation of environmentalized education. He highlighted the importance of the learner's direct experience of the environment being studied and the educational value of those environments which maximize the learner's potential capacities to function successfully as an intelligently integrating garden, taking time to enjoy the aesthetic beauty of flowers and foliage, and taking leisurely activities in garden spaces, were thought to give rise to virtues by allowing opportunities for their exercise (Cooper, 2006). For example, when one sees how their nurturing of plants can help those plants to flourish, one might be inclined to care for and respect other forms of life. Other virtues claims only the impossibility of such knowledge and meanings (Cherryholmes, 1998). Poststructuralism is not a rejection of structuralism but rather is a response to it; poststructuralism takes structuralism seriously yet does not subscribe to its foundational assertions (Stanley, 1992). A fuller discussion of poststructuralism will follow but first it is important to trace the work of Jacques Derrida who, by freeing the signified from the signifier, fostered the movement to poststructural thought and analysis.
through stages of planning, acting, reflecting, and then revisits those stages as reflection informs the next coiling turn of the spiral of action research.

April 22, 1970 marked the first Earth Day and following this and through the 1970s, environmental education was a topic of discussion at national and international levels. The U.S. Office of Education asserted in 1970 that environmental education was intended to promote among citizens encouraged by gardens and garden practices include self-mastery, humility, and hope and, asserted by Murdoch (1997), all of these virtues fall beneath the umbrella of unselfing, the detachment from one’s own interests and ambitions to recognize those of others (Cooper, 2006).

These elements of the good life informed curriculum at two academies set within

Jacques Derrida was born in 1930 into a French-Jewish family living in Algeria. His schooling took him from Algeria to Paris, and later the University of Louvain in Belgium before he began teaching in Paris at the École Normale Supérieure, the École des Hautes Études en Sciences Sociales, and the University of Paris. Derrida was the first director of the Collège International de Philosophie (CIPH) created to provide public lectures on philosophy and
Like a nautilus shell, the stages overlap and build upon each other. The process however is not always so tidy; instead it is **fluid, open, and responsive** (Kemmis & McTaggart, 2005, p. 94).

The awareness and understanding of the environment, our relationship to it, and the sacred groves: Plato’s Academy and the Epicurean Garden. Straying from Socrates and his philosophy of the *agora* (gathering place or assembly, and typically the

also was pivotal in the campaign to include philosophy in the public school curriculum. His publications are numerous and his influence has been felt across disciplines, from phenomenology and hermeneutics to political philosophy and the philosophy of law and throughout the social sciences and humanities. Derrida’s unique and distinctive work and style of writing have evoked both praise and criticism – he has been heralded as one of the most important thinkers of the past century and also a *pretentious impostor*.
Dear J,

Again, I am back to the possibility, and impossibility, of a genuine—real?—knowing, here of a practice, of an understanding

concern and responsible action necessary to assure our survival and improve the quality of life...

Environmental education provides alternate ways of thinking—a synthesis—which colours and affects the humanities, languages, social sciences, history, authentic—authoritative; entitled to acceptance or belief as being reliable; actual, not imaginary; genuine, not counterfeit; from late Latin authenticus, from Greek authentikos principal, genuine, formed on authentia original authority, authentes doer, perpetrator, master, formed on autos self + -hentes doer, being

hiding behind an exaggeratedly obscure style (Stocker, 2007, p. 1).

Regardless, Derrida’s deconstruction has been foundational in poststructural thinking and analysis and in turn postmodernism.

Poststructuralism’s break from structuralism was enabled by the theorizing of Derrida whose uncoupling of the signified and signifier allowed for the analysis of discourses in terms of those discourses that created them.
development and evolution in their practices, their understandings of their practices, and the situations in which they practice (Kemmis & McTaggart, 2005, p. 563). Kemmis and McTaggart (2005) note that in PAR, each stage is best negotiated through of a practice and of the context within which a practice occurs. Authentic as knowing to be based on what one (somehow) knows and placing confidence in that knowing enough to take it to be genuine—real? But in PAR, there is interaction within participants as economics, and religion as dramatically as it does the natural sciences. It will give an ecological perspective for every aspect of learning (as cited in Disinger, 1983/2001, p. 24). Also that year, then U.S. President Richard Nixon emphasized the need for environmental literacy in his 1970 Environmental Address to house and a separate area for lectures and instruction, and was also located on public grounds. Plato’s Academy was essentially set within a walled park and this model became the blueprint for future western schools. Also like modern western academic institutions, the Academy was selective and its admission standards ensured that only those students deemed capable of

However, noted by Foucault, only interpretations, and in turn, interpretations of interpretations, are possible in attempts to make sense or meaning. Here though, poststructural thinking is inherently reliant on either structuralism or phenomenology, two fields that it explicitly aims to break from. In making meaning or sense, interpretations can be based on assumptions that discursive structures are inherently present in language thus circling back to structuralism. On the other hand, one might identify the interpretation as
collaborative efforts as PAR itself is inherently a social process and ideally one of collaborative learning.

These social interactions are further interactive and have been represented by Kemmis and McTaggart (2005) in a helical display (Figure 3). In it, the recursive relationships between the social media and structures and the individual’s participation in emerging from the experience and in turn relying again on phenomenology. Derrida’s work allowed the break from both structuralism and phenomenology (Pinar, Reynolds, Slattery, & Taubman, 1995).

Derrida’s focus was not on discourse but rather honed in on the text itself; this is evident in his statement *Il n’y a pas de hors-texte* (“There is no outside text”). Derrida asserted that if the signifier is uncoupled from the understanding philosophy – a very small minority – were granted access to the school. The Academy’s curriculum focused on the whole person and time was given to instructing the body, mind, and soul. Students quite literally lived a shared devotion to the knowledge of the good in an environment of conversation and partnership. At the Academy, philosophy...
was a way of life. Along the same road out of Athens as Plato’s Academy, Epicurus established his school, the Garden, on his property beyond the city’s walls. Epicurus himself was a citizen of Athens but was somewhat of an outsider.

Philosophically, like Plato, he inhabited the periphery; rather than focus on the social practices and forms of knowledge are mapped.

Along with, and of equal importance to, the characteristic self-reflective spiral are seven signified – the word released from its definition or concept – the signifier would move freely while the signified would become another signifier. He further claimed that any attempt at bounding a group of signifiers or mapping a discourse was an act of power (Pinar et al., 1995).

Two key arguments presented by Derrida are of the dispersal and deferral of meaning, the dissemination of meaning, a dehiscence, a splitting open of the educational process. (p. 11, as cited in Disinger, 1971/2001).

Several key international institutions pushed for environmental education, asserting that the increasing global interest in environmental issues and awareness justified this movement. In 1972, the United Nations Conference on the Human Environment in
other key features of PAR.

As previously alluded to, PAR is a social process that investigates the relationship between the individual and the social and acknowledges that both the individual and social are inextricably linked and inform each other, like Socrates did, Epicurus encouraged his followers to live for the most part unnoticed. Unlike Plato’s Academy, the Garden was on private land and therefore was not supervised by the city, making it the first school to enjoy academic freedom.

While he did recruit students, lecture, and write, as did other founders of schools of meaning, and these undermine fundamental structural assumptions and support poststructural thought. First, dispersal considers the linguistic determination of a word’s value in relation to and in difference from other words. However, when a definition is traced in this way, the definition itself presents another series of words, each again defined by its relation to and difference from further words. This chain of attempts to define words continues indefinitely; a firm definition is never reached (Cherryholmes,
coiling tangles of Thunbergia spp. PAR involves people trying to we know, and how this PAR involves people trying to relate to our participations philosophy, Epicurus encouraged a greater sense of community and self-sufficiency among students attending the Garden. To Epicurus, friendship was of utmost importance. Students lived, studied, and wrote together within the garden walls. Vegetables and other plants were grown in the garden to feed the school community members. Epicurus and his colleagues

1988). Meaning is never fixed outside of its place within a written text or spoken statement – it is always determined in relation to texts within which the signifiers to be defined have already been used. Therefore, each time a signifier is used its meaning inherently draws from its prior uses (Stanley, 1992).

Second, deferral of meaning relates closely to dispersal. Following the chain of
understand how they become who they are as individuals and how this becoming relates to broader social spheres (Kemmis & McTaggart, 2005).

As its name suggests, PAR is participatory, engaging people in explorations of their own knowledge and interpretations. PAR involves all group members in looking at how their knowledge informs their identity and critically reflecting on how this knowledge shapes their sense of agency and founded later that year. Also in 1975, and in response to the need for nothing short of a new global ethic - and ethic which espouses attitudes and behaviour for individuals and societies which are consonant with humanity’s place within the biosphere; which were not referred to as masters, as in hierarchical schools, but were instead identified as guides or leaders. Epicurus also focused on the sensual experience of nature, asserting that one should always accept and embrace nature and its offerings with joy and contentment. He argued that pleasure was the goal of human action and living a pleasurable life was inherent in living a virtuous one. Here, he
dispersed meaning through words composed of words and so on takes time and it is not until an endpoint is reached that the meaning of a word can be confirmed. But this confirmation hangs on the confirmations of meanings of all other words in the chain – the deferral of meaning then is infinite because there is always a wait for prerequisite meanings (Cherryholmes, 1988). And so, meaning is both dispersed along endless chains of signifiers and deferred until the ends of these chains are reached. Meaning then is forever caught
action. In PAR, people can only do research “on” themselves, it is not done “on” them by others (Kemmis & McTaggart, 2005).

Next, PAR is both practical and collaborative. Through its processes, people examine how they communicate and contribute to social organizations and then consider how they might change these contributions to make them more efficient, rational, and satisfying. These steps are made collaboratively and reflectively with

\[\text{collaborate— work in conjunction; formed on past participle stem of late Latin } \textit{collaborare, formed on com con-, col– with + labor work, toil}\]

within the infinite play between signifiers (Martusewicz, 1992).

Together, Derrida’s arguments of dispersal and deferral make it impossible for a definitive meaning to be reached, indeed there is no start or finish. The meaning of a signifier, the signified, is always referred to its prior usage in previous discourses and this meaning is always deferred (Stanley, 1992). It is therefore not feasible, not even possible, to speak of a transcendental signified
50

others in shared contexts (Kemmis & McTaggart, 2005).

Informed by the work of Freire, PAR is emancipatory. Aiming to help the recovery and release of people from social structures limiting their personal development and determination, or transcendental semantic meaning as meaning is not centered or fixed and, as Derrida reminds us, is rather caught up in a play of relations and difference between signifiers and signifieds. It is this denial of a fixed centre that ultimately undermines meaning in a structural sense and gives rise to the term poststructural (Cherryholmes, 1988).

Meaning itself is never, right now, present in a sign; meaning comes from

Medieval Monastic Gardens: Recreating Paradise through Geometry and Divinity

Following the fall of the Roman Empire, Europe went through a period of cultural upheaval: the continent was disrupted by wars, its cities were densely populated, and disease was widespread. Christianity became

Dear R,

Let’s really open this research up and release the participants in educational research who more often than not have research done on them rather than do research on themselves. And in doing so, realize for environmental education.

Belgrade was pivotal in the environmental education movement because, like the earlier UK conservation and education conference, it included educators in attendance and the follow up meeting – Tbilisi in 1977 – intended for the active involvement of politicians.

UNESCO/UNEP, 1975

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PAR involves the exploration of ways that wider social structures mediate individual practices and how these constraints might be removed or minimized to reduce or eliminate the injustice, irrationality, and dissatisfaction that they produce (Kemmis & McTaggart, 1988). 

The UNESCO First Inter-governmental Conference on Environmental Education was held in Tbilisi, Georgia, USSR, in October 1977. The meeting, attended by government delegates from UNESCO member states and NGO representatives, produced a list of recommendations for environmental education in both formal and informal education and its declaration established a framework that widely practiced as its ticket to paradise in the afterlife enticed those living in such difficult conditions. Newly founded convents and monasteries helped to spread not only Christian fundamentals and faith but also broader knowledge and renew elements of the classical era; medieval monasteries were noted as sites where the arts of civilization were...
kept alive by the clergy (T. Turner, 2005, p. 122). These arts maintained by monasteries included horticultural and gardening understandings and traditions. Pilgrimmaging monks would share their knowledge of plants, particularly medicinal and aromatic varieties, and interest in classical horticultural and agricultural texts and would also exchange knowledge of plants.

And it is this fluid and unpredictable play that is the power of différance.

Différance reflects Derrida’s arguments of dispersal and deferral as it encompasses both the meanings of to differ and to defer (Stanley, 1992).

It is this dispersal and deferral, this différance, that allows for deconstruction to work within texts and discourses. Rather than attempt to pinpoint...
and interactions with, in, and within the world. This deliberate critique leads to rethinking and releasing people from those constraints (Kemmis & McTaggart, 2005).

Next, PAR is reflexive; it is recursive and dialectical. Through their actions and reflexive—see reflect deconstruction, because of course given Derrida’s arguments, its meaning is both dispersed and deferred, caught in an endless play of signifier and signified, deconstruction will be described by its actions upon texts and discourses.

Very broadly, deconstruction provides a way of reading texts and discourses that allows for themes and assumptions that are always working against each
Beyond monasteries, medieval gardens were representative of paradise – *hortus conclusus* – places that re-presented the beauty of creation and allowed humans to commune with God. Within the gardens, the five senses were indulged by scented herbs, brightly coloured flowers and foliage, and soft textures. Medieval gardens are a reflection—the spiral of action within the monastery.

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Derrida notes that within traditional philosophy, binary oppositions (e.g.,
themselves were usually walled and were so for a number of reasons; livestock and wildlife needed to be kept out of the garden as did the real and supernatural dangers of villages and towns. These botanical embodiments of paradise were not open for all to enjoy.

Finally, PAR seeks to transform both theory and practice in relation to each other. It includes “reaching out” to different theories and perspectives that might inform and illuminate practices and “reaching in” from theories and perspectives to examine how they enable the practitioner to critically understand.

- Follow an interdisciplinary approach;
- Consider environmental issues at local, national, regional, and international levels;
- Focus on present and potential issues while also considering historical perspectives;
- Promote the importance and necessity of cooperation at all levels – local, national, international – to themselves were usually walled and were so for a number of reasons; livestock and wildlife needed to be kept out of the garden as did the real and supernatural dangers of villages and towns. These botanical embodiments of paradise were not open for all to enjoy.

Medieval monastic gardens were similarly rich with symbolism research (Figures 1 and 2)—PAR aims for people to learn more about their realities and the recursive relationships between practices, knowledge, social structures, and discourses in which practices are expressed. PAR is active; it involves learning by doing (Kemmis & McTaggart, 2005).

culture and nature, man and woman, etc.) that are foundational to structuralism do not exist equally but instead are situated within a violent hierarchy. One of the terms dominates the other (axiologically, logically, etc.), occupies the commanding position. To deconstruct the opposition is above all, at a particular moment, to reverse the hierarchy (Derrida, 2004, p. 39). Deconstruction goes further though to displace the system within which the opposition rests. Derrida asserts that
the problems that they face. Broadly, PAR seeks to realize the personal as political (Kemmis & McTaggart, 2005).

Perspectives and philosophies informing participatory action research

deconstruction cannot limit itself or proceed immediately to a neutralization: it must, by means of a double gesture, a double science, a double writing, practice an overturning of the classical opposition and a general displacement of the system. It is only on this condition alone that deconstruction will provide itself the means with which to intervene in the field of oppositions that it criticizes, which is also a field of non-discursive forces. (1982, p. 329)
PAR is grounded in postmodernism within which the ideas of truth and objectivity upon which the scientific method stands are problematized. Instead, postmodernism asserts that truth is relative, conditional, and situational (Mills, 2003, p. 6) and knowledge is built upon prior experiences and learners with an active role in their learning experiences and decision-making; 
- Relate environmental knowledge, skills, and values to all ages, levels, and understandings of learners;
- Facilitate the understanding of symptoms and causes of environmental issues;
- Highlight the complexity of environmental issues and in turn the importance of

Vegetables, fruits, and herbs were cultivated to feed and heal and flowers were identified as religious artefacts.

This action of deconstruction within discourse identifies the rhetorical operations in the text that form arguments, concepts, or premises, in turn illuminating how hierarchical oppositions as well as philosophical foundations can undermine themselves (Culler, 1982).

Deconstruction does not attempt to erase the text or discourse under examination but rather opens it up and allows space for the Other, upsetting
Manual labour was viewed as devotional work by the monks, in particular work that was done in the garden—the Lord God took the man, and put him into the Garden of Eden to dress it and to keep it.

Monastic gardens also served a contemplative purpose as did gardens of Ancient Greece and this was particularly evident in the traditional western paradigms that do not admit other ways of knowing and being. Deconstruction inhibits the reduction of the play of difference in an effort to counter-act and counter-balance for the mitigation or repression of the presence of the Other within the expression of the Same (Trifonas, 2000, p. 274). It is within these spaces that the alterity of the Other is inserted (in-serted) and the difference of meaning (différence) is released.
authority as well as by seemingly ordinary and widely accepted routines and practices of our daily personal and public lives that we are subject to oppression; it is through these taken-for-granted practices that we maintain systems of domination and control (Foucault, 1972/2002). The prescribed curriculum bounds, to varying degrees, what is taught. How it is taught is often decided solely by the person in the role of Teacher. Students are held by daily routines, bells and buzzers, spoken rules, unspoken practice was realized through approaches including environmental studies, outdoor and adventure education, and urban studies. Environmental studies focused on participatory and problem-solving approaches drawing heavily on scientific methods and with the end product of empirical data and measures. Outdoor and adventure education take learning outside the cloisters. Meaning enclosed, the cloisters were the central to the monastic garden and served as a space for open air meditation for the exclusive use of the monks. The cloister gardens typically featured shrines and, noted by Eco, the green lawns of the central garth, or quadrangle, had restorative qualities: The green turf which is in the middle of the

By carefully opening texts and discourses to release the voice of the Other and freeing meanings from rigid and unquestioned western boundaries, deconstruction is also an ethical action. It requires a close and mindful understanding and also a respect for the subtleties of the text or discourse.

To “deconstruct” philosophy, thus, would be to think—in the most faithful, interior way—the structured genealogy of philosophy’s concepts, but at the same time to determine—from a certain exterior
With these perspectives in mind, postmodern theories encourage an exploration of and action on those everyday and taken-for-granted assumptions ways that personal, social, and cultural practices are organized and carried out (Mills, 2003). PAR can provide a means of undertaking such an exploration, of honestly and contextually and immerse learners in activities such as canoeing, hiking, and orienteering; these programs are typically held at rural field centres rather than at schools. While outdoor and adventure education is typically situated well beyond city limits, urban studies embeds environmental learning within the natural and built environments in the city. In it, history, politics, material cloister refreshes encloistered eyes and their desire to study returns (as cited in T. Turner, 2005, p. 124).

Physically, the space was geometric and closed on four sides and symbolically, with its segments and central fountain, was a recreation of the gardens of paradise that brought together the mathematical order of the microcosm with the

that is unqualifiable or unnameable by philosophy—what this history has been able to dissimulate or forbid, making itself into a history by means of this somewhere motivated repression. (Derrida, 2004, p. 5).

Deconstruction makes possible the opening of an inclusive space within which we can discourse on the subject ethically without barriers or boundaries, though not without obligation and the danger of failure
representing the experiences, practices, and beliefs of those participating, and of recreating practices that will liberate individuals and communities.

**Using PAR in Environmental Education Research**

Noted by Robottom and Sauvé (2003), PAR is well suited to explorations into school and community-based environmental education curriculum and instruction due to the very nature of the environmental education programs and projects themselves. Shared characteristics of such programs and projects include their complexities and necessary adaptations to different contexts, architecture and design, culture, and ecology come together as learners study the unique inter-relationships of social, physical, and natural systems in the urban environment (Palmer, 1998).

Through the 1980s, international documents continued to be prepared and new vocabulary was introduced into discourses on environmental education. Ten (Trifonas, 2000, p. 279). It does not take down the existing structure of a text or discourse but rather locates within it a more neutral site from which to question and reverse oppositions:

*it is [this] non-ground between presence and absence [that] deconstruction breaks-into, slowly making it possible to imaginatively empathize or ‘fill-up‘ the openness of the abyss of this excluded space, the space of the writing/teaching of the Other, to re-approach*
active involvement of many stakeholders holding a variety of motivations and values, development through often difficult negotiations, and being both shaped by and held within social, cultural, political, historical, and environmental elements. Robottom and

Dear R,

Doesn’t all research—quantitative, qualitative, mixed methods, others—require some (or perhaps all) of these characteristics? Or, are these characteristics present but simply quietened down to having little or no impact on the

years after Tbilisi, UNESCO and UNEP held Tbilisi Plus Ten, a meeting whose deliberations included the importance of environmental education—nothing significant will happen to reduce... threats to the environment unless widespread public awareness is aroused concerning infirmary, cellarer, obedientiary, and kitchen gardens. These spaces provided food and medicinal plants as well as grazing areas for livestock that supported the monastic community.

An exemplar of the monastic garden was at St. Gall monastery at Reichenau, Switzerland. The monastery itself was constructed at the request of

the responsibility of the horizon of inter-subjective violence, and the teleologicality of the cultural politics of the sign. (Trifonas, 2000, p. 276)

Deconstruction refuses to anchor epistemology in any authoritative foundation—it does not propose a better theory of truth but instead allows for the illumination of those impasses that surface when attempting to reveal
Sauvé assert that a competent form of research needs to be capable of engaging these elements (2003, p. 123): sensitivity to contexts, responsiveness, interest in participants’ interpretations and understandings, and ability to identify and consider the social, cultural, material, research? If this is the case, is this ethical and honest research? Or, is that simply just the nature of research? Some voices are heard. Others are not. Or, is that just the nature of everything? Robottom and Sauvé’s assertion of the essential links between environmental quality and the continued satisfaction of human needs. Human action depends upon motivation, which depends upon widespread understanding. This is why we feel it is so important that everyone becomes environmentally truth (Stanley, 1992). A way of reading and writing and of analysis and criticism, deconstruction focuses its critique upon the text. It does so not by attempting to escape the metaphysics of language but by highlighting and subverting this very character (Peters & Trifonas, 2005). Deconstruction fills the void where ‘a change of style’ is needed, one that will ‘speak several languages and produce several texts at once’ (Peters & Trifonas, 2005, p. 6). Charlemagne’s courts a few years following his death; it seemed that Charlemagne’s devotion to the church was matched only by his love of gardens. The garden at St. Gall is renowned as its plan is acknowledged to be the oldest garden plan in Europe, dating back to 819 AD, and as such has been declared a UNESCO World Heritage Site. The garden plan included an orchard;
political, historical, and environmental factors that inform perspectives on the environment and environmental education.

In theory, these considerations are easily addressed yet within educational systems, there are predominant cultures of the elements required of competent research can act as checks for validity for all research for really, when would we hope for incompetent research?

Dear J,


Also in 1987, Our Common Future, vegetable, herb, cloister, and paradise gardens; and spaces for spiritual connection and renewal. The plan itself was presented in a Platonic form, not as a real place – draw

It is not possible to reduce deconstruction to a method that is distinct from the political and institutional; it always interrogates the structures and discourses upon which it lies. Because of this, deconstruction holds destabilization as a central theme. The ‘de’ in deconstruction signifies not the demolition of what is constructing itself, but rather what remains to be thought beyond the constructivist or deconstructionist scheme (Derrida, 1988, p. 147).
teaching and learning that work against the goals of PAR (Robottom & Sauvé, 2003). Outlined by Posch (as cited in Robottom & Sauvé, 2003), these cultures emphasize and privilege systematic and disciplinary knowledge, specialization of disciplines, a transmission model of environmental education research (educational research) is inherently informed by social, cultural, political, historical, and environmental factors. And acknowledgment of this and action extending from this acknowledgment are, in a sense, the work of often referred to as the Brundtland Report, was published and presented a global agenda that brought together the environment with development, confirming an agreed upon need for sustainable development – development that meets the needs of the present without compromising the ability of future generations to

[n] ...through the love of God out of fraternal affection, for you to study only (T. Turner, 2005, p. 124) – and was organized mathematically.

The themes of paradise and fertility were cultivated not only in the specified paradise gardens but also throughout the gardens at St. Gall. The paradise gardens themselves – semi-circular gardens at

Deconstruction, though, does not lead to indeterminacy. Derrida has spoken instead of undecidability – always a determinate oscillation between possibilities . . . These possibilities are themselves highly determined in strictly defined situations (1988, p. 148). For Derrida, undecidability allows for the examination of relations and differences of force made possible by play, non-identity, and différance. Indecision exists between determined
teaching, and top-down communication. PAR, particularly in environmental education, acts opposite to each of these characteristics. First, environmental education research involves a number of stakeholders at different points of the process: identifying issues and planning the (semantic, ethical, political) poles, which are upon occasion terribly necessary and always irreplaceably singular (Derrida, 1988, p. 148); for this reason deconstruction must not result in extreme relativism or any indeterminacy.

Poststructuralism
Derrida’s work has fractured the arguments put forth by structuralism and enabled a move to poststructural thought and analysis. Poststructuralism is perhaps best recognized as a way of thinking, a theoretical position, or mode of analysis (Usher & Edwards, 1994, p. 18). Noted by Culler (1982), while structuralists try to construct ‘grammars’, poststructuralists investigate the way in which this project is subverted by the workings of the texts themselves (p. 22). Poststructuralism explores and questions texts
was a crossing of paths and a juniper tree. Interestingly, the juniper held multiple meanings, some seemingly contradictory. The tree was seen as a symbol of eternity, the Tree of Life, paradise, and protected against evil spirits. Its branches also had a liturgical purpose as they were used to sprinkle holy water and its timber was burned as incense. However,

- any set of symbolic objects – including conventional written materials as well as broader discourses, practices, and institutions (Usher & Edwards, 1994). Texts function “textually” because we “read” them – they are never solely the result of the author’s intended meanings or produced independently but are also understood through our own personal and shared interpretations of them (Martusewicz, 2001). Meaning thus results from the interplay of the understandings and assumptions brought to the text by the
I am reminded here of fractals and the impossibility of coming to a starting point or to an ending point or to any point at all. In

misalignment of such structures in education.

Next, PAR is grounded in reflective practice by participants; research findings are brought forth

juniper was also known as the maiden tree or virgin palm and was used medicinally for abortions.

Giardino all’Italiana: The Botanical Expression of Individual and Family Wealth

The Renaissance, extending for 300 years following the medieval period, was an era of opulence and extravagance.

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reader; these include our histories, values, politics, and desires, and textual interpretations are therefore multiple and unpredictable. For these reasons, texts are recognized as open and the author then never knows exactly what meanings the reader will draw from the text (Martusewicz, 2001). Famously stated by Barthes (1977), to give a text an Author is to impose a limit on that text, to furnish it with a final signified, to close the writing (p. 147).
While medieval philosophy and culture was dominated by religion, Renaissance philosophy drew from classical understandings of reason as a criterion for truth. Humanism informed art and knowledge as the uniqueness of the human personality and worth of the individual was widely celebrated; humans were seen as central to all things. Along with a focus on the individual, the active processes of reflection on participants’ theories, practices, and contexts.

“Community-based knowledge” is generated and valued; knowledge is not exclusively held and controlled by outside experts. Closely related is the prevalence of top-down communication in educational systems. Rather than discourage cooperation and collaboration, PAR instead encourages it. Power relationships all too common in schools are challenged as the divide between researcher and participant is partnership and collaboration between nations, societies, and people, international agreements that supported and protected the health of global environmental systems, and recognized the interdependence and interconnectedness of the Earth’s natural world (Palmer, 1998).

Agenda 21 set out 40 chapters that address the Poststructural thinkers assert that all knowledge and experience must be identified as necessarily a product of language and culture. Language is what brings together the world with our knowledge of it and therefore meaning (and truth) and our search for it is inextricably linked to representation. What we know is what we can say about the world, and what we say is nothing more or less than a distanced re-presentation predicated upon difference – it is never the world itself (Martusewicz, 2001, p. 11).
Poststructuralism extends from a diverse body of influencing movements including roots and turns in idealism, romanticism, linguistics, and philosophy, and poststructural thinkers including Heidegger, Foucault, Lyotard, Deleuze, and Guattari are indebted (in debt) to the influence of contemporaries with which they have learned, the sources from which they have drawn, and the differences in combined influences. Despite the breadth
contributions made by students to better understanding curriculum, teaching, and learning content and contexts. However, education is lagging behind other disciplines, such as social work and health care, in committing to the inclusion of children in PAR (Clark, 2004).

Dear J,

Thinking of the etymology of cooperation, I am reminded of Hannah Arendt’s (1998) discussion of the three life activities of the vita activa—work, labour, and action. She describes labour as being those never ending activities that

Garden design of the Renaissance reflected these views and the garden was a place where the rediscovered ancient world was celebrated and its values reinstated. In it humans could revel in the beauty of nature’s creations, those features that were recognized to be solely for his pleasure and enjoyment. Whereas medieval gardens had been the product of monks’ and women’s

and depth of difference among poststructural thinkers, they do share an interpretation of thought as constitutive rather than as simply representative. For them, thinking [is] less about representing the real than it [is] with living it out in different ways (Dillon, 2000, p. 3).

While poststructuralism does signify a move from structuralism, it shares some important assertions with structuralism. As with structuralism,
are essential to sustaining life — the production of food, creation of shelter, reproduction — and that leave behind no traces. Alternatively, but related, is work which includes those activities with defined beginnings and endings, not essential to biological life, and carries forward Brundtland’s earlier assertion that education can enable students with the environmental and ethical knowledge, skills, values, attitudes, and behaviours to support sustainable development. Specifically, the chapter outlined national responsibilities leading to the improvement of environment and development education. It calls for environmental labour and showcased medicinal and symbolic plants, gardens of the Renaissance blended architecture, landscape, and society and highlighted art, scholarship, and masculinity. As well as cultivating the land, gardens were a means of cultivating the soul. Renaissance gardens faced outward, unlike the enclosed and inward facing

poststructuralism hesitates to follow phenomenology and existentialism; it is sceptical of identifying human consciousness as autonomous, directly accessible, and the fundamental basis of understanding and action. This privileging extends from humanist thought of the Renaissance and its assertion that there exists a stable, coherent, knowable self who knows both itself and the world through reason (Peters & Burbules, 2004, p. 21). The idea of an objective and rational self, as already noted, was characteristic of
Commission’s (2001) White Paper stressed that there is an urgent need to increase young people’s participation in the process of change both within and outside the school system (as cited in Clark, 2004, p. 5). These calls for action mirror those made by Paulo Freire (1972) as they, leaving behind artefacts, for example, buildings, tools, books. Labour was (is) viewed as the activity of lower citizens.

What is research? What is education? What is a garden? And does a liberation involve the promotion and equalization of labour with and development education to be available to learners of all ages and for environment and development concepts to be infused within all educational programs. Further, it proposes the inclusion of school children in studies of local and regional environmental health and resource use (Palmer, 1998).

Since the 1980s, strands of monastic gardens, in elaborate and expansive designs at villas overlooking towns and the landscape. The beauty of the gardens was realized in their geometry that displayed the dominant objective, logical, and scientific understandings of the Renaissance; order, unity, and regularity were key. Rational design was seen as superior to wild and disorderly nature.

modern thought and continued into phenomenology and existentialism where the individual is viewed as rational, autonomous, and self-present. Structuralism was a response to this subjectivism and personal freedom; poststructuralism was similarly suspect and asserted the importance of sociocultural contexts in informing the self-consciousness (Peters & Burbules, 2004).
in theory, empower those typically oppressed within educational systems, students, and make liberating change possible.

Models of Children’s Participation

A number of models of children’s participation in research projects have been created and each outlines the varying levels of initiation by the children—what is the depth and breadth of children’s input into the stages of the research process? Roger Hart’s environmental education in practice have echoed the themes common across the past decades’ international policy documents. Development education, peace education, and human rights education has sought to give voice and access to those historically silenced and marginalized, and eliminate social and environmental injustices. These three strands, complementary to Heidegger’s explorations of subjectivity, and in particular his discussion of being-in-the-world, guided poststructuralism. To him, being-in-the-world preceded self-knowledge and autonomy of the subject and he questioned those philosophies that fail to acknowledge the influence of external factors on the subject. Poststructuralism shares this questioning and emphasizes the role of discourse in forming and informing the self. This runs counter to humanism’s focus on absolute self-consciousness and its universalism, now
(1992, 1997) uses a ladder as a metaphorical representation of the range of children’s levels of participation in research projects. The ladder consists of eight rungs, with increasing authentic involvement of children with each step up the ladder (Figure 5).

The first three rungs involve the lowest levels of children’s participation; in fact, they really cannot be recognized as participation at all. The lowest rung of the ladder is manipulation or deception. Here, adults knowingly use children’s voices to communicate their own ideas. These projects are all too common in educational settings, for recognized as being socially exclusive and oppressive of those outside of its cultural criteria (Peters & Burbules, 2004).

Both structuralism and poststructuralism hold theoretical understandings of language and culture as linguistic and symbolic systems where the focus is on the (inter)relationships between elements of the system rather than those elements in isolation. They share the belief that linguistic signs act reflexively
from classical texts were situated throughout the gardens to encourage reflective pauses at particular views and vistas. Architecturally, the Renaissance garden included the villa but also a number of elements that drew from classical art and culture: fountains, temples, loggias, pergolas, nymphaea, and compositions of sculptures. Again, these features rather than referentially and that systems can be analysed in terms of uncoded differences and codic outcomes. Within poststructuralism, various methods of analysis – deconstruction, archaeology, genealogy – tend to emphasize difference, historical shifts, serialization and repetition, and critique as dismantling and disassembling of conventions and codified meaning structures (Peters & Burbules, 2004).
asserted humans’ ability to control the natural world and his perceived dominant place within it.

The garden was an expression of the ideals of the Renaissance, celebrating both the power, wealth, and culture of the period and that of its reigning lord. Battisti summarized the sweeping value of the Renaissance garden when he declared it to be a collaborative project involving the input and labour of the school’s students. Closely related to manipulation and deception is decoration. The difference here, and the reason for a higher ranking, is that adults do not manipulate—method of handling chemical apparatus; manual management or examination; from French manipulation, formed on Latin manipulus handful—see deceive.

deceive— ensnare, betray; lead into error; from Old French deceivre, decoivre, from Latin decipere, formed on de– from + capere to take, seize.

Finally, structuralism and poststructuralism explore the unconscious and in the unspoken structures and sociocultural energies that limit and direct our actions. Here, the influence of Freud’s study of the unconscious on both structuralism and poststructuralism is clear. Similarly, Freud’s influence on poststructuralism is evident in his work related to the body, desire, and sexuality. Lacan considered the relation between the self and language, asserting that what the psychoanalytic experience discovers in the
be a place of pleasure...feasts, entertainment of friends...social and intellectual freedom...philosophical discussions and a restorative for both the body and the soul...[with] the function of a sculpture gallery, ...a horticultural encyclopedia in vivo, a centre of botanical and medical research...it is a

falsely identify authentic student involvement; children’s participation is only in

unconscious is the whole structure of language (Lacan, 2012, p. 161) and in this statement, united Freud and Saussure while identifying an underlying structure in the unconscious that can be read as a language (Peters & Burbules, 2004).

The transcendental signifieds sought by structuralism are questioned by poststructuralism: From where and why did they originate? How are they
performance, not planning. For example, children could be made to make signs supporting a cause of their teacher’s choice. The third rung is *tokenism* in which adults are concerned with students’ voices produced and reproduced? Why do they hold authority? What do they assert? Who and what do they privilege? And it is through this active interrogation, this upsetting and troubling of structures, that poststructural analysis and criticism reveals, challenges, and overturns the structures inherent, and typically overlooked and taken for granted, within all disciplines.

Discourse is of importance in poststructuralism and can be thought of as a **perpetual source of moral instruction.** (as cited in Strong, 2000, p. 14)

These functions, as well as the ideals of the Renaissance, were realized in the gardens of the Medici, a family within which boundaries between state and family power were blurred. Prior to becoming a successful and wealthy Florentine...

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**tokenism**— see *token*

*token*— *sign, symbol, signal; stamped piece of metal; quantity of press work; from Old English tacen, Old Norse teikn, normal development of Germanic taiknam, related to taikjan show, teach*
being represented but projects are not carefully and critically examined to ensure the children are richly and deeply involved in all processes of the project. Here fit many conferences involving young students as participants, conferences in which these students are and down to different levels of involvement. And, think as well of research itself and the range of interactions within it. Where do all of these fit within this structure? And, consider how this structure itself frames, discursive practice which itself forms the objects of which it speaks (Pinar et al., 1995, p. 462). It is formed by the written and spoken words which are organized according to rules and patterns established by that discourse. To Foucault, the origin of a discourse is neither a sovereign nor a collective consciousness [and rests] at the level of 'it is said' (Pinar et al., 1995, p. 462). Discourses cross perceived and accepted boundaries; for example, one might identify curricular and medical discourses, and also wider discourses
there to impress audiences and hold up appearances (Hart, 1997).

The next five rungs involve increasing degrees of genuine student participation. Hart (1997) notes that choice is the important principle in each of these levels of participation and projects should be designed to limits, closes the research itself to only the rungs held within the ladder. Perhaps the imposition of the structure itself directs the research, informing the work, answering its own questions. Is there a possibility of being outside of a structure contributors to environmental education; in it we can trace nature study, outdoor education, urban studies, and futures education, to name but a few. It evolves from and examines the particularities of a place. Unlike the current push in educational discourse for standardization, it celebrates the diversity of places and acknowledges the need for situated and relevant understandings. influence within Florence and throughout Italy. Along with power in politics, the Medicis dominated Florentine culture for over 400 years, with their influence stretching across scholarship, fine arts, architecture, and even garden making. It has been said that their interest in gardens reaches back to their peasant roots (T. Turner, 2005).

on sexuality, adolescence, and madness. Simultaneously, a discourse creates the objects of which it speaks and also distributes the subject into subject positions (Pinar et al., 1995).

While this theory of discourse maintains elements of structuralism – the organizing rules established by the discourse – it differs from the structuralists’ foundational and invariant relations, systems, and structures
maximize the that is worked within? What if it simply doesn’t fit?

While the Medicis had many villas and gardens throughout Tuscany, the Villa Medici at Fiesole exemplified Renaissance garden design. The villa was built high up in the hills above Fiesole, away from the diseases of the town, and open to fresh air. The gardens of the villa carried a sense of outward projection with terraces affording breathtaking views over Florence as it acknowledges how discourse is inherently informed by historical and social contexts. Poststructuralism also proposes that discourse analysis must occur at the level of the signifier and that the analysis of discourse does not say what it means but rather explores how it works, what conditions make it possible, and how it intersects with non-discursive practices (Pinar et al., 1995, p. 462). This difference is mirrored in the understanding of phenomena sought by poststructuralism. Rather than depth of understanding, discourse
and the uncoupled signifier (whose meaning is of course always dispersed and deferred) allows for poststructural analysis to explore phenomena in a surface model or horizontal plane. This allows for the examination of how discursive formations are formed and how these practices create the figures that emerge from within them instead of the underlying meaning or system that is the focus of structuralism (Pinar et al., 1995).

Dear R,

The lower rungs take me back to school accreditations, teaching evaluations, open houses—at school and outside of school—and so on. The very world on many levels—socially, culturally, politically, ecologically—and highlights the interconnectedness and interplay of these systems in its pedagogy. Through its curriculum and instruction, it brings together place with the self and the community (Woodhouse & Knapp, 2000).

Place-based environmental education is multidisciplinary—it includes all and the Arno Valley. Like the cloistered gardens of monasteries, the Medici gardens at Fiesole did have an enclosed courtyard but rather than being a place to celebrate God, it was a space to exalt the power and glory of the Medicis themselves.

Not only were the gardens at Villa Medici a place where the treasures of

may feel well informed and a sense of ownership over their work. This type of project is common with international development agencies working in developing countries. Next
nature could be enjoyed and the power of the family celebrated but like classical gardens of Ancient Greece, they also inspired and encouraged scholarly thinking and exchange. This was the case with the Medicis as scholars were regularly invited to the gardens to discuss and contemplate philosophy; Cosimo di Medici relocated his Platonic academy.

The move to poststructural analysis has highlighted the notion of power. Power has commonly been identified with knowledge – *knowledge is power* – yet this statement assumes that knowledge presents a certain and shared reality. Poststructuralism problematizes this assumption by viewing knowledge as being part of discourse and discourse constructing, not representing, reality. Therefore of concern is not who holds power but rather how and under what conditions do discourses direct what is understood as
those children surveyed are also involved in the analysis of data and discussion of results. The sixth step is adult-initiated, shared decisions with does it impress? And what does it hope to attain? Good questions as we consider children’s participation in research and in their learning.

although we experience it everywhere, everywhere it recedes from consciousness as we become engrossed in our routines in space and time (p. 622). Place-based education, or more specifically place-conscious education (Gruenewald, 2003a), can open up and present possibilities for a re-realization of place and of the world in which we live. It from the family’s Villa di Careggi near Florence to the villa at Fiesole. Noted by Jellicoe (as cited in T. Turner, 2005), such a villa, designed solely to provide luxurious mental refreshment, and placed in the most beautiful situation of any round Florence, could not fail to attract scholars for the interchange and acquisition of reality. Power, according to poststructural thought, is a result of discourse and binary logic, and transcendental signifiers are acknowledged to be assertions of power. Identification of such metanarratives and universal truths is a practice of discourse that justifies, and often hides, these assertions of power. Of reality, Deleuze and Guattari (1977) note that it is a unity of these particular parts but does not unify them; rather, it is added to them as a new part, fabricated separately (as cited in Pinar et al., 1995, p.
The gardens of the Medici reflected personal and family power and privilege but given the Medici’s dual roles of wealthy Florentine bankers and Tuscan politicians, they also hint at the ability of gardens to express the power of the state. However, in no other place is the power of the state more transparently represented than in the gardens of

464). Reality is a product of discourse that is situated on a horizontal plane of a depthless surface (Pinar et al., 1995, p. 464). Poststructuralism attempts to trace the discursive cartography of how the “other” is constructed or understood where discursive and nondiscursive practices meet (Pinar et al., 1995).

Michel Foucault’s work focuses on social and historical contexts as he
Following the Renaissance, Europe went through a period of much conflict and struggle. Political boundaries were shifting and widening from walled cities and city-states to regional powers. Religious wars and separatist conflicts arose and the

important that children are actively involved in all stages of the

explores meaning made both within language and within and structuring social practices. Sharing a rejection of a central and totalizing notion of truth, Foucault’s work considers the historical relations that have produced an image of humanity as truth and how and why western thought has informed this image (Martusewicz, 1992).

Michel Foucault was born in Poitiers, France in 1926 and, following his
Thirty Years War involved much of the continent. Plague and famine swept through Europe and populations declined. France took over Italy’s position as the political and cultural power of Europe and Paris became its capital of art and culture.

The authority of the church was waning and the Enlightenment research process here: planning and design, collecting and analysing data, and communicating results. Examples of children’s involvement at this level include collaborative research projects by the Children’s Environments Research Group in designing play spaces in New York. Our total environment (p. 9)—to reinhabit the land. This involves living well in place, dwelling, knowing our place, and maintaining a reciprocal relationship with that place. A critical pedagogy of place also asks students and educators to identify and change [their] ways of thinking that injure and exploit other people and places (p. 9)—

enrollment at the prestigious Lycée Henri-IV, attended the École Normale Supérieure and worked under philosophers Jean Hyppolite and Louis Althusser. Foucault held a number of positions at French universities and in 1969, was elected to the College de France where he was Professor of the History of Systems of Thought until his death in 1984. A major influence on a range of disciplines, Foucault’s work critically examined discourses of social institutions including psychiatry, medicine, the prison system, and

Dear R,

So often students are kept out of decision making—they are too young, they do not understand, they do not know enough to be able to make an informed decision. What does this tell students? And, as children’s participation...
brought with it a sharpened focus on mathematics and science, particularly in relation to natural philosophy and fine arts. This further influenced religious structures as mathematicians and scientists, including Copernicus, Galileo, and Newton, and their ideas were reluctantly accepted by the church. Absolutism dictated thought and action and thus impacted all facets of

discourses of sexuality and relationships of power, knowledge, and power/knowledge within them (Gutting, 2012).

Foucault’s examinations of the relations between power and knowledge have deeply informed the analysis of the subject. He asserts that the subject cannot be separated from the complexity of interaction between power and knowledge. To Foucault, power is not simply a negative and repressive force.
Art was no longer created in service to God but rather to the sovereign and in France, under the reign of Louis XIV, fine arts became a significant component of state policy. As with earlier eras, these cultural changes were reflected in garden design.

It has been suggested that the term Baroque derives from *barocco* meaning irregular

Nor is it an institution, structure, or strength that is held. Instead, power is the name that one attributes to a complex strategical situation in a particular society (Foucault, 1990, p. 93). Power is everywhere; not because it embraces everything, but because it comes from everywhere and from every relation (Foucault, 1990, p. 93). It is the multiplicity of force relations... the process which, though ceaseless struggles and confrontations, transforms, strengthens, or reverses them (Foucault, 1990,
example is of students who create a “blind” from which they would observe classroom behaviours and use their observations to both learn about themselves and better organize and manage their classroom (Hart, 1997).

Flutter and Ruddock (2004) offer a similar ladder of five.

Dear J,

These ladders, and down the ladders, attempt to frame the changing role of students as their participation in research increases. The participatory presence of students in research as identified researchers does upset the elementary and secondary schools, particularly in urban areas, is the school garden (Cutter-Mackenzie, 2009; Ozer, 2007; Williams & Brown, 2011). Williams and Brown (2012) use the metaphor of the living soil to illustrate the whole system approach of school gardens to address social, ecological, and educational issues faced by schools and identify seven principles of garden-based pedagogy that at

Foucault studied historical practices that made possible the production of specialized discursive practices – bod[ies] of anonymous historical rules,
rungs that describes the levels of school participation at which students can contribute. At level 0, students are not consulted in school issues. Next, at level 1, students are listened to and at level 2, students are recognized as active participants. Students at level 3 are identified once parallel and intersect with education. First, the learning garden cultivates a sense of place as the soil itself holds characteristic traces of the immediate local environment that are connected in ever widening relationships to broader regional and global contexts. The living soil is a place of mystery and of unknown; digging in soil can uncover, can unearth, can illuminate new and town and city gardens, these axes would typically extend to focus on a church dome or other significant building; in rural areas, axes focused on elements of the landscape – mountains, lakes, forests. From the central axis, further avenues extended to highlight additional features within and beyond the garden. Baroque garden design furthered the Renaissance’s use of always determined in the time and space that have defined a given period, and for a given social, economic, geographical, or linguistic area, the conditions of operation of the enunciative function (Foucault, 1972/2002, p. 177). He asserts that these practices not only produce discourse but are deeply and inherently embedded within the processes, institutions, patterns, and forms that exist. These embodiments simultaneously produce and reproduce discursive practices.
straight lines and right angles by adding circular, elliptical, and diagonal elements to frame and vary vistas and perspectives.

While the Baroque garden did highlight some existing natural features, much of the grandeur of the space was realized through extensive transformations of the landscape and additions of manmade architectural and

Discourses and those practices that support and strengthen them ensure the production of knowledge, this being inextricably linked to power as power rests within the transfer of knowledge and the changing conditions of truth, itself a poststructural condition. Within discourse, power and knowledge are joined and therefore, asserted by Foucault, discourse must be recognized

as a series of discontinuous segments whose tactical function is
In practice and in research, children’s participation is not so tidily organized into distinct rungs and often rests in the lower steps. For example, Dyment (2004), when reporting on a study of student participation in school ground greening of the Toronto District School Board and applying Hart’s (1997) ladder, identified children’s participation at levels of manipulation or deception, tokenism, and consulted and informed (levels 1, 3, and 5) and highlighted a general lack of student participation in initial structural pieces. Rivers and streams were diverted, ponds and lakes filled, and hills levelled. Gardens of this period typically included elaborate sculptures, terracing, and just inclusion of students in the research?

Heterogeneity strengthens living soil and creates infinite relations within its systems. Population within each species, of bacteria, microbes, fungi, plants, and animals.

Neither uniform nor stable... We must not imagine a world of discourse divided between accepted discourse and excluded discourse... but as a multiplicity of discursive elements that can come into play in various strategies... Discourse can be both an instrument and an effect of power, but also a hindrance, a stumbling block, a point of resistance and a starting point for an opposing strategy.

(Foucault, 1990, p. 100-101)
paths and steps, bridges, buildings, and symmetrical parterres (beds edged with hedging and gravel paths). Dramatic water features were characteristic of Baroque gardens; massive fountains, canals, basins, and cascades were incorporated into design. Often, fountains were so numerous that they could only be run during special events. Baroque gardens planning and design stages of projects. In this study, it is poignant to note that data was collected exclusively from adults—teachers, administrators, and parents—and not students.

Francis and Lorenzo (2002), within the context of children’s participation in the planning and design stages of projects, stated that data was collected exclusively from adults—teachers, administrators, and parents—and not students.

Dear R,

With the introduction of the realms of children’s participation come the release of the progressive steps of Hart’s, and later, Flutter and Ruddock’s, stages of participation. The stepwise linear framework is gone but

Next, the living soil and the garden invites the learner to put knowledge directly and organically into practice. The experiencing of soil and gardening immerses the learner in, gets their hands right into and within, both the content and context of learning. The ecosystem(s) within and supported by the living soil are an intricate web of interconnected systems and one

Human subjects are created within the relations of power and knowledge and within discourses and these interplays identify and classify individuals, imposing a law of truth on him which he must recognize and others have to recognize in him (Foucault, 2003, p. 130). It is not solely repressive but it also involves struggle and contradiction, engagement and opposition of discourses.
city planning and design, reimagined the problematic linear steps of previous frameworks of participation in their seven realms of children’s participation. Though with a focus on city planning and design, their realms intersect with and can help to inform theory and considered historically, we do still see elements of the ladder. Save for the initial realm—so reminiscent of nature study in environmental education history and the curricular work of John Dewey and also mirroring the development of that cannot be reduced. Instead its connections need to be cared for and strengthened. Finally the living soil and the garden awaken the learner’s senses—tastes, textures, colours and shapes, sounds, and smells draw the learner into sensual ways of learning and of knowing the world that we live within. All too often, these seemingly simple moments are overlooked and brought together all of these elements in open, dynamic, expansive, excessive, and dramatic displays of grandeur and shameless advertisements of wealth and power.

The gardens at Versailles were arguably the grandest of all Baroque gardens. Originally the site of his father’s hunting lodge and a swamp, the land at Versailles was completely

It is a form of power that makes individuals subjects. There are two meanings to the world subject: subject to someone else by control and dependence, and tied to his own identity by a conscience or self-knowledge. Both meanings suggest a form of power which subjects and makes subject to. (Foucault, 2003, p. 130)
practice in children’s participation in environmental education. Following an historical and critical review of past participatory approaches, their realms identify distinct periods of participatory theory and practice.

First explored in environmental education in response to dominant political, social, and cultural discourses—we can trace the gradual release of children from the boundaries imposed by adults. But the release is very much guided, manipulated by unspoken. In all seven of these principles, we see parallels and intersections with systems of education; they too can be guided by the cultivation of a sense of place, encouragement of curiosity and wonder, understanding of rhythm and scale, celebration of diversity, embrace of experience, foster of interconnectedness, and engagement of the senses (Williams & Brown, reshaped over a more than thirty year period between 1661 and 1700 to make way for an estate that would assert the power of Louis XIV’s monarchy and also showcase the sun, a symbol that he chose as self-representative. The rolling hills of the landscape were flattened and meandering rivers and streams were diverted in favour of planned thickets and vast, excavated basins for

From Poststructuralism to Postmodernism

The uncontested dominance of the modern world view has definitely ended. Like it or not the West has become a plurality of competing subcultures where no one ideology or episteme dominates for long (Jencks, 1992, p. 11). Poststructuralism and its subversion of structuralism has opened the doors, in fact removed them altogether, and allowed for multiplicity and
the 1960s and early 1970s and following inclusive projects on the United Kingdom and Denmark, the romantic realm identifies children as planners that altered the dominant adult presence in the research. Access is determined by the goals and purposes set by adults. Data is not always available.

Horizons were expansive and views extended to allow for the celebration of Apollo, the god of the sun, lord of time, and symbol of light and beauty.

Versailles’ garden design reflected the dominant philosophical ideals of the time, namely the thinking of Descartes and his assertion of humans as master and possessor of...
are, quite often, the best suited to imagining and designing present and future environments. Here, processes typically do not involve adult direction; participation is very much open ended and child-centred.

The next five realms, surprisingly, assert societies are simply not feasible and indeed not possible. And while the prefix post alludes to a break from the previous, postmodernity, according to Lyotard, is not so much an end of modernity and start of postmodernity but rather postmodernity lies within the modern era in the nascent state (1984, p. 79).

Postmodernism relates to both senses of modernism—in the arts and in
horizon line was lowered to extend the vanishing point and emphasize the expansiveness of the space. Within the gardens at Versailles are parterres, vast basins, an orangery, countless sculptures, and incredible fountains. Though water for the fountains was drawn from the Seine, pressure was far too low to run all fountains simultaneously.

planners for children and as representatives for the needs and interests of children but are in exclusive of them in their practical applications. The advocacy realm puts adults in the role of planners for children and as representatives for the needs and interests of learners, the school, and the community that school gardening projects and pedagogies can have. School gardening can be a way for students to learn about their place on many levels and across many systems. The following explores the existing research on the influence that school gardens can have on elementary school students and communities.

School gardens can provide students and philosophy. In the arts, postmodernism refers to a move in response to modernism and is characterized by increasing abstraction, innovation, and experimentation and an eventual abandonment of the artistic process altogether as seen in art including Marcel Duchamp’s readymades and Andy Warhol’s silkscreen reproductions. Postmodernism in philosophy departs from modernity in its questioning of and shift away from the values and practices inherent within modernism. Postmodernism instead assumes that
Instead, only those within the King’s field of view were run. At the garden’s end is the bassin d’Apollon, the fountain of Apollo, the most famous feature of the garden and the emblem of the Sun King himself. Unlike the gardens previously described, Louis XIV was keen to share his estate and actively encouraged the general public to celebrate his greatness. The king even penned La

there is no universal truth that assures objective thought and that human systems function as language does and are self-reflexive rather than referential (Peters & Burbules, 2004).

The work of deconstruction and poststructuralism are realized within postmodernism. In his much cited 1984 piece, The Postmodern Condition, Jean-Francois Lyotard simply defines
about and for but left out of the conversation.

The needs realm has been expanded by environmental psychology research on children’s environmental and place needs play environments such as wild spaces, forts, and fields (Malone & Tranter, 2003). Rahm (2002) found that an inner city gardening program provided a place for adolescent students to appreciate and contemplate nature and learn about the importance of gardens for growing food and as a community resource. Similarly, Alexander et al. (1995) noted that students participating in a manière de montrer les jardins, a guided tour featuring the garden’s highlights. Harrison (2008) shares a brilliant reflection on his two day visit to Versailles and its gardens. While he is at first overwhelmed by the sheer beauty of the site, he quickly wears of the experience, instead longing for the simple organic presence of the natural world in less controlled and postmodern as incredulity toward metanarratives. This incredulity is undoubtedly a product of progress in the sciences...The narrative function is losing...its great hero, its great dangers, its great voyages, its great goal...Thus the society of the future falls less within the province of a Newtonian anthropology (such as structuralism or systems theory) than a pragmatics of language particles (p. xxiv).

Within postmodernism, the subject is dead; it is decentered, fictional. The
and embraces interdisciplinary approaches to rigorous social science research to assess and evaluate the spaces and places inhabited by children. Here again, children are spoken for but not actively included in the research process.

The *learning realm* is humility, and ethic. And so, why not bring together elements of each realm that do empower children, welcoming their unique knowledge and wisdom to research conversations that are about, for, and inclusive of the children themselves?

classroom gardening project felt pleasure and enjoyment in their time spent in the garden and had fun growing and eating the fruits of their labour. Bradley’s 1995 study documented the transformation of a cement schoolyard into a diverse habitat supporting a range of flora and fauna and providing a place for students to connect with the natural environment. It also appears that forced gardens. He poignantly notes that the gardens at Versailles are as close as one can get to subjugating the natural world to pure form and bringing the potentially anarchic forces of life under such control as to extinguish them altogether (p. 109).

This is a tribute to the success of the estate designer, Andre Le

opacity of language has been revealed as has the impossibility of fixed meaning. Through reason, we have not been able to understand the world. A shift away from the centre has allowed for difference and plurality to be celebrated. These elements, at play within social and cultural contexts, have come together to create the postmodern period (Pinar et al., 1995).

Postmodernism, as poststructuralism similarly does with structuralism,
Nôtre, for the gardens of Versailles clearly represent power – power of humans over the natural world (though Harrison notes that this relationship of power borders on humiliation) and the sweeping power of Louis XIV. The gardens show an almost cowering sense of trepidation in the face of the power that imposed this form on them (Harrison, 2008, p. 94).

There is much research that considers the potential for school gardens as sites for academic learning and skills acquisition (Alexander et al., 1995; Miller, 2007; Morgan, Hamilton, Bentley, & Myrie, 2009; Rahm, 2002; Skelly & Bradley, 2009). Time spent in outdoor schoolyard learning spaces can increase students' levels of environmental comfort (Carrier, 2009).

Children are viewed as empowered to learn – acquire knowledge; impart knowledge to, teach; from Old English leornian, normal development of West Germanic liznojan, formed on lis-, weak grade of lais– follow a track; confers Gothic lais I know.

Questions and problematizes hegemonic aspects of modernism – namely transcendental claims that are free from historical and normative grounding – and in doing so, attempts to redraw and re-present the boundaries of discourse and cultural criticism (Giroux, 1991, p. 18). Giroux (1991) outlines a series of postmodern negations of defining features of modernism. First, postmodernism has been critical of totality, reason, and universality; this is cogently presented by Lyotard and is evident in his above quote. Instead,
participants in research in the rights realm. This approach is motivated by the movements of international agencies (e.g., the International Association for the Child’s Right to Play, the UN Convention on Child Rights) and brings together principles of democracy, rights, and empowerment as it targets adult postmodernism presents multiple voices, acknowledges the interaction of language, and the centrality of history, place, and desire in reason and science. Next, postmodernism challenges the cultural borders built by modernism and asserts the arbitrary nature of boundaries themselves. It highlights the rapidly changing ways that culture is produced and communicated. It upsets the reign of Eurocentric culture as superior and a measure of western civilization. Through its questioning of dominant models
Audiences of officials, institutions, and organizations.

Within the institutional realm, children are recognized, and often treated, as

**institution—see institute**

Institute—purpose; established usage; principles or elements of instruction; society to promote an object; building used for this; from Latin *institutum* design, ordinance, precept, substantive use of noun of past participle of *instituere* establish, ordain, arrange, teach, formed on *in-* + *statuere* set up

Dear R,

The student voice can be heard more clearly in PAR. Depending on the research, it should, and could, come

Noted by Harrison (2008) in his recollection of time spent at Versailles, gardens are an expression of power and control over the natural world; this is etymological across all gardens. How this enclosure of nature is realized is what varies from garden to garden. In the sacred groves of ancient Greece, the gardens were demarcated by stones or walls but

Of knowledge, postmodernism creates new forms of knowledge by dismantling traditionally held disciplines and examining and representing spaces previously ignored. Boundaries between elite and popular culture are made obsolete and the everyday is recognized as worthy of serious and playful consideration (Giroux, 1991, p. 27). Here, the notion of play itself confronts the limitations of the egocentric modern self and, through its imagination and limitlessness, encourages a greater understanding of the Other. Finally,
still maintained a somewhat natural feel. Rigid structural framing of the garden becomes evident within monastic gardens and into the Renaissance. This period parallels the rise of rationalism and the increasing influence of Descartes and mathematical connections to natural philosophy. While Baroque gardens were expansive and open, they maintained clear and fixed boundaries.

Postmodernism negates the humanist subject, instead focusing on language and subjectivity as lenses throughout which to re-view meaning, identity, and politics. It is here that deconstruction and poststructuralism have, as discussed earlier in this chapter, enabled postmodern re-theorizing of subjectivity and its subsequent identification as being multiple, layered, and a site of liberation and subjugation, conflict and struggle (Giroux, 1991).
Features within the garden, particularly those of severely manicured plants, also enforced human’s power over the natural world. Trees were groomed into geometric figures and the art of topiary became widespread through the Baroque period; Louis XIV reportedly even attended a costume party dressed as a topiary (Olonetzky, 2007). This structuring of the garden and the honesty that children can bring to the research process.

Finally, and realizing the communicative nature of research and action, the proactive realm embraces representational of the research space and reported on. What is not chosen. And a further difference is inserted as the research text is interpreted by the reader.

**Proactive**—from **pro-** + **active**

**Active**—given to (outward) action; connoting action; full of action, lively; from Latin **activus**, formed on **act-**, **agere**

Baert, Weinberg, and Mottier (2011) suggest three distinct features of the postmodern orientation. First, postmodernism acknowledges that claims of truth and knowledge are inherently embedded within and constructed through social contexts; this makes truth and knowledge inextricably linked to power struggles. Next, and as previously noted, postmodernism distances itself from metanarratives and in particular those that portray history as occurring continuously and as a singular process. Instead, the postmodern
Any number of meanings, voices, and ideas can be heard. And others quietened. Voices can carry. And they also can not.

Any number of meanings, voices, and ideas can be heard. And others quietened. Voices can carry. And they also can not.

children’s active and important role with the research process. It recognizes the unique contributions made by children because they are children—it does not attempt to fit children in the roles of adults. With this active participation of children, proactive approaches seek to both empower children and re-imagine and re-create possibilities for spaces and places and the experiences that traditional classroom setting (Rahm, 2002). Morgan et al. (2009) similarly found that social skill development and growth was a major feature of learning in a botanic garden. Students worked successfully and respectfully with partners and those who had previously taken part in the program acted as mentors for their younger peers (Morgan et al., 2009). School gardening projects represented an increasing control of the natural world and through garden design and maintenance, celebrated human’s ability, and perhaps inclination, to assert power over the other-than-human world.

Through garden design, dominant paradigms and beliefs are privileged and this is evident in the organization of gardens throughout history. In ancient approaches focus on difference, on contingency, and on discontinuity; this can be seen in Foucault’s genealogy that at once examines the past, confronts the present, and traces relations of power. Finally, and most characteristic, is the distancing of thinking from those fundamentals espoused by modernism. In particular, postmodernism rejects essentialism—absolute categories are dismissed and instead situated—and the prioritizing of science, reason, and technology in progress (Baert, Weinberg, & Mottier, 2011).
Greece, the sacred groves celebrated the gods and goddesses and featured statues and offerings in their honour. Also, through experiences in the gardens, living the good life – one of virtue and unselfing – was encouraged. As evidenced in the gardens at St. Gall, monastic gardens similarly promoted spiritual connections through garden design with paradise gardens meant to recreate the

Active involvement of students as researchers in PAR projects brings with it a unique range of benefits to the research and to the student researchers themselves. Kirby (1999) notes that for an academic researcher looking to carry out detailed and in-depth research on the lives of young people, it is appropriate to involve those young people in the role of researchers, rather than simply researched. Simply put, the reality experienced by children and young people in educational settings cannot be fully comprehended by inference and assumption (Lloyd-Smith & Tarr, 2000, p. 5). PAR with

A poststructural turn of environmental education

Turning to environmental education, the foundational prevalence of ecology, systems thinking, and complexity in environmental education necessarily invites a tracing of the historicity of those guiding metaphors and their relations, and, with deconstruction and poststructuralism in mind, an initial
students is a more ethical and democratic way of conducting research with children (Kirby, 2002).

PAR with students as researchers can enhance the collection of data. Student researchers are able to relate to and speak the same language as their peers and better understand data that is collected. Similarly students may be more likely to talk freely about “taboo” subjects and discuss shared experiences with fellow students than with outside researchers. Student researchers will likely be identified as being on the same side as the students they are researching and this could amplify the study and discussion of their implications with and in environmental education.

Historically, environmental education has been guided by the natural sciences. In the 20th century, its theory and practice has been predominantly directed by anthropocentric interests—the environment has been viewed as a reduced set of resources to be used (and arguably exploited) for human needs and wants. From the 1970s on, there has been a movement towards a more...
minimize potential intimidation felt by student participants. Here, data collection could be done with more ease, particularly interview situations (Kirby, 1999).

There are also many benefits for those students participating as student researchers. Acting as a student researcher in PAR will allow for the student’s voice—their ideas, opinions, and interpretations—to be heard. Student researchers may develop personal skills and knowledge. They may also build leadership, teamwork, and interpersonal skills and initiative, organizational skills, and critical thinking. With active participation as researchers, traditional plants (Evergreen, 2000).

Along with supporting learning of general content knowledge, attitudes, and skills, garden-based pedagogies can also enhance learning about the environment. Gardening and school grounds-based learning has been shown to develop students' environmental knowledge (Carrier, 2009; Cronin-Jones, gardens at Versailles).

Here, mathematics underlies the design of both garden spaces and rather, than celebrating religious figures, both gardens place humans on a pedestal well above the rest of the natural world. Within these gardens, nature is transformed to provide luxury and pleasure. The eudaimonic life is rejected in favour of a good life that centres on material wealth ecological approach to environmental education, one that acknowledges the complex nature of environmental systems. This is evidenced in international documents espousing the need for environmental education including the Belgrade Charter (the goal of environmental action is to improve all ecological relationships, including the relationship of humanity with nature and people with each other) (UNESCO/UNEP, 1975, p. 3), the Tbilisi report (environmental education is to enable people to understand the
students will gain access to decision-making structures and through an increased sense of participation and achievement, may become more motivated to take action themselves (Kirby, 2002). Ultimately, PAR with children challenges the power imbalance between children and adults and acknowledges children’s role as social actors (Kirby, 2001, 2002).

While PAR projects done with student researchers have a multitude of benefits, as with all approaches to educational research, there are inherent challenges to the methodology and methods. Inclusion of children in

and excess. Along with the increasing impact of mathematics on culture, the gardens display the shift of power and influence from the collective (school and church) to the individual and family.

As well as physically enclosing natural spaces, these four historical gardens display the exclusivity of place and show that garden

complexities of the environment...[and] help create an awareness of the economic, political, and ecological interdependence of the modern world) (UNESCO/UNEP, 1977, p. 12), and Agenda 21 (environment and development education should deal with the dynamics of both the physical/biological and socio-economic environment and human (which may include spiritual) development) (United Nations Sustainable Development, 1992, p. 320). It is also clear in curriculum documents published by provincial
the research process can present a range of issues to be confronted and unpacked. Malone and Hartung (2010) outline four key challenges. First, they note that the narrowness of the definition of children’s participation in research and its framing by adult interests, rather than those of the children themselves, perpetuates existing power relations that children’s participation is meant to upset. Similarly, children’s participation is often limited to those situations where children’s voices will not detract from or negatively impact adult interests. Next, Malone and Hartung (2010) question the purpose of children’s participation; most projects focus on educational Ministries of Education. Ontario’s (2007) *Shaping our Schools, Shaping our Future* asserts that environmental education is education about the environment, for the environment, and in the environment that promotes an understanding of, rich and active experiences in, and an appreciation for the dynamic interactions of:

- the Earth’s physical and biological systems;
- the dependency of our social and economic systems on these natural
merits of active participation of students. Few projects also genuinely and meaningfully include children in active decision-making. Most projects fail to have a transformative focus and instead simply raised awareness. Finally, and inextricably linked to the practice of children’s participation, there is a lack of theoretical work that begins to capture the complexity of this field of research. Hart’s (1992) ladder is highlighted as a key catalyst for discourse but it does speak primarily to practice rather than to theory (Malone & Hartung, 2010).

Related to power dynamics between adults and children in the participation in an intergenerational gardening project. The students communicated an increased understanding of ecology and the interconnectedness of nature; they came to recognize the environment not simply as a place or object but as a relationship. They also shared a heightened awareness of the impact that humans can, and do, have on the environment (Mayer-Smith et

learn within its walls. While monks did save botanical knowledge from being lost following the collapse of the Roman Empire, that knowledge was not available to all and stayed safely within monastery walls. Access to the monastic gardens themselves was restricted primarily to monks. Like the sacred groves, Renaissance gardens were similarly used for philosophical discussions but of

- the scientific and human dimensions of environmental issues;
- the positive and negative consequences, both intended and unintended, of the interactions between human-created and natural systems. (Ontario Ministry of Education, 2007, p. 6).

Similarly, the British Columbia’s (2007) Environmental Learning and Experience document encourages an environmental education that examines
research, Schäfer and Yarwood (2008) explore how empowerment, while touted as a feature of participation, is realized in practice in very different ways, from merely listening to children to including them in all phases of research, from conducting adult-designed interviews to developing and conducting their own data collection techniques. They assert that having empowerment as a goal, or even as a possibility, of research is debatable as given the constraints and directions that accompany funding and the potential disconnect between researcher and participant interests and actions; different forms of domination and power can course, this discourse was by invitation only.

Not only did exclusivity of place inform access to knowledge but it also spoke to access to the restorative qualities of time spent in gardens. These historical gardens were primarily in open, rural areas. Sacred groves and gardens did not lie within Ancient Greek city walls and therefore only those with the means to get to the sites could enjoy

the complexity and interrelatedness of natural systems, and how humans interact with and affect those systems [and] looks at human-created systems, both those that are built and those that are part of our social fabric (British Columbia Ministry of Education, 2007, p. 12).

Ecology in its own definition is rich and diverse—it refers to the study of the diversity of life, the examination of the distribution and wealth of life, and the
result and perpetuate hierarchies and exclusion. To counter this, power relations must be identified and examined in order that they may be re-presented in the space of research (Schäfer & Yarwood, 2008).

Along with, and inherently connected to, ideological issues, inclusion of children’s participation in research brings with it considerations for methodology and challenges to methods. Many have argued that for children to be involved as researchers, they must first be trained. However, what skills and understandings that the young researchers must be trained in are most often determined by the spiritual, physical, social, and psychological benefits of being in the gardens. Likewise, and for the most part, only monks were able to enjoy the restorative and refreshing effects of monastic gardens. Similarly, the Medici and their invited guests were able to breathe in fresh air, far above and away from the city, and enjoy the pleasures of the gardens and vistas at their Fiesole villa.

ecology—study of the relations of plants and animals with their habitat; from Greek okologie, formed on Greek oikos house + -logia, which is partly formed on logos discourse, speech, partly formed on logos, variation of leg-, legein speak

study of the relationships that link all members of the Earth Household

(Capra, 1996, p. 32). Capra (2007) discusses the importance of ecological literacy and frames ecology within the theory of living systems. This framing necessitates a shift in seeing, thinking about, and being within the world to a
visits by the general public would be restorative at all. These historical gardens are reflective of the societies that cultivated them. In their design and realization, displays of power and privilege are clear and the gardens unanimously illustrate relationships of dominance, oppression, and inequality between humans and nature and between humans and nature.

Students here enjoyed actively engaging with the garden and time spent in the garden was like an escape for some students (Morgan et al., 2009).

Related to students’ increasingly positive environmental attitudes is students’ evolving sense of environmental responsibility. Noted by Mayer-Smith et al. (2007), students participating in visits by the general public would be restorative at all.

These historical gardens are reflective of the societies that cultivated them. In their design and realization, displays of power and privilege are clear and the gardens unanimously illustrate relationships of dominance, oppression, and inequality between humans and nature and between humans and nature.

complex set of relationships, connections, and contexts and these have implications for teaching and learning. Rather than focus on parts, objects, objective knowledge, quantity, structure, and contents, there is a need to consider the whole, relationships, contextual knowledge, quality, process, and patterns that connect. In pedagogy, this translates to an emphasis on integrated, multidisciplinary, and contextual curricula that are relevant to learners and actively include students in decision making and knowledge...
There are a number of practical considerations with participatory research with children, as with all participatory research. Recruitment of students to act as researchers can be problematic; students might simply not be interested in participating as is seemingly and with intention by the student. A binary reversal. This relation is apparent within PAR—students’ actively involve themselves and their voices in the research process and product. It must be recognized however that programs (Waliczek & Zajicek, 1999). This shift is particularly poignant in urban students taking part in gardening projects. Morgan et al. (2009) found that despite initially describing their New York City community as nothing but a concrete jungle (p. 44), students discussed their own shifts toward an appreciation of the living things that co-inhabit their urban community.

The gardens at Versailles, a distance from crowded Paris, were open to the public, allowing for the potential benefits of time spent in the garden to be shared. However, given that the lived realities of visitors to the estate was surely vastly different from the life portrayed at Versailles – the most material version of the good life imaginable – it is questionable whether

construction (Capra, 2007). In Capra’s discussion of ecological literacy, a poststructural turn is made from a sole focus on reductionism and universality that is characteristic of modernism toward one that opens itself to difference and that upsets dominant binaries of school-community and teacher-student.

Orr (1992) called for the development of ecological literacy in students,
Once students are recruited to participate as researchers, it is a further and ongoing challenge to retain their participation; this is of course not a consideration exclusive to participatory research with children. Participatory research can include a range of traces of the dominant relation that persist. PAR’s inclusion of participants (here, children) upsets the binary but does not cast it aside. Recruitment—the term alone calls to mind military and strategic thinking—is laced with relations of power. Do garden-based learning developed a moral obligation to care for the environment. After seeing the positive influence that they could have on the garden, students were motivated to take further action and make changes in their own lives, for example, wanting to garden more and picking up litter. Students also recognized that their relationship with the environment was reciprocal and that humans and themselves.

Restoring Relations With/In the Garden

While it is clear within western societies that humans have held, and have even encouraged, a role of domination over nature, this is not the case within traditional ways of knowing and being. Within indigenous cultures from around the world, humans tend

asserting that students needed not only to be able to read and use numbers but also observe nature with insight (p. 86). Here, ecological literacy includes, and goes beyond, a fundamental understanding of ecology, sustainability, and problem solving to the recognition of natural systems and our place within them (Orr, 2005). Orr’s (1992) foundations of ecological literacy emphasize the interdisciplinary nature of environmental issues and the importance of context, experience, and relevance in environmental
to live in relationships of respect with the other-than-human world and embrace a kincentric approach to nature. For example, the Raramuri people of northern Mexico recognize that, though different in form, all of Earth’s beings are of the same substance and are related. Similarly, the Nuu-Chah-Nulth of Vancouver Island, British Columbia understand that everything is one

thinking and learning. Orr poignantly states, all education is environmental education (1992, p. 90). Like Capra (2007), Orr’s notion of ecological literacy opens up a space for contextual experience and situatedness, and for understandings beyond disciplines, and in doing so disrupts the very structures in education that separate what is always already connected.

Like Orr’s (1992) foundations of ecological literacy, Smith and
Perhaps most significant, and often overlooked, here is the time needed to establish positive and trusting relationships with participating children. Also, it can be a challenge for some researchers to sustain children’s interest and involvement through to the presentation and Williams’ (1999) outline of ecological education reflects the complex connectedness between the learner and the lived world. Ecological education stresses the inextricable embeddedness of humans within natural systems and identifies humans as but one part of the natural world. The principles of ecological education include the establishment of a relationship with the earth through situated experiences and an ethic of care, learning grounded in places, a focus on community rather than the individual, development of and because of this, humans are, as are all other beings, entrusted with the care of the Earth and all of its members (N. Turner, 2005). These beliefs and this acknowledgment of our relations with the other-than-human world can be found within the current movement toward community and shared gardening.

Community gardening is nothing new;
dissemination of research findings. However, it is important to welcome children into these experiences both to recognize their contributions with and in a wider audience and to illuminate for them how their commitment to the project can be used to motivate and methods chosen, privileged by the outside researcher or expert. What about methods outside of those practiced by the outside researcher? It is not a clear separation and reversal of relations in PAR. Instead, we see both relations lingering, expressed a desire to take positive environmental actions as a result of their gardening and school ground learning experiences. Carrier (2009) saw that students' environmental behaviour scores improved more in the outdoor learning group than in the traditional classroom based group. Malone and Tranter (2003) looked at environmental cognition and children's play allotment and shared gardens have been commonplace throughout cities in the United Kingdom since the late 19th century. In the United States during World Wars I and II, community members created and maintained war gardens (Victory Gardens in WWII) in urban backyards, schoolyards, and parks, providing residents with food to supplement their skills to restore human and natural environments, introduction to opportunities that perpetuate local cultures and environments, development of skills to act effectively for social justice and ecological health, and critical questioning and challenging of the cultural assumptions on which human communities rest (Smith & Williams, 1999). These principles are themselves poststructural turns from the dominant structures that bound and direct education, and their enactment realizes and expands spaces for difference.
make positive change (Smith, Monaghan, & Broad, 2002).

Involvement of young people in research can present a number of ethical issues beyond those inherent in doing research on children (e.g., power, status). Young researchers must not be exploited in their role; as researchers they should be treated equitably and afforded the same voice as their adult co-researchers. The contributions of young researchers must be honestly valued and should be included in behaviours on school grounds, finding that those students from schools with varied and natural school grounds tended to enjoy being outside to learn, explore, and experience nature rather than for just breaks from classroom work. However, it is difficult to draw conclusions about the impact of school grounds on students’ actions as the schools studied follow quite different philosophies (i.e., wartime rations. Urban gardening programs also fed a similar need during the Great Depression as work-relief gardens were created in over half of the country’s states. These gardening programs acted as temporary measures to address food shortages related to the economic crises and when these crises passed, the gardens were mainly abandoned. In the

These current ecological approaches in environmental education draw from multiple perspectives and traditions as they inform curriculum and instruction; such traditions include systems thinking and complexity. Ludwig

\text{system—organized or connected group of objects; set or scheme of principles, ideas, etc; formed on French systeme or its source late Latin systema, from Greek sustema organized whole, formed on sun, syn—together + sta—stand}
all stages of the research. Not only do young researchers themselves need to be kept safe (e.g., not interviewing alone) but they also need to ensure the safety and confidentiality of the participants. Here, like in all research projects, consent and conditions of consent (including Dear R.,
Writing in memory of Sigmund Freud, Auden noted that Freud’s method included remembering like the old and being honest like children (1940). These characteristics ring true in research as well and present us with the challenge of ensuring the safety and confidentiality of the participants. Not only do young researchers themselves need to be kept safe (e.g., not interviewing alone) but they also need to ensure the safety and confidentiality of the participants. Here, like in all research projects, consent and conditions of consent (including

von Bertanlaffy’s General System Theory (1969) responded to the limitations of the dominant mechanistic and analytical methods in science when applied to systems; science’s reductionism and assertions of linear causality simply did not fit with organized whole systems. Instead, systems theory focused on interactions, transactions, organizations, and relations between elements of systems and realized the influence of a range of factors (e.g., biological, psychological, cultural, linguistic) on those exchanges. While general systems

School Gardening Research in the Toronto District School Board

The Toronto District School Board has been particularly proactive in the greening of their school grounds. The district has its own Department of Environmental Education that focuses on four primary areas: 1) promotion of ecoliteracy; 2) conservation of food prices and the declining conditions of the city, the urban community gardening movement gained momentum across North America. These gardens often revitalised vacant urban lots, transforming them into lush green spaces, and were tended to by surrounding residents and community members. Community
Gardens are typically food gardens, providing the community with fresh fruits, vegetables, and herbs. Successful examples of community gardening projects can be found in most urban areas including New York City, San Francisco, Los Angeles, and Philadelphia.

Not only can community gardens breathe life into empty urban lots and

Theory as a paradigm has fallen from prominence, iterations and parallels of its approach can be traced in various theories of complexity including cybernetics, chaos theory, and autopoiesis (Pickel, 2011).

chaos—chasm, abyss; primordial formless void; utter confusion; adoption of French chaos or Latin chaos, adoption of Greek khaos vast chasm, void, formed on Indo-European base ghāw—hollow

autopoiesis—from Greek autopoios self-produced
Involving students in PAR has been identified by some as a way to improve the validity and reliability, the quality, of the research itself and by others as a limitation.

As they should, and have, complexity theories draw from a relationship of interconnected approaches. Complex systems are autopoietic—they are self-
Generally, children can bring unique insights and insider understandings and reflective interpretations to the research. Children’s participation in research can be creative, sensitive, resourceful, thoughtful, and articulate and contribute necessary difference to research.

The range of skills brought to a project by the researchers can present concerns for validity. While some view the ability (or supposed producing, self-regulating, self-organizing. Maturana and Varela (1992) outline autopoietic organizations in which systems are realized through a network of dynamic interactions that make up their own components, create boundaries that differentiate them from other systems, reproduce the systems themselves, and allow for the system to respond to change. Autopoiesis can be identified across all scales. For example, Lovelock’s (2000) Gaia theory proposes that the Earth is itself a self-organizing, self-renewing system of
lack thereof) of children in the role of researcher to be detrimental to a project, others see it as a strength. The unique understandings and experiences that children can bring to the research table can be complementary to those of their adult counterparts (Smith, Monaghan, & Broad, 2002). Children’s lack of defined experience with doing research can bring a clarity, an honesty to the project that is not clouded by methodological and disciplinary biases. Related, a lack of consistency of research methods by researchers with varying levels of experience (e.g., difference in data collection methods). While she examined student involvement in greening (Dyment, 2004) and the relationship between school ground greening and social inclusion (Dyment & Bell, 2008).

The study’s results evidence the positive impact of school ground greening within the district. Greened school grounds and gardens in the Toronto District School Board have patience. As a diversity of groups are brought together through community gardening, the gardens themselves can become democratic spaces for helping oneself while also helping others, both in attaining the basic need of food and also social, economic, and political support and strength.

An inspiring example of a grassroots urban community gardening regulatory and balancing interactions that support life and that Earth is recognized has having life:

...the entire range of living matter on Earth...could be regarded as a single living entity, capable of manipulating the Earth’s atmosphere to suit its overall needs and endowed with faculties and powers far beyond its constituent parts (Lovelock, 2000, p. 9).
The program started with a few dedicated and determined residents and now involves over 3800 urban gardeners on over 23 acres of urban land. The P-Patch began in the early 1970s when Raine Picardo offered a portion of his farm land in the city’s northeast to be used for a community garden. Boeing, a

Lovelock’s theory mirrors traditional ecological understandings of the Earth, for example, those of the Nuu-Chah-Nulth of Vancouver Island who recognize that everything is one (Hishukishts’awalk) (N. Turner, 2005). Mindful of deconstruction and poststructuralism, Cilliers (2005) summarized the characteristics of complexity and outlined implications of those characteristics. To understand a complex system, one must understand its
major Seattle employer, had recently laid off workers and in the city, social activism was gaining momentum. The City of Seattle soon bought the Picardo farm land, designated it as a community garden space, and started an expanding and collaborative program that has seen the creation of community gardens in all areas of the city over the decades.

But where, after metanarratives, can legitimacy reside (Lyotard, 1984, p. xxiv-xxv)? Patti Lather’s (1993) consideration of validity in light of poststructuralism opens up the concern of legitimation to being not a matter of looking harder or more closely, but of seeing what frames our seeing—spaces of constructed visibility and incitements to see which constitute power/knowledge (Lather, 1993, p. 675). And this recalls of course deconstruction, entire complexity—an impossibility given the infinite number of elements in relation within the system. Furthermore, the environment within which and with which the system relates, an environment which is itself complex, must be understood—a further impossibility. These understandings can only be imagined through reductive models. Here, the characteristics of complex systems and their implications might be viewed as analogous to and drawing from deconstruction and différance. Systems are understood according to the
difference, and differance as validity is recognized (re-cognized) as deferred and differed. Lather’s four framed selections of transgressive validity present counter practices that open a space for the impossibility of the (research) metanarrative. Drawn from Baudrillard, the first frame is of ironic validity—validity as simulacra, simulacra which hide the absence of referents. Where traditional validity practices (e.g., triangulation, member checking) cover the rhetoric nature of claims, ironic validity presents the research text as a representation of its ‘failure to represent what it points toward but can never reach’ (Hayles, 1990, p. 261), an

Toronto District School Board students have played a somewhat limited role in the greening of school grounds in the district. Despite volunteering a considerable amount of time, students were involved primarily in planting and doing on-going maintenance of the projects rather than in the initial planning phase. Some respondents said that students were too young to recognize that the

P-Patch program sends seven to ten tonnes of food to Seattle food banks annually (Gaylie, 2011).

Speaking of Detroit’s community gardens, lenses or frames through which we view them; our knowledge of complex systems is always provisional (Cilliers, 2005, p. 259). Likewise, deconstruction, through différance, makes impossible the possibility of reducing, fixing, and knowing, meaning. Instead, meaning is contextual and contingent, deferred and in difference, and open to interpretation; it too is provisional. With this in mind, Cilliers (2005) cautions against making firm knowledge claims—they are an impossibility—and instead encourages
Martusewicz (2006) highlights the impact that community gardening projects can have:

The gardens are centers of community activity that foster a different set of values that are especially important to the younger members of the community: cooperation, learning how to nurture natural modesty in making claims about knowledge. Cilliers goes further to examine related arguments that have been made against both deconstruction and complexity. First, both have been identified as leading to relativism however, both deconstruction and complexity do not assert that there are no grounds for any knowledge but rather that what we know is inherently limited and this limited knowledge cannot be equated with any knowledge.
différence, and it upsets, subverts, displaces what is “known.” Deleuze and Guattari (1983) offer the rhizome as a metaphor for knowledge with multiple openings, intricate complexities and pathways, and immanence as different from the metaphorical tree of modern knowledge (i.e., linear, centralized). Lather’s fourth selection is voluptuous or situated validity in which the researcher turns from what is the hegemonic (phallocentric) transcendence of the research to the engaging in and becoming of the research in all of its multiplicity, maternality, and marginality.

Environmental Education and Participatory Action Research

One shouldn’t complicate things for the pleasure of complicating, but one should also never simplify or pretend to be sure of such simplicity where there is none. If things were simple, word would have gotten around (Derrida, 1988, p. 119).

Next, Cilliers deals with arguments against deconstruction and complexity of performative contradiction between what is said and how it is said. But, in
with Children

Environmental education is ideally inclusive of cognitive, affective, and action components but often the action piece is not fully realized (Hart, 1997). When action projects are done, Hart (1997) notes that unfortunately students are often assigned to action projects rather than identifying problems themselves and working together toward solutions. However, Hart (1997) asserts that one of the most effective roles that children can play in the environment is to conduct research on the quality of the environment and communicate their findings to the larger community (p. 20). This process and its resulting dialogues can, physical abilities were able to safely use the school grounds although some participants commented on the limited accommodations made for students with physical challenges. As one parent expressed, “Our garden is colour blind, inclusive, and warm” (Dyment & Bell, 2008, p. 178).

Dyment’s study contributed a broad overview of the benefits and uses of than gardens having sole owners and exclusive membership, the P-Patch gardens are open and democratic spaces. Community members work alongside people from the municipal government, not for profit groups, and local businesses to provide basic needs for the community: food security, economic support, and a strong and supportive social and

order to examine for such contradictions, an external and objective stance or frame would need to be used and this is an impossibility. By taking a position of modesty and acknowledging limits of understanding, in both deconstruction and complexity, an ethical turn is also made; the modest position is not weak, it is responsible (Cilliers, 2005, p. 262). Finally, Cilliers speaks to arguments of vagueness. In deconstruction, meaning is deferred and in difference, it is never complete, and there is play at work within
according to Hart (1997), have a substantial effect on the community and when children recognize that their voices are heard and their contributions valued, their sense of belonging to that community can be strengthened. Looking more broadly, Kirby (1999) asserts that the inclusion of young people in the research process beyond simply being the subject of study is a valuable means of collecting quality data and is entirely appropriate when the researcher wishes to undertake in-depth research on young people’s lives.

In environmental education research, the potential for the language; this does not mean that it is necessarily vague. Instead it add[s] a supplementary complication that calls for other concepts, for other thoughts beyond the concept and another form of ‘general theory,’ or rather another discourse, another ‘logic’ that accounts for the impossibility of concluding such a ‘general theory.’ (Derrida, 1988, p. 117). Complexity similarly cannot be known completely and it too works with and in limits and therefore claims made must be modest.
participation of students is exemplified in the *Listening to children: Environmental perspectives and the school curriculum* (L2C) project (Barratt, Scott, & Barratt Hacking, 2005; Barratt Hacking & Barratt, 2009; Barratt Hacking et al. 2006). In this project, students’ participation in the research was central as the university researchers focused on 10-12 year olds’ experience of their local community and environment and how those children understood their community and environment in relation to their lives and their school curriculum. Students were included in all stages of the project: creating and implementing

most part to enhance student learning and enrich their educational experiences, this is an obvious oversight. Also problematic is that an extended period of time was not spent within any of the school therefore it might not have been possible to understand the communities as deeply as might have been if time was spent within each one. Dyment herself references cultural network. The collaborative nature of the program has contributed significantly to its success and longevity and also speaks to the inherent and inextricable connections that we have to others and to the other-than-human world.

Given the educational potential of community gardens, along with the current push to infuse

Complexity shares motivations with poststructuralism. Outlined by Dillon (2000), both are committed to what he identifies as the *anteriority of radical relationality, that nothing is without being in relation, and that everything is—in the ways that it is—in terms and in virtue of relationality* (p. 4). There is however difference in the commitments of complexity and poststructural thinkers to this relationality. Complexity thinking seeks to trace and
data collection methods (including photo and video diaries, students’ community maps, group interviews, and curriculum audits); analysing data (thematic analysis initially guided by adult researchers and then driven by students’ ideas and understandings); and presenting research findings (for example, Power Point presentations to school administration, interviews with media, meetings with the local Member of Parliament, and discussions with university visitors). Not only did this project actively involve students in environmental education research but its inclusion of students in the research process was able honestly gardening projects. While the potential for school gardening projects to emancipate those who are all too often disempowered — children — it is important to explore the relationships of power and privilege within this unique pedagogical context. Who is represented in the school garden and how are they represented? Who is not represented?

Hart (2000) as she notes that there is ‘no other way to understand the significance of children’s participation other than total immersion for extended periods with teachers and their students in their worlds’ (p. 17 as cited in Dyment, 2004, p. 135).

understand the order, the structure, of relationships. Poststructuralism explores the radical relationality of relations with the (radically) non-relational and here lies Derrida’s identification of an aporia, an impossibility, an impossibility, and one that is always already there, in difference, and in différence. There is more ordering yet to come and this makes the possibility of a final ordering of order impossible (Dillon, 2000).
What is reflected in the mirror that is the school garden?

As outlined, the literature espouses the benefits that school gardening can bring to students and to schools and also highlights some of its challenges. Not only does the school garden open up a space for place-based environmental education curriculum and pedagogy that steps outside of the confines of the classroom but it also opens up a unique

present, and in turn validate, students’ interpretations, views, and voices.

**Tracing one possibility of the impossibility of a poststructural methodology of research**

Rather than follow a set *methodology—narrative, ethnography, PAR, and so on—I have instead chosen to open up the methodology and insert within it from a range of approaches (and have been doing thus far in the represented dissertation). And so, similarly, and as is inherent, though often unspoken, within all methodologies, this research draws from multiple perspectives. In difference, it chooses to adhere (restrictively) closely to none. In

As outlined, the literature espouses the benefits that school gardening can bring to students and to schools and also highlights some of its challenges. Not only does the school garden open up a space for place-based environmental education curriculum and pedagogy that steps outside of the confines of the classroom but it also opens up a unique

What is reflected in the mirror that is the school garden?
doing so, it brings together a *bricolage*, a patchwork of ideas, a tinkering, a puttering about of approaches, and, using very long basting stitches, loose stitches to hold pieces together temporarily, draws together the possibility of one structure (of many possible structures) of the research text. And by doing so loosely, temporarily, almost in passing, necessarily possible spaces for difference within the work are opened. This approach might cautiously be identified as a deconstructive methodology, though with the understanding that, as Derrida noted, deconstruction is not a method. Instead, I choose not to brand, not opportunity to embrace research that similarly explores methodologies and methods beyond those structures and frameworks ever present in educational research. This study does just that as it meditates on the experience of the school garden.
to pin down, not to limit, not to force the impossibility of a possibility of a transcendental methodological signified. It is instead left open, open to what is to come, and open to what has come before.
September 8, 2011

Would you like me to come in tomorrow (Friday) or shall I wait until next week to start my visits? I know that this week is very busy.

-Susan

I have not heard back [from Sidney and Rachel] yet, so let’s start next week

-City Public School Administrator

Or,

[There is] no other way to understand the significance of children’s participation [in research] other than total immersion for extended periods with teachers and students in their worlds.

(Hart, 2000, as cited in Dyment, 2004, p. 135)
Chaos theory explores the behaviours of moving and dynamic systems. These systems behave according to their initial conditions, conditions that include the most minute differences and therefore, while not random, given the impossibility of tracing all differences, cannot possibly be predicted. Edward Lorenz, a mathematician, meteorologist, and (perhaps) founder of chaos theory, described chaos as being when the present determines the future, but the approximate

Dear J,

The start of the elementary school year is always chaotic. Classrooms are overturned, put back in a manner of best fit after the floors are polished and paint touched up during summer maintenance. Why doesn’t the internet work anymore? Where did my new stapler go? And how did I manage to end up with 28 desks and no chairs? Where are my bloody chairs?!?!?!

The start of the school year begins well before that early Tuesday morning immediately following Labour Day. It starts in August, when students are still on holidays and the days are long. The first teacher back usually comes in mid-August. This is the best time to ensure that you will get all of the good supplies for your class and your students. I used to be that teacher.

I liked to plan well and be organized. And I was. To a fault.
I would spend hours and hours drawing floor plans for my classroom and then arranging and rearranging furniture. And the walls and display boards. I once wallpapered coloured paper clear up to the ceiling of all of the walls of my classic London Victorian primary school classroom.

I think most elementary school teachers are the same way at the start of the school year. A bit particular about things. A bit set in their ways. And for these very reasons, I was very aware of what participation in my research project was asking of teachers (and their new classes of students). It can be very difficult navigating your space (classroom) when there is another person (teacher) there. I know these tensions. From my own teaching experience, I remember the doubt and anxiety that I felt when my principal would come in to evaluate me or even just pop in to see how things were going (the unspoken evaluation) – I felt like an actor, present does not approximately determine the future (Danforth, 2013, para 5). These systems are responsive yet unpredictable. Lorenz explored this in his studies of weather systems and recognized that the slightest difference in conditions, the smallest variations, made possible unexpected outcomes and impossible predictability (Smith & Jenks, 2006). Difference opens systems to difference; it is a difference which makes a difference (Bateson, 2000, p. 459).

The physical structure of the classroom can present the teacher and the learner with physical boundaries and perceived barriers that can be understood to be impermeable to what is outside. Outside of the room itself. Outside of the prescribed curriculum. Outside of tried (and sometimes tired) and true pedagogical approaches. In environmental education, this is evident as teachers often voice that the impermeability of their perceived teaching space keeps them in the classroom; conceptual (i.e., what is environmental education and where does it fit in the
a postured version of myself. I see
this act as well when I visit teacher
candidates on their practica, some
playing a role for me, some for
their host teachers, some for
themselves.

From my look backward, as I
looked forward to my project, I
hoped to be viewed not as a
teacher (though I knew I would not
shed this layer) but as a school
volunteer who is interested in the
garden. I wanted to ease the
tension of the act we act, knowing
that an act of some form or
another was inherent within the
act of being present. For this
reason, and for others, I have
decided to dedicate a few days per
week for this school year to
volunteering at City Public School.

I came to know City during my
practicum visits with teacher
candidates. City is a large urban
public elementary school in
Toronto. Over 600 students from
junior kindergarten to grade six
are enrolled at the school and the
school’s population reflects the
diversity of the local community—
curriculum),
logistic (e.g., time,
funding, resources,
safety, etc.)
educational (i.e.,
perceived lack of
content and
practical
environmental
education
knowledge), and
attitudinal (i.e.,
environmental
education is
important in
theory but is not
realized in
practice) walls are
identified by
teachers as
barriers to being
able to teach
environmental
education (Cutter-
Mackenzie &
Smith, 2003; Ham
&Sewing, 1988;
Kim & Fortner,
2006; Ko & Lee,
2003; Lane, Wilke,
Champeau, &
Sivek, 1994). Place
the whole learner—the body, mind, and soul—but it did set up barriers to access. The academy itself was situated within walls and its admission was highly selective and open only to those deemed capable of understanding philosophy. Furthermore, it was on public land and therefore supervised by the city. Alternatively, Epicurus’ Garden was on private land and not subject to academic bounding by the city; it was the first school that had academic freedom. The Gardens’ curriculum, like that of Plato’s Academy, was broad in scope, opening opportunities for experiential and collective learning. more than 85% of students have a primary language other than English. Currently there are several gardens at City and each garden is actively maintained by members of the school community and the broader neighbourhood community. City also partners with Garden Helpers and Toronto Public Health in its gardening programs.

The feel of City reminded me very much of the Canadian and British elementary school communities that I had previously been a member of, both as a teacher and as a researcher. The familiarity was there. I recognized the easy going, relaxed, and natural interactions between the teachers – I had been in relationships like these. City teachers were not only colleagues, they were also friends. I did not feel the hierarchy, the animosity, the tensions among teachers at City that can sometimes be felt in schools (and any community). -based environmental education can open up a space for possibilities here as it situates environmental learning with and in the local environment, a space that can be understood in different ways and through difference. This bringing together of difference in understandings of place and in place can realize a rich and diverse knowledge of where we are, who we are, and our place with and in place.
The teachers’ relationships with students were familiar as well; they were relaxed, responsive, respectful. I could recognize within a few short minutes of being at City the care that teachers felt for their students (and students for their teachers). Even as an outsider, I felt welcome and at ease in the school.

At City, I hope to be able to support the teachers and students who I work with in day-to-day activities – I want to be that someone to help supervise impromptu neighbourhood field trips, to work with small groups at the library or computer lab, to quickly make five photocopies. It is important to me to be a support to teachers, and to students, at City to show my indebtedness to them for generously opening their community to me.

Despite the branches that I will be extending, I am feeling very aware of who I am and who the teachers at City might see me as.
To them, will I be a researcher from OISE making suggestions for their curriculum and instruction? Will I be seen as another teacher, a co-teacher, to plan and teach along side the classroom teacher? Will I be an educational assistant working with individual students and small groups? Will I be a gopher running errands around the school? Will I be viewed as an academic there quietly judging their teaching?

I am hopeful that with this extended time at City that teachers will be able to recognize me not as an expert coming down from the ivory tower, that brutal and imposing presence, to withdraw data and then leave. I hope to become part of the school community and for teachers come to see me as part of the group. I hope that they become comfortable with my being with them in their place.

supervising students on field trips, and preparing cupcakes for the grade six graduation. During the year, I did continue to supervise teacher candidates and on two occasions those candidates that I was supervising were placed with classes that I volunteered in. Prior to their placements, I spoke with both candidates, offering to volunteer elsewhere, but both were comfortable with my presence.

projects, and in this research project, time spent in place is, and was, at once a privileged relationship, one to be treated with the utmost respect and responsibility, and one to be approached with humility and modesty, and with openness of mind and of heart.
I like it here

Or,

What is a non-example of biodiversity?

The city...only trees and grass live there

– Grade One Student

– teacher

– grade six student
Dear R,

A couple of weeks ago, I volunteered with a grade one class and we took a mini field trip to the school garden - their first garden visit and their first out of school excursion of the year. Rachel wanted to take advantage of the lovely summery weather that was stretching into autumn and spend some time outside. The little ones were really excited.

After getting on outside shoes - always a process for grade ones - we headed out to the garden in front of the school. Rachel had

This time spent outside was time spent in a space both outside of and within the overlapping space of difference of many structural contexts. It was outside of the structure of the classroom: the four walls, the desks and chairs, the rules and routines. The movement from the classroom made room for the class to open another space for experiencing the curriculum. And here, the curriculum that was experienced was outside, outside of the framing boundaries of
the class stand in a circle along the mulch patch that rounded the scent garden. At once, when everyone was settled, one little guy who was looking around said, to no one in particular,

I like it here.

Smiling to herself, Rachel asked us to use three of our senses - sight, smell, and hearing - to make observations. First, we looked quietly at the garden for about 30 seconds, taking in the colours, the shapes, the sizes, the movements, and then shared with the class what we saw. Next, we smelled the plants. This particular garden was filled with fragrant herbs and greens: lemon balm, several different kinds of mint, and so on. Finally, Rachel asked us to be very, very quiet, and to listen to the sounds in the garden. Some voices could be heard from the school and from the structured and prescribed curriculum. Science, social studies, art, language arts, and mathematics blurred into a decentralized curriculum that recentered on the centrality of the sensuous experience of place. Sights, smells, and sounds of the garden framed the experience rather than prescribed and disciplinary objectives. This was a different way of knowing the garden, of knowing place, of knowing home, and one that opened up the impossibility of a curricular metanarrative and
of brick and concrete, of line and angle, of structure, of regularity, there is also the organic environment of leaves and stems, of curves and turns, of dis-order, of difference. The garden upsets, softens, pauses the structure and form of the built environment as it grows and thrives within it. And the garden also presents us with binaries to explore and to discuss. The dead rat laying in the green brought forth life and death, death and life, to be unpacked and repacked. The students were at once disgusted but fascinated with the tower blocks of apartments surrounding the school. There were the very faint sounds of Bloor Street traffic from several blocks away in the background.

It’s so quiet.

Next we walked to the back of the school to the raised garden beds by the playground and soccer pitch. There were still a few tomatoes ripening in our late summer sunshine and the students could not believe that they were growing right there in their school yard. We circled the garden beds and Rachel began to guide us through a sensory experience of the garden. As we looked at the colours, the shapes, the sizes, and the movements, one little boy noticed a motionless figure—a dead rat—resting in the greenery. The quiet and calm meditation on the sensual experience of the garden was possibility of a multiplicity of narratives of experience of and in place, of lived meanings. Aoki (1993) reflects on curricular multiplicity, noting that it is time not to reject but to decenter the modernist-laden curricular landscape and to replace it with the C&C landscape that accommodates lived meanings, thereby legitimating thoughtful everyday narratives (p. 263). It is a call for recognition of both the lived curriculum and the curriculum-as-plan, for an
thrown. Some students were screaming, others were pushing to get close to the corpse, still others were looking frantically for sticks to poke and prod at the rat.

We headed back into class and Rachel tried to pull the garden experiences together. She patiently answered questions about the rat, emphasizing that rats do live in the environment with us and that animals dying, like all living things do, is just a fact of life. Then she discreetly called the caretaker, asking him to please clear away the corpse before the kids headed out for lunch time recess.

Sidney’s grade sixes had a different outdoor learning experience recently they took a field trip to High Park, a massive 161 hectare public park in the city, to learn about invasive species in the park and upsetting of the dominance of curriculum-as-plan to allow for the acknowledgement of the lived curriculum that quietly persists, and that is unspoken, always and already there.

And this call rings out within environmental education as well, resonating with David Orr’s (2004) assertion that all education is environmental education (p. 12). Environmental education is often tried to be framed, bounded, en-closed within the curriculum-as-plan and within separated disciplines of science or social studies. This is an
in Toronto’s urban natural environment. I was not able to join them on the field trip (practicum visits) but listened in on their follow up lesson back at school.

The field trip complemented the class’ current science unit on biodiversity. As a follow up to the field trip, the teacher candidate on practicum in the class taught a lesson that had the class creating a concept chart on biodiversity that included examples and non-examples of biodiversity, characteristics and non-characteristics of biodiversity, and illustrations of the examples and non-examples. The final element of the lesson was to generate a definition of biodiversity from the information on the completed concept chart.

For a non-example of biodiversity - a place impossibility. Instead, it persists across all disciplines and within all disciplines. And perhaps more importantly, it can be traced in all curricular acts, or, in all acts that we act. Every action that we take speaks to how we live with (and without) the earth in mind. These are inclusive of the curricular acts of life, the lived curriculum. And what do these acts say about how we live with (and without the earth in mind? And what do the acts that we do not act say about how we live with (and without) the earth in mind? And what is in-between, held somewhere in the middle, caught up chains of meaning and interpretation?
Here we see a binary discussed—what is biodiverse and what is not biodiverse. What is different in life and what is not different in life. And it is interesting that the trees and grasses were identified as the only species living in the city. Only plants. And only two vast groupings of plants. What about animals? Fungi? Bacteria? The difference within trees and grasses seemed to be entangled within what is signified by tree and grass but within which there is inherently difference. It seems that the trees cannot be identified by the students as lacking in both number and diversity of species—one student suggested, the city.

He reasoned that only trees and grass live in the city and therefore it was not a place that was biodiverse.
The teacher candidate and I later discussed the students’ responses. The class had only just been visited High Park for a day of exploring with park naturalists the living things that lived in the park, a large green space surrounded by the city on three sides and a freeway on the fourth. The students learned about invasive plant species in the park, collected field data on population size, and took part in activities that related nonliving parts of the environment (e.g., sunlight, water, nutrients, water, air) to the different roles of living things (e.g., producers, consumers, decomposers). What was missing? What had not translated? Would the learning emerge over time and with repeated visits? Had the field trip worked beyond being a fun day out?

The urban park is reminiscent of historical gardens of the Renaissance and the Baroque periods. There often exists in urban parks control and structure that echoes that of the surrounding urban space. Parks are bounded, framed by the surrounding roads and neighbourhoods. Many are demarcated by fences and gates that are secured when the park is closed. Paths and walkways are created to guide, to direct, to structure the experience of the park (please keep on the path). Sometimes access is restricted in fears of dangers the natural world might hold and hide (Louv, 2005; Malone & Tranter, 2003)— and of interest— “I like to play indoors better, ‘cause that’s where all the electrical outlets are” (Louv, 2005, p. 10). City parks can provide a site for student engagement in the natural world that is always and already in their local environment.
The two of us, and Sidney, wondered what students actually thought of as being a park. What was a park? What was there? What was not? So, on her next day of teaching, the teacher candidate asked the grade sixes do a quick write with the prompt:

**What is a park?**

The students’ responses varied widely and the terms that they have chosen are shown in the word cloud that follows.

Most students focused their descriptions on qualities related to human activities, namely playing, relaxing, and spending time with family and friends:

A park is where you can do activities like play games, have a picnic, play sports, run, play with a pet, fly a kite, have a race and meet up with your friends. A park looks like a big field with a forest and also a playscape with hills and a place to play sports.

Let us briefly consider park in light of différence and of the work of deconstruction at work within it. A trace of the etymology of park highlights the enclosure of a space, a space to close in wildlife (the wildness of life) and to be close to wildlife (wild life). Looking at the students’ responses it seems that the wild lives being enclosed are those of humans. The park is...
park

place

play

lots

good

like

trees

open

picnic

lots

humans

looks

beauty

beautiful

people

things

animals

field

grass

playground

kite

Parks

snack

lots

people

race

kids

playgrounds

natural

come

nature

biodiversity

enjoy

opinion

fly

plants

mountains

rivers

monkeybars

fall

different

Frisbee

many

work

well

full

drages

Well

brake

species

playing

trees

lots

hit

kite

Parks

snack

lots

people
could be places of worship. They were places of relaxation. They were places of interactions with family, friends, animals, and plants. Parks were spaces of diversity with natural elements—trees, lakes, grass, animals, mountains, hills, humans, plants, forests, flowers, insects—and built features—playgrounds, benches, amusement park rides, waterslides. Within what might be identified as park, some located other types of parks—community, national, and amusement. And parks were seen as considered to be an open space for leisure, one for relaxation and play, an opening enclosed within the structure of the world outside. Or, it opens a space for the wildness of life to be realized through play, through experiencing the natural world, wild, free from the constraining structures of the environment that enclose it. And it not only encloses wildlife (wildness of life) but it also encloses built features and these play into the experience of the enclosed space, opening other ways of

A park is a place where there is a lot of grass and very few trees. It is an open place so you can run around and play Frisbee. A park should have picnic tables and benches, so you can take a break and have a snack when you get tired after playing.

— Super Agent X

A park is a place with swings slide and a playground. A park is where kids have fun and play all the time. A park is a brake from work. there lots of parks some are ones to play to some are ones to worship. thats what a parks about.

— Alex

Other students took a less anthropocentric view of what a park is, recognizing that parks are quite often home to a range of different species and have a variety of purposes.

Parks are usually full of biodiversity...parks have many plants and that is a good thing for animals and humans. It is good for animals because it is their natural habitat and it’s good for humans because it gives us oxygen and fresh air.

— John Cena
places that cared for humans, and for other living things, by opening to us spaces for leisure and relation and by providing humans, and other living things, with the necessary elements for life. This seemingly simple question of what is a park reveals the impossibility of the possibility of a fixed meaning of park.

A park is a place where nature, and living things should be. A community park has slides, monkeybars, swings, slides, and a field. A national park has mountains, rivers, lakes, trees, animals and a beautiful view. A amusement park has rollercoasters, waterslides, dropzones, games and a lot of people. But to me a park should have green nature and species of living things.

– Maya

I wonder how the students of City would describe a garden? Is it a place for them to enjoy, relax, and play? Is it space within which many species live and interact? Is a garden a park? Is a park a garden?
October 5, 2011

Nice photo op, bad idea.  
(Wong, 2011, p. 30)

Or,

We really must make room in our hearts for nature.  
(Gould, 1991, p. 40)
Dear J,

A friend asked me last week if I’d seen this month’s *Toronto Life* magazine. I had not so yesterday she brought it in to work, with a Post-It note marking the page of the article that she thought I’d like to read (an article advertised on the cover by the line *The Stupidity of School Gardens*): Jan Wong’s “The Horticultural Revolution.”

In the article, Wong discusses the school gardening movement – I call it a movement, this sounds like a revolution, drawing on history to change its story, taking to the Earth rather than the streets, storming the garden patch rather than the Bastille. Reminding the reader of the declining ranking of Canadian students (despite their high scores) in relation to other countries (who appear to be improving more than we are), Wong begins by discussing school gardens as a proposed approach to getting students to
respect nature. She then describes her own experiences in the 1970s, the silly '70s (p. 30), as a Canadian university student in China embracing Maoism and her institution's assertion that reform would come through physical labour. Her university back home in Canada gave her full credit for her year of tilling, toiling, and shovelling manure but, as she writes, intensive farm work... vaporized [her] Chinese classmates’ one precious chance at an education (p. 30).

Following the death of the chairman in 1976, Wong notes that China rigorously reformed its education system (how it did so, she does not detail) pointing out that Shanghai recently beat the rest of the world on a battery of standardized math, reading, and science tests.

Wong’s experiences lead into her critique of gardening projects in Toronto public and private schools. She reprimands private school programs for being

Labour and work, along with action, are the three life activities of vita activa described by Hannah Arendt (1998). Work, to Arendt, has beginnings and endings, leaving behind its traces in artefacts, and is not essential to sustaining life. Labour on the other hand is an essential act, an ongoing act that allows for life. And this difference is recognized in Wong’s use of work where her representation of the garden and student experience there could be viewed as an accessory activity, not essential, not important, indeed a negative

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**labour— toil, work; travail of childbirth; from Old French labor, from Latin laborem, nominative labor exertion, trouble, suffering, perhaps originally burden under which one staggers, related to labare slip**

**work— something done, what one does; manufactured article; from Old English weorc, werc, worc, wurc, normal development of Common Germanic werkam, normal development of Indo-European wergon whence also Greek ergon work**

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Affect and care are inherent characteristics of environmental education (and while often unspoken, of education more broadly). For example, the United Nations Decade of Education for Sustainable Development (2005-2014) calls an education that will foster in learners respect and care—touchy-feely (p. 30), for not bringing what the school grows into what the school eats (beyond a harvest festival), for not including the brutal realities of some farms (i.e., slaughtering chickens). Wong also criticizes public school programs in general, and those at inner city schools in particular, for presenting a view of the world we live in that is not reflective of reality (i.e., understanding of habitats is emphasized over understanding pest management when children are asked to not kill snails despite their eating of the garden’s greens). This argument is set upon Wong’s calling out of the school’s third grade students, half of whom did not meet the province’s standards in reading, writing, and mathematics (but Wong also notes that nearly 2/3 of the school’s students speak a language other than English at home and many are on a breakfast program; standardized tests do not take this into account) — clearly these are experience.

Traces of Arendt’s notions of labour and of work run through the history of gardens. In monastic gardens, labour produced sustenance for human life: fruits, vegetables, and herbs. They also supported spiritual health and wellbeing as they provided space for contemplation, meditation, and reflection and also symbolic botanicals used in rituals and traditions. In contrast, the elaborate gardens of the Renaissance and Baroque displayed the hard work of those employed by wealthy families and governments in their excess of art and architecture. These garden were of course
among our most vulnerable students (p. 31). A glimmer of light in the program at the school she describes is their use of school-grown produce in the lunch program but this is negated as well in her identification of the 150 students dependent on school lunches and her quote that suggests that students will not eat vegetables until they are unidentifiable – ‘I have to disguise Swiss chard before I throw it in the pasta...The hand blender is my best friend’ (p. 31).

Wong’s only praise of school gardens is of a program at a Toronto secondary school, the shining exception (p. 31), that teaches a range of technical subjects – plumbing, hairdressing, carpentry, and so on. Here, the school garden covers an acre of land and produces enough food to sell at an on-site market as well as contribute to the school cafeteria kitchen. As Wong says, among our most vulnerable students (p. 31). A glimmer of light in the program at the school she describes is their use of school-grown produce in the lunch program but this is negated as well in her identification of the 150 students dependent on school lunches and her quote that suggests that students will not eat vegetables until they are unidentifiable – ‘I have to disguise Swiss chard before I throw it in the pasta...The hand blender is my best friend’ (p. 31).

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for those of us who don’t intend to be farmers, let’s stop mucking around (p. 31).

Understandably, and not without intention, Wong’s article ruffled a lot of feathers. The responses to the article on the Toronto Life website overwhelmingly express incredulity about Wong’s argument; some attack the weakness of her argument correlating gardening with low test scores, others express disgust in her alignment of the cultural revolution in China with school gardening initiatives, and still others suggest that Wong ought to get together with Toronto’s current mayor.

At City, teachers were pretty disappointed by the picture painted by the article. Teachers and students have worked hard to create their gardens. They quite literally laid the foundation for the gardens – one class made the bricks of the raised bed gardens a few years ago.

Wong’s perpetuation of the value of garden work as monetary, an expression of wealth, persists as the sole Toronto school gardening program that she applauds is one that, along with producing food for the school’s meal programs, produces an income at the school’s onsite market. The garden is justified by, and valued for, its economic contribution to the school.

Ecology and economy, often set in a binary opposition against each other, are both rooted in eco-, oikos, the house. Ecology is the
 ago. They tend to the gardens. They learn in the gardens. It is very disheartening for the members of the school community to see all of that swept over by a couple of pages in a monthly magazine.

One teacher noted that Wong always wrote crap. Perhaps Wong herself was shovelling more of the manure that she once did back in the silly '70s? study of the house and economy is the management of the house. Perhaps here there is an entanglement of oikos in a modernist perspective, one that focuses on the centrality of humans, of science, of progress. Perhaps rather than reduce oikos we must expand it, open it. And focus on the home rather than the house, and on all aspects and relations of dwelling in place.
December 1, 2011

How do we treat things in the garden?

How we want to be treated

— April

— grade three student

Or,

We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well—for we will not fight to save what we do not love

(Gould, 1991, p. 40)

3 Consent to use student work was obtained from both students and their parents or guardians.
School gardens and garden-based pedagogies can foster learning of content and skills across the curriculum, drawing in science, mathematics, social studies, and language arts, to name but a few subject areas (Alexander et al., 1995; Miller, 2007; Morgan et al., 2009; Rahm, 2002; Skelly & Bradley, 2007). Through garden-based experiences and opportunities, students can learn about the natural environment with and in the environment, about the interconnectedness within the environment, and about the impact of humans on and in the environment (Carrier, 2009; Historically urban gardens have met a variety of needs. During World Wars I and II, urban gardens in schoolyards, backyards, and parks provided food to supplement wartime rations. Following World War I, and through the Great Depression, urban gardens continued to help feed the basic needs of families in the city. And again, in the 1970s, and gaining in momentum today, urban gardening projects and programs help to provide food for community members. Not only do urban gardens help people to meet their basic needs but they can also help to (re) build the community itself. Urban gardens

Dear R,

In contrast, and perhaps in response, to the scathing article on school gardens in *Toronto Life*, the media recently spent time with a grade three class engaged in garden-related activities at City and presented to their audience a very different picture of urban school gardening. Their piece on the school’s garden focused on the experiences of the students and how the hands-on learning uniquely and richly supports curriculum and instruction at City.

After making tabbouleh of school garden grown sorrel, parsley, and mint with a grade three class, the media team spoke with the school administrator, James, about what he identified to be the benefits of having a school garden at City. Noting that the student population at City lived in the neighbouring apartment

Historically urban gardens have met a variety of needs. During World Wars I and II, urban gardens in schoolyards, backyards, and parks provided food to supplement wartime rations. Following World War I, and through the Great Depression, urban gardens continued to help feed the basic needs of families in the city. And again, in the 1970s, and gaining in momentum today, urban gardening projects and programs help to provide food for community members. Not only do urban gardens help people to meet their basic needs but they can also help to (re) build the community itself. Urban gardens

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tower blocks, James saw the garden as a way of bringing the outside in. Garden-centred curricular programming supported the school’s goals of improving student understanding of food systems, of its growth and production, and of embracing experiential learning. While also complementing the school’s nutrition program, James saw that the school garden as both content and context for curriculum and that garden-based pedagogy could develop students’ eco-literacy; and help them to recognize that the environment is right there in their backyards. In City students, James saw a sense of pride in their school garden and he saw students making direct connections between the garden and their experiences of it and what they were learning in class. Students also took their understandings of the garden, and of the environment, home to their families. Broadly, James can become democratic spaces, spaces which are open to all community members and in which those community members work together to support both themselves and their families and also the wider community (Gaylie, 2011).

And so the second media piece in the city focused on school gardens in Toronto in just over as many months. This story, however, presents quite the opposite picture from Wong’s critique of the ‘revolution.’ Rather than bash the efforts of school gardens can support the development of positive environmental attitudes in students. After seeing the influence that they can have on the school garden, students can develop a broader ethic of environmental care and responsibility (Mayer-Smith et al., 2007; Skelly & Bradley, 2007).

Specific to school garden research in urban settings, students can show an increased appreciation of the living things that share their urban environments. The urban school garden can also be a space of refuge, an escape for Cronin-Jones, 2000; Mayer-Smith et al., 2007). School gardens can support
viewed the garden as a catalyst for changing attitudes about gardening and about the environment in both City students and their community.

In the afternoon, the media team went outside to the garden with April and helped the grade three students plant cloves of garlic. The line of students followed the mulch path around one of the garden beds and each student planted a clove as deep as a trowel and as far apart as you are. Each student was very careful with their planting; they dug the holes, gently

Some students, and a place to consider and appreciate the natural world (Morgan et al., 2009; Rahm, 2002). School gardens and greened school grounds in the city have also been identified as inclusive spaces, ones providing access and acceptance of all students regardless of gender, race, class, and ability; “[the] garden is colourblind, inclusive, and warm” (Dyment & Bell, 2008, p. 178).

In the city, there is a focus on garden quality, acceptance of all students regardless of gender, race, class, and ability; “[the] garden is colourblind, inclusive, and warm.”

While not structured as a project with student participation, the re/presentation of
placed the cloves in the holes, covered them with soil, and firmly pressed the soil down and around the cloves.

**How do we treat things in the garden? - April**

**How we want to be treated.**
- grade three student

After planting, the students had some time to explore the garden and talk with the media team. The questions from the media were pretty simple - do you like gardening, do you like the taste of garlic, do you have a garden at home? When asked what they think of gardening at school, students said that it's great, that they learned how to make salad, and that they often found worms there.

Looking at the final product in the media, the garden at City was painted in a very positive light, particularly when compared to the season’s students in this media piece can be considered in light of Hart’s (1997) laddering of student participation levels. While not resting firmly on any one rung, this experience might be identified as illustrative of tokenism. The voices of students are minimally presented in brief answers to very simple questions, many of which can be answered with a yes or a no. The openness of the conversation to the students was limited and the boundaries were set by the adults compiling the

*Relevant to this media presentation, and to Wong’s “The Horticultural Revolution” are the calls from UNESCO Education for Sustainable Development for a responsible media committed to encouraging an active and informed citizenry (2005, p. 5) with respect to environmental understandings and actions and also the potential, and potentially great, impact that the media has on societal perceptions of the environment, of our role with and in it, and of actions made to care for it. The media does not take an objective, unbiased stance with respect to the*
environment and environmental action (British Columbia Ministry of Education, 2007), as is clear in these two recent re/presentations of urban school gardening. And while the media presents varying accounts of environmental curriculum and pedagogy, it is important as well for the media consumer respond by actively critiquing and analyzing what has been presented to them. Whose voices are heard? Whose are not? Which histories can be traced? Which histories have yet to be uncovered, discovered, and recovered?

earlier *Toronto Life* article. But I had to wonder, how authentic was the engagement of the media with the students and their garden? The end piece heavily featured the happy, smiling faces of the students - and these students are happy kids - but was it playing on cute kids in the garden and saying cute things about gardening? I think so, and I suspect that the students knew the same to be true. There is much more going on here than posed photo opportunities and innocent exclamations - the learning, the experience, the engagement - but if these snapshots, authentic or otherwise, capture attention and motivate people to get involved and support school gardening efforts, is that so bad?

The presentation of students in the report might also be identified as decoration where the students involvement is real though in only in performance and not planning. The students serve a decorative purpose and this is evident in the images presented in the story. The impossibility of firmly planting participation on a single rung illuminates the importance of, while taking notes from the structure, turning from it and exploring what rests beyond its boundaries.
January 27, 2012

It’s a school garden... you’re not going to [grow] orchids... you’re going to use plants that you can’t screw up. You’re going to grow tomatoes. You cannot go wrong. It’s really that easy. They will grow.

– April

Or,

If a child is to keep alive his inborn sense of wonder . . . 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.

(Carson, 1998, p. 55)
Dear R,

I spoke with April after school today; I wanted to get a sense of the history of the school gardens at City and also wanted to find out more about her gardening experiences with the City students, teachers, and community members.

April came to City after helping to establish a school garden at another public school in Toronto and running after school nature programs at a local park. Her work brought her into the City community through another collaboration to create a community garden space and here, she learned of the tomatoes and hot peppers being grown on the roof of City Public School by the school caretaker, Kim.

Kim was interested in starting a composting program at City and as the EcoSchools program was just getting started in the school gardens at City there are traces of historical gardens and also what will be traced in future gardens. Like the academy gardens of ancient Greece, the garden at City are tended to by students and their teachers and serve as both a content and context for learning. And like community gardens in urban spaces, the gardens at City have brought together members of the community with a shared motivation—greening the community and building community. Within the gardens there is a sharing of knowledge, knowledge about the garden and knowledge in relation to the garden. Noted
school board, there was support to do so and April became involved with the school’s efforts to become greener. At the time, in 2005, City had an administrator who had been at the school for many years and was very supportive of the composting program. Momentum grew and steps were taken to

by Martusewicz (2006), gardens can teach knowledge and skills, and foster a sense of care and community that dually supports the self and the collective. The garden can be a site of coming together.
Consider fence and the semiotics of fence. The sign (object, referent, extension, reference) is made up of both the signifier (sign, symbol, expression) and the signified (interpretant, thought, extension, sense) (Scholes, 1985). In the case of fence—and in which fence is the sign—the signifier could be the written or spoken word fence itself or the physical object that is the fence. The signified is where difference is inherent. Fence, the written or spoken word, or physical object, can signify an infinite number of

secure financial support for a school garden project and a fence was put up around a space outside the school that would become one part of the garden. The students at City took part in the design of the garden space alongside April and Kim.

Nearly ten years later, the school gardens at City continue to bloom and grow both in the physical space as well as in their community presence. The students and community members are very respectful of the school gardens. The gardens do have a fence surrounding them but their gates are left unlocked. Despite this, April has found there to be little vandalism or theft (save for a rain barrel that went missing).

Since the creation of the gardens at City, the buy in from teachers has been very high with about half of the school’s junior kindergarten to grade six

The importance of experiencing the garden, the sensory experience of the garden, and of opening up the curriculum and pedagogies to such experiences can be heard in April’s discussion of the

fence—defence; art of fencing; enclosing hedge, wall; receiver of stolen goods; from Middle English fens, aphanumeric of defens
defence—from Middle English defens and defense, from Old French defense, from Latin defensum, defense, from defendere ward off, protect
teachers taking their classes to the garden for teaching and learning opportunities. One approach that April has been using involves two steps. First, and in the spring, students walk to the Nature Place to plant seeds and, depending on their grade, learn about soil, composting, plants, and food. Three to four weeks later, those seedlings are then brought to City and planted in the school garden. In the autumn, her programming is more harvest-based and usually includes cooking and eating the produce grown in the gardens. April also encourages teachers to take their students into the gardens for learning opportunities without her direct guidance.

With respect to the curriculum, most connections are made to science topics - recycling, needs of animals, soil, plants, biodiversity, and so on - but some teachers also make school gardens at City and in her own curricular and pedagogical approach. Sensory and sensual experience of the environment is present throughout the histories of environmental education, and education more broadly, and gardens themselves. Jackman's (1891) *Nature Study for Common Schools* encouraged learning outdoors through first hand experiences of and explorations with and in the natural world. This is echoed in the assertions of Dewey and of Rousseau who, among others, acknowledge and support learning about the world through experiences...
It can be related to an historical period or political feature, for example, the expanse of fencing laid down across Western Australia to keep out rabbits that also kept apart cultures and the extensive barriers constructed to connections to their social studies, mathematics, and language arts curricula (e.g., mapping, measurement, poetry). It is April’s goal that every student at City has a hands-on learning experience in the garden at least twice per year, in spring and in autumn and she notes that the garden is a place where everyone is successful - it’s a school garden, you are not being graded on it, you’re not going to [grow] orchids...

with and in that world. The experiences afforded by the garden-based academies of ancient Greece allowed for students to experience nature and realize the place of the natural world and its offerings in living a pleasurable and virtuous life, a eudaimonic life.
keep the United States separated from Mexico.

The difference in meanings made of fence are vast, even in this brief tracing of signifieds. And that difference is opened up further as signifieds themselves become signifiers. And here can be traced the endless chain of signification. Derrida reminds us of this process, this chain of difference of meaning, this différence. His explorations of difference, and différence, trace the extensive dispersal and endless deferral of meaning.

You’re going to use plants that you can’t screw up. You’re going to grow tomatoes. You cannot go wrong. It’s really that easy. They will grow.

To April, a critical part of the school garden is that direct experience, something that she recognizes that many children living in an urban environment might not have easy access to. It is here in the hands-on engagement with and in the garden that she finds the elusive a-ha moment that relates food to the earth:

That can be just as simple as tasting a leaf, a mint leaf or sorrel or something that’s just an edible leaf, it doesn’t have to be taking up a row of potatoes and cooking them, it can be very, very simple to figure out, “oh, ok, that’s actually where food comes from.”

And it is in these wonderful a-ha moments that April re-discovering her own grounding with/in the earth:

Also noted by April is the unique space that the City school garden opens up within the built up and bounded urban environment. The garden is a space that brings together the structure, rigidity, and enclosure of the built environment with the flow, flexibility, and openness of the natural world.

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,
Meanings move, and change, and respond, and resist fixture to any universal meaning, any metanarrative, as it works forward while looking back. Difference makes it impossible.

And so, and keeping in mind the inherent difference, différence, at work within its semiotic system, what might the fence surrounding the school garden at City signify? To the funding agency that called for its construction as a condition of the garden project being funded, it may be a boundary in place

That’s what feeds me as a school garden educator is the excitement and the magic of it for them just constantly re-energizing my own connection to plants and soil…it’s the magic, they’ve gotten to experience it and they see me as part of that, I just get to be in that place in their minds, which is great.

While the engagement of teachers and students in the school garden is high, April recognizes that parent and community involvement is important and, at City, could be improved. She wonders if a focus on academics might be a factor here; perhaps parents do not see how gardens and garden-based teaching can support learning? During the school year, the garden grows with the support of April and City’s students, teachers, and staff and in the summertime, there is more community engagement although paid summer interns help to maintain the garden during July and August. Given the calendar of the school year, April questions whether

April speaks of balance in her work with the City school community on the school garden. For her, a
to keep things out. It could also be a demarcation of the garden space. To community members, it could also viewed as a barrier with the purpose of keeping them out. In the community it could be seen as a bounding in of school property, of ownership. The fence itself is chain link, inorganic and strong yet also permeable; hands can easily reach through it and its height easily scaled. And there is as well a gate, one which opens into the garden and is not locked. Perhaps the presence of the fence itself is an unspoken securing. The gardens would be possible without an outside community partner, and she contrasts the current situation to that of the early 1900s when teachers had to maintain school gardens through the summer months. She finds it to be a balancing act, how to provide just enough support that the garden is successful but not so much that parents and teachers don’t [take] initiative and don’t have a sense of their own agency.

balance must be struck between her hand guiding the direction taken by the teaching and learning in the garden and her hand being guided in teaching and learning in the garden. And here, there are traces of the illustration and of the illustrated and ever changing relationship between Socrates and Plato, between teacher and student, student and teacher.
It’s not something you have to search for. You don’t have to…do backflips to get to the curriculum

– Sidney

Or,

Environmental education will be reflected in an age-appropriate way throughout the K-12 curriculum through strands, topics, and expectations and will be recognized as a provincial priority.

(Ontario Ministry of Education, 2007, p. 5)

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4 Consent for use of photographs of students obtained from both students and their parents or guardians.
Dear J,

Today after school I met with Rachel, Sidney, and Chloe, a teacher candidate in one of City’s kindergarten classes, to talk about the school gardens. I always hesitate before arranging to meet after school; being a teacher I know how golden after school time is. Spring Break is literally days away as well so the students are especially full of energy and staff and teachers are all feeling drained. Friday cannot come soon enough.

And of course, and perhaps signifying our collective energy level, my recorder batteries packed it in partway through our discussion.

As early as her second year of teaching at City (she has been teaching for about ten years), Rachel recalled field trips with April to the Nature Place for workshops, usually two to three times per year. For her primary students, Rachel really liked the hands on nature of the

Sidney and Rachel are both experienced educators, each bringing many years of teaching to their curricular and pedagogical decisions. And with those years, they have both become skilled at bringing Ontario’s prescribed curriculum, the framework of big ideas, learning objectives, and assessments, and the structure of disciplines, together in their elementary school teaching. For Sidney and Rachel, infusing environmental education—a passion
regular visitors to April’s workshops at the Nature Place. For her, the close proximity of their gardens made their workshops and programs fit well into her curricular and instructional planning.

For Sidney and Rachel, it was easy to connect what they were doing in the school garden to Ontario’s prescribed Ministry of Education curriculum:

*It’s not something you have to search for. You don’t have to…do backflips to get to the curriculum.*

— Sidney

Rachel’s grade ones participated in sessions focused on living things and their needs, and composting. Similarly, Sidney easily brought Garden Helpers activities into her teaching of science, noting in particular studies of the diversity of living things. Sidney also included the garden in her writing and art curricula and the topics of trade

Food was a shared way of including the garden and garden-based pedagogy across the curriculum while also meeting provincial curricular requirements. Many have highlighted the need for issues of food security, and of food insecurity, and health to be infused throughout the curriculum (see, for example, Gaylie, 2011; Williams & Brown, 2012) to support sustainability and wellbeing on many levels—personal, social, cultural, economic, and ecological. As a content and a context for the study of food, City’s school garden provided opportunities for students and teachers to re-connect with
Foodways are the habits and practices related to eating and cooking of a group of people, a region, or an historical period (Merriam-Webster.com). These traditions are informed by, and inform, cultural, social, economic, environmental, and personal ways of understanding food.

programs and that the workshops were directly related to the gardens themselves. Food was the focus of many of her students’ garden-related learning experiences. She and her students made pesto, salsa, and other dips out of the plants growing in the garden, and also discussed the foodways of the bread that they ate the dips with – where the ingredients were from, the steps and distances for each to get to them there at the Nature Place, and the cultures and histories from which those foods came. Rachel also highlighted how she and her students would regularly visit the Nature Place to plant seedlings and then replant them in the garden at school; the Nature Place was conveniently located only a 10-15 minute walk from City and its facilities had been planned with children in mind (e.g., washrooms, coat rooms).

Sidney agreed, noting that teachers who had been at the school for a few years were for both teachers—throughout their curriculum was easy; as Sidney poignantly exclaimed, she was not having to do backflips to get to the curriculum.

Sidney and Rachel were both able to work with and in the structure of the prescribed curriculum while at the same time extending beyond, disrupting the disciplinary curricular framework. Their teaching met curricular requirements in science, social studies, mathematics, and language arts, to name a few subject areas, but did so through bigger and inherently cross-disciplinary ideas.
Many environmental education researchers have explored the significant life experiences that most inform future positive environmental attitudes and actions (arguably the purpose of environmental education) (Chawla, 1999; Corcoran, 1999; Palmer, Suggate, Robottom, & Hart, 1999; Tanner, 1980). Their findings highlight the importance of childhood experience and time spent with and in the natural world, an echoing of the calls of Richard Louv for children to experience the wonder and wild of the nature. Additionally, the potential positive impact of time spent and food justice were openings in Sidney’s curriculum for the inclusion of the school garden

**because of the idea of you can import food or food can come from a long way or you can grow food here, too.**

- Sidney

For example, Sidney’s class compared the cost (economic and environmental) and taste of foods bought in the grocery store with those grown locally, most from the school garden.

Chloe, a teacher candidate on practicum with a kindergarten class, was excited to take her students to the garden to look at bugs – kindergarten kids do love bugs – and also to try out some garden-related drama and role play activities. Even for a relatively new teacher, Chloe identified many openings within which to embed the garden into her teaching and her students’ learning.

what they eat through sensory experiences of food; students smelled, touched, and tasted the fruits, vegetables, and herbs grown in the garden. They also re-connected to the ways that food could be traced, from seed to plant to meal; they were a part of the physical foodway of the produce produced in the garden as they planted seeds, transplanted seedlings, tended to the growing plants, harvested the produce, and prepared and ate food from the garden. And their study of food went further still to food justice and to critical considerations of the environmental, economic, and quality
in the natural world on future environmental citizenship was increased still with the guidance of a trusted adult, usually a parent or teacher. And further, and of particular relevance to the elementary school garden, is the identification of childhood as a period of critical importance in the formation of environmental attitudes, values, and ethics.

Rachel’s observations of the garden’s calming effect on students is mirrored in research on the psychological influence of time spent in natural

At City, cooking plays a major role in how students experience the school garden. Rachel’s students (and Rachel herself) really enjoy cooking at school with produce that they harvest from the school garden. Rachel noted here that within the processes of cooking – weighing, counting, measuring temperature – students were enjoying mathematics. Sidney noted as well that cooking also touched on topics of healthy living and character education.

Rachel and Sidney talked as well of how they thought students saw the garden. They thought that students understood that the garden was special, a place with special rules and that they did not get to go there by themselves, and older students recognized the garden as being cool. Students seemed to know that being in the garden was different, a place that they knew through their senses – smell, taste, touch, sight, and sound. Despite, or perhaps because of, these different ways of knowing, costs of food, of locally grown produce and of produce grown far from home.

City students’ study of food included cooking and inherent to this, mathematics content (e.g., number sense, measurement) and process skills (e.g., counting, weighing). Cooking also opened up learning opportunities related to healthy living and character education.

The school garden at City provides an opening for students and teachers to engage with and in the structure of the prescribed curriculum while also blurring, disrupting, and upsetting those very structures as the
students came to know the names of the plants living in the garden.

Rachel recognized the calming effect of being in the garden on her energetic and enthusiastic primary students. She sensed that everyone seemed to breathe a little more deeply whilst in the garden. She also noted the temporality of the garden; it was a place in which the passage of time could be traced—a difficult concept for young students (all students, really) to grasp (and come to terms with). The garden showcased to students the unfolding processes of change over the course of their repeated visits to the garden and provided nodes upon which they could relate those evolutions to their own changes within and from grade to grade, year to year.

Considering the involvement of parents in the school garden, Sidney and Rachel saw it as limited, noting that the fencing in of the garden (a condition of

curriculum is lived beyond the boundaries of the prescribed curriculum and the walls of the classroom.

The (omni) presence of the fence is identified by Sidney and Rachel as possibly being a sign signifying to parents and community members of ownership of the garden belonging with the school, and of an (en) closure of the garden to them.
its funding) may have in fact presented it as being exclusively the school’s garden, a space not open to the community. That said, there were some parents who watered the plants and tended to the garden with the understanding that they were welcome to harvest produce from it.

While she recognized that it has not had the influence she envisioned on the school (and of course the school year does not align well with Ontario’s growing season), Rachel hopes that the school garden might come to have more of an impact on teaching and learning at City. Among teachers and students, the garden has helped to build community at City. Teachers who are avid gardeners actively welcome and support those teachers who are less experienced with gardening and garden-based pedagogies. Students also want to be more involved with the garden; at the present most garden work is done by the Eco-Team.

Here again we see the illustration of Plato and Socrates, of the teacher and student, student and teacher. Within the school, those teachers who are gardeners guide the hand—the curriculum and pedagogy—of those who wish to bring the garden into their teaching. And from those who begin to use the garden, in becoming gardeners, are able to guide the hand of those who taught them. This relationship is also present within the involvement of students in the school garden. Those experiencing the school garden are at once teacher
In the future, Rachel hopes for the garden’s role as a food garden to be expanded though she acknowledges that necessary space and light are limited in the garden space. Personally, Rachel would like to do more garden-based art with her students. She knows that it is not challenging to do but notes that it can be tough to find the time in an already busy schedule.

and student, student and teacher. The opposing roles blur and blend into each other.
March 20, 2012

We’re just like doctors

—Cherry

Or,

There is not a single signified that escapes, even if recaptured, the play of signifying references that constitutes language. The advent of writing is the advent of this play.

(Derrida, 1997, p. 7)
Dear R,

I have had a few meetings with the researchers so far to begin planning our research together. Through the eyes of some of my colleagues, I suspect that my start was overly ambitious (indeed the whole project could be viewed as overly ambitious) but even at this early point, I am really impressed with the grade six students’ ideas and contributions. And I am also feeling really positive about the small community of researchers that we are becoming.

We had our first meeting during the lunch break a couple of weeks ago. Down from an initial 18 interested students, eight joined me—Laura, Spider Dude, Orange Soda, Cherry, The Awesome One, Violet, The Cool Guy, and Purple Roses. I began our session by asking if everyone was comfortable with me audio

Later in the project, Spider Dude changed his pseudonym to John Cena. After this session, The Awesome One and Violet chose not to participate in the project as researchers.

Writing is nothing but the representation of speech; it is bizarre that one gives more care to the determining of the image than to the object (Rousseau, as cited in Derrida, 1997, p. 27).

I chose to record the research
recording the session—I have a hard time taking notes while I am talking with people. I do not like the pauses in the flow of conversation and it just feels unnatural. I wanted to be sure that the researchers were at ease (at least as best I could) and by not scribbling down everything they said, I thought they might be more comfortable. Also, I like to be able to listen to the conversations afterward; there is much in the pauses, the starts and stops, the hurried words, the back and forth between speakers.

I opened up a little more to the researchers about myself; they already knew that I was working on my PhD and I told them that my research was on school gardens, explained why I chose to do my research with and in the City community, and shared what my research questions were (this was before I let them go and really opened up the meetings so that I would be able to more fully attend to and participate in our discussions; furiously scribbling down notes and interrupting the flow of our conversation was not how I wanted to be in the meeting. I wanted to be able to listen again to the meeting, to hear the words shared, to the sounds and sounds of silence. I also wished to transcribe our conversations, to transfer speech into writing.

Derrida has written extensively on speech and writing, writing and speech, and the opposing

Interpretation is inherent throughout the research process and in every interaction within it. It is within every decision made related to data and data collection, in what is attended to, in what is not attended to. Here, in meetings with the researchers, I chose to record our conversations so that I would not need to frantically take notes, notes of what I choose in the moment, and of what I am able to remember in their absence. But even in revisiting the conversations later, in listening to the speech
again, I choose what to listen to, and in transcribing, I choose which points to transcribe—whether to transcribe verbatim what I hear, whether to include pauses in speech, whether to time those pauses in speech. And in transcribing video recordings, whether to make note of gestures, movements, interactions, and if so, which of those to make note of. And while my attendance to and interpretation of the research and research space may be thorough (or as impossibility of the research to possibility). Being at a school in a city with several large colleges and universities, the researchers were used to having teacher candidates and faculty researchers in and out of their classrooms and school. However, this relationship was different as it included them as researchers rather than subjects, teachers rather than students.

I wanted to do a quick brainstorm of topics and questions that might guide our research together and to get a sense of what their interests where with respect to the garden. When I initially invited the grade six students to participate in my project as researchers, I said that the research was on the school gardens but left specific of the project necessarily open. Cherry was keen to find out more about animals and habitats in the relation set up between the two in western metaphysical systems of thought. Following Rousseau’s words, and Aristotle’s much earlier assertion that spoken words are symbols of the mental experience and written words are the symbols of spoken words, the spoken word, speech, logos, is identified as sharing the first symbol, being the first signifier, of what is real, what

logos— from Greek logos account, ratio, reason, argument, discourse, saying, (rarely) word; related to legein gather, choose, recount, say
thorough as I attempt to make it, and whatever thorough may be, there remains difference as the decisions are mine, the interpretations mine, informed by traces of what came before.

garden and how the garden was important to animals. Orange Soda wanted to find out how many times classes normally went down to the school garden and Spider Dude was curious about whether or not the vegetables from the garden were actually used by members of the school community, for example, in school lunches. And, building on and with Cherry’s wonderings about animals and habitats, Spider Dude asked how humans’ daily lives affect animals. Other students did not contribute as much to the conversation and I thought my question to them needed more time for thinking and decided to set aside some time for a free write and share in our next meeting.

For this previous research project, participants consented to data collected from them to be used for five years beyond the end of the research.

Next, I really dove right in, and looking back, perhaps this was not the best idea given that our initial brainstorm felt a bit like pulling teeth. I wanted the researchers to have a feel is experienced, what is truth. There is a direct signification, reflection, mirroring, presence, of a transcendental signified; speech is interior to other signifiers (Derrida, 1997).

The written word, on the other hand, is viewed as secondary, supplementary, a step further removed, an absence, from what is real, from the truth, from a transcendental signified. Writing is seen as exterior to speech and the other signifiers. And therefore, writing and the written word is inherently
project itself; this allowed me to continue working with the data here. All of the transcripts were anonymized and people and places could not be identified. Also, the researchers were reminded of the importance of discretion when discussing data outside of the research meetings and with other people.

The data analysis that the researchers were doing, while described as finding the big for what doing research might be like and so I brought in some transcripts from another project to read through and discuss together. I thought this might help the researchers decide if they wanted to commit to participating as researchers in the project (I did have hesitation about working with so many students but did not want to have to enforce a limit on the number of participating researchers). The transcripts were from an earlier community mapping project that I worked on and we decided to go through it as a read aloud. As we read, I encouraged them to write on the transcripts, adding notes and questions and underlining points that were interesting or resonated with them. I find that going through transcripts, really, any reading, in this way helps me to dig more deeply into the text. Afterward, we talked about what was in the transcript and what the big ideas were that derivative of spoken word and speech prioritized over writing (Derrida, 1997).

Derrida rejects these claims, these chains, this hierarchy of speech over writing, instead reminding us of the transience, the movement, the play of signifier and signified, rather than the transcendence sought by western thought. The play of différence, of differing and deferring, is at work within the works of writing and of speech where the signifier and signified are uncoupled, the signified becoming signifier (Derrida,
they identified.

The students easily determined the main ideas in the transcript (e.g., the interviewees liked specific parts of the park and reasons why) and also discussed some of the more complex ideas in the interview. Using cues from the interview, the researchers concluded that the park was an emotionally positive place.

And, as always happens in schools when you are really starting to dig your heels into an activity, the bell rang.

The researchers and I had a bit of break between this meeting and today’s meeting. Only Laura, Orange Soda, and Cherry were able to attend at lunch today but it was a very good session. Perhaps a smaller number of researchers would a better idea?

There is not a single signified that escapes, even if recaptured, the play of signifying references that constitute language. The advent of writing is the advent of this play (Derrida, 1997, p. 7).

Différance upsets the opposition of speech and writing, writing and speech, and the prioritizing of speech over writing; writing is at once always already interior and exterior to speech and speech always already exterior and interior to writing. And so interiority
I gave each researcher a notebook to use for jotting notes and ideas related to the project. Many were pretty excited about getting new notebooks; Orange Soda in particular was happy and she very carefully wrote her name on the cover in her favourite orange pen.

As I remembered the researchers' difficulty in coming up with potential research questions and ideas from the last meeting, we began with an individual brainstorm of questions that I asked them to write them down in their research notebooks. I encouraged them to scribble down ideas that they had of things to find out more about that were related to the garden or the environment, reminding them that this would help us to decide what we would do our research on.

Laura and Orange Soda focused on specifics—do people use the garden, how long do they visit for, what is planted, are garden products used by the school, will the garden be expanded?

Do we use the veggies and fruits from our school garden?
How long will it take to grow berries?
Do people actually visit the garden?
Cherry asked a tricky, and a massive, question...

How do you know when you are making the environment sick!

how do we know when we are making the environment sick? When will we admit that we are making the environment sick and how will we respond? Would the researchers come closer to an answer, or begin to unpack the question through their research? As we discussed their brainstormed questions, Laura wondered if knowing we were making the environment sick was a secret:

Is there like a secret? I kind of wonder sometimes cause like you know how some companies have secrets?

Laura’s question alludes to relations of power and knowledge, specifically with respect to the environment but also more broadly.
Were they on to something? What was the secret? Who knew it? And who determined who else knew it?

I next asked the researchers how we might find answers to our questions:

OS Ask the school
SJ Who?
L Students
SJ And how do we ask them?
L Maybe we can have an assembly or something
SJ An assembly, OK
C No, like you can go class to class and talk about it
L Yeah, that’s a better idea
SJ OK
OS Quiz them! Hahaha
C If you say there is a quiz they will get all worried so I don’t think we should do that
...
C Or we can just see them....how about we have two or three people doing questions and there’s like

suspicious that it is known how we are making the environment sick but that understanding, that knowledge, is kept secret.

Knowledge, viewed poststructurally, is at once within discourse and constructed by discourse. And so power, if power is knowledge and knowledge is power, is also shaped by and shapes, directed by and directs, is embedded within discourses and, to Foucault (1990), is strategic and creates a strategic relation with and within societies. This is seen in Laura’s concern and suspicion.
considered. These include observations, interviews, documents, and audio visual materials (Creswell, 2007). Within PAR the decisions made with respect to these elements of the research are actively negotiated by participating researchers and the voices of all researchers heard.

four or five people around it and after they ask you what do you do around the garden

SJ OK, so sort of like having a discussion group or a circle group

L Yeah... maybe we could go around class to class and the first question could be what’s the first thing that comes to mind when I say City PS garden... and then we write them down

SJ Sort of like a brainstorm

L Yeah

And so, following a seemingly simple question of how we could answer our questions, and some clarification on my part, the three researchers identified (in their own words) three methods of data collection common in qualitative research: interviews, focus groups, and observations. They began to work through some practical considerations as well. Laura initially thought that an assembly might work but then reconsidered, agreeing that working on a class level might be

There is power/knowledge, knowledge/power, of and over the environment. And consider power/knowledge, knowledge/power with respect to the curriculum, to schools and education, to research and the academy. Power/knowledge, knowledge/power, can be traced throughout each of these discourses and while for the most part unspoken and taken-for-granted, quietly maintaining, reproducing, controlling power/knowledge, knowledge/power, these traces are not unknown to those from which
better, and Cherry was mindful of potentially causing participants anxiety by giving them a quiz.

Cherry likened the research process of asking questions to being a physician, musing that

**We’re just like doctors**

and I agreed with her:

**It’s like making a diagnosis almost. You see what’s going on, right, and from that you can answer some questions but before that you have to find out some background information and you get that from people.**

I think we are off to a great start!
April 24, 2012

It’ll be different questions, different answers, so we really don’t know how to analyze...different information

- Laura

Or,

There is a lot of research done by adults ‘on,’ ‘about,’ and even ‘for’ children but very little research in which children play an active and meaningful role.

(Researching Children, as cited in Barratt Hacking & Barratt, 2009, p. 374)
Dear J,

Over the past few weeks, the Cool Researchers and I have been planning together for data collection. It has been taking longer than I anticipated—finding time for meetings is difficult and I feel badly asking for them to give up too many recesses and lunches. As such we have been meeting once or twice per week but I imagine meeting more frequently when we get deep into data collection.

As we plan, we are having some great discussions. I am trying hard to step out from a teaching role, out of the shoes of a teacher, out of shoes full stop, and ask questions that are open and not too directive. It is challenging to find a balance between opening the research up completely to student direction and also providing guidance to keep the research process moving; there are times when it really feels like the researchers do not know what to do next. And really, how can

The researchers and I discussed pseudonyms and decided that the research group needed a name. After some names were proposed—the Junior Reporters, the Cool Guys, Eco Researchers, Science Club, and Susan’s Magnificent Club—the researchers settled on the Cool Researchers.

Here again is the struggle for balance and the ever changing role of the researcher in PAR with children. There is a seemingly constant shifting of roles, guiding the hand of the other and allowing the hand to be guided by the other. PAR with children, while
they? I do not know the steps to take next, it all depends on the space the we find ourselves within and the possibilities that we see.

Looking at our six drafted research questions: 1) how do students use the garden; 2) who is using the garden; 3) how do we take care of the garden; 4) how does our garden affect our EcoSchool level; 5) how are other schools doing with their gardens; and 6) what do we want in the school garden; I asked the researchers how we might explore answers to our questions. Along with making observations at recess and lunch and talking with April, the researchers were keen to use a survey to find out information from their peers. And so, we began to create a data collection tool and work through the logistics of its use.

We first considered who we would ask to complete our survey and how many people we would include—our sample and becoming more evident in social science and educational research, remains predominantly directed by adults, by teachers and researchers. There is a lot of research done by adults ‘on,’ ‘about,’ and even ‘for’ children, but very little research in which children play active and meaningful role (Researching Children, as cited in Barratt Hacking & Barratt, 2009, p. 374). Kirby (2001) notes that the participatory researcher working with children must redefine their role, opening a space
This initial discussion of sampling of potential City students to participate in the study can be considered using Miles and Huberman’s (1994) typology of sampling strategies. The Guy That Rocks’ suggestion to give a survey to one whole class might be identified as an homogeneous sample, a sample can focus, and also can reduce, the scope of difference in the data collected, and one that is further narrowed by Dynamite and Adam’s (cheeky tongue in cheek) proposal to only our sample size. It was quickly decided that we should give the survey to students but to which students and how many of those students?

TG How about a whole class?
D Grade six, only grade six
L Why only grade six though?
A Only the boys in [our class]
C Oh my god! That’s not fair
L You’re sexist, Adam
A Don’t be a hater
S It’s a good point that you bring up because when you are doing research, you’ve got to figure out who you want to talk to...do we need to know what every single student thinks?

All No
S How many students do you think we need to talk to?
OS Like a hundred?
D Ten, ten in each grade
TCG How about a girl and a boy from each class?

For young researchers’ critical awareness and sharing of knowledge and understandings while being careful to not impose their own views and ideologies. Perhaps the tension is in the search for a re-definition that can never be pinned down, one that changes and evolves and grows over the course of the collaboration and also reaches back into the histories brought to the project. This difference, différance, the difference which makes a difference can be difficult to sit
survey only the boys in their grade six class. Increasing the variation in possible sampling strategies, Orange Soda suggests that 100 students be surveyed, Dynamite proposes that ten students in each grade, and the Cool Guy wonders if they might include a girl and a boy from each class in the sample. Here, and again following Miles and Huberman (1994), the researchers’ strategy suggestions could be classified as both maximizing variation which can allow for

\[ \text{TG} \quad \text{How about a whole class do it?} \]

\[ \text{L} \quad \text{Maybe we can go to each class first, well not every single class but most classes and then talk to them, narrow it down to which use [the garden] most} \]

There were many ideas about which students to survey, and how many of those students to survey, and I tried to sum up the uncertainty in research of knowing what to do:

\[ \text{It can be really difficult to ask everybody everything. So then you have to think, “OK, how many people do I need to talk to to be pretty sure that I have a good idea of how the whole school would probably answer these?”} \]

Fairness was also a concern, though I think that Adam was doing his best to get on the girls’ nerves. In this meeting, Laura later circled back to issues of fairness in our sampling. She wondered specifically about the kindergarten students, worrying...

...really difficult, pretty sure, have a good idea, probably...

My comments to the researchers, and my word choice within them, highlight the certainty of the uncertainty, the definite indefiniteness, in this research approach, of any research. PAR is inherently emergent and at once responsive to and representative of the multiplicity of researcher understandings, perspectives, and actions, and research contexts.
that it would be unfair to survey the morning classes and not the afternoon groups. My concerns about fairness were somewhat different. I have found that, on the whole, elementary school students enjoy participating in research, doing surveys and sharing their thoughts in interviews. Would some students at City think it was unfair that data was collected from some students and not from others? Again, here was this balance of concerns, this time of feasibility and fairness.

I asked the researchers a little more about using a survey with younger students. Would we use the same survey? Would that work? The Cool Guy suggested that we ask the younger students the survey questions in an interview instead; the Guy that Rocks thought that we could simply read aloud the questions and then students could write their answers down. Dynamite thought that a simpler survey would be needed and John Cena agreed with me that diversity to be realized while at the same time identifying shared responses and patterns. Furthermore, these purposeful stratifications of groups can open a space for comparisons of those groups and subgroups. Finally, Laura’s recommendation that we speak with most classes and then give the survey to those classes that most regularly and often use the garden again could present a homogeneous sample that at once focuses and reduced difference and can also, given the greater

Laura’s concerns about the fairness of our sampling of participants remind of the need for researchers to be mindful of how they are viewed within the research space by the community being studied. Her concerns also speak the role of power that researchers hold with respect to decision making about research directions and how these decisions might be perceived by (potential) participants. Decisions by researchers are also turns that can at once both open and close the research. This can be followed through the Cool
we might ask younger students to do some drawings for us. We were all over the place with this.

The last time I asked the researchers to brainstorm on their own for a while (then research questions that they had about the garden) was quite helpful in stimulating conversation and so once again, I asked them to individually think about and write down questions, this time questions that we might include in our survey. As they did this, I reminded them to keep our research questions in mind.

Most students shared questions related to number of garden visits and what was done there:

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How do you work in the garden?
How do you spend time in the garden?
Have you ever been to the garden before?
```
In the Ontario grade six science curriculum, students learn to classify and identify organisms using dichotomous keys. For example, Orange Soda’s questions branched from an initial yes/no answered in writing, respectively.

Dynamite proposed simplifying the survey so that it

1. Have you been to the school garden?

2. If yes, answer these questions:
   1) What have you and/or your class do at the garden?
   2) What did you and your class plant in the garden?
   3) Would you add or take away anything in the garden?
   4) How many times have you been in the garden?

If no, answer these questions:

1) Do you wish to visit the garden?
2) What do you think the school garden will look like?
question of whether or not the student had been to the school garden.

I compiled the potential survey questions and at the next meeting—a recess meeting—we went through each question and discussed whether or not changes needed to be made and what those changes ought to be. Recess meetings are always such a rush; as soon as you get into something, the bell rings. I was keen to have another meeting though so we could wrap up the survey and have our participants complete it. For convenience, the Cool Researchers decided to have a grade three and a grade six class complete the surveys; both of the classroom teachers agreed to take part and I had consent forms for both classes.

Looking forward, May and June were very busy months for the grade three and grade six classes with a multi-day field trip for the sixes and several days of large scale testing (and weeks of preparation leading up to them) for both the threes and sixes.

In Ontario, elementary students in grades three and six write exams in reading, writing, and mathematics created by the
With both classes in mind, the possibility of having different surveys for the grade threes and grade sixes came up again:

TG We can make completely different surveys for our grade threes and sixes

L That would be kind of weird though because if we make different surveys, we like, do you mean like similar questions?

TG Similar questions but more advanced

L Like we could make it more simpler for the grade threes

TG Yeah, that’s right

A Yeah, just change the question a little bit

SJ How would it work if we had completely different surveys?

C That would change the topic

L Not really but it would be like different answers for like each grade and it would be like different

C It’ll be weird

L It’ll be different questions,

Cool Researchers and I opted to ask both a grade three and a grade six class to participate in the study’s data collection. It was very much a decision of convenience—working with these classes would save us time and effort as I had already spoken to the classroom teachers about having their students participate and received ethics review board approval from the university and the school board to work with those classes. We also were mulling over a number of things.

Education Quality and Accountability Office; the tests are often referred to as EQAOs. Students later write a secondary school literacy test and an assessment of mathematics in grade nine.

Noting that there will be variations, Creswell (2007) summarized the steps of qualitative data analysis as: 1) coding the data; 2) combining named segments into broader themes; and 3) displaying and comparing themes using graphs, tables, and charts.
different answers, so we don’t really know to how analyze...different information

Laura recognized that by having different surveys for the grade threes and the grade sixes we might have difficulties when it came time to analyze the results.

We continued to go through together our compiled list of survey questions. Some of the suggested questions were quite similar (e.g., “How do you do work in the garden?” and “How do you spend time in the garden?”) and so they were combined. Other questions were extended (e.g., “Why or why not?” was added to “Have you been to the school garden?”). And some new questions were introduced (e.g., “What grade are you in?”). By the end of the meeting, we had a rough draft of our survey and the next day, the Cool Researchers themselves completed it to help us determine the clarity of our questions, and the answers that would be given.

In contrast to the norm of research projects being directed by adult professionals, the L2C project (Barratt Hacking & Barratt, 2009; Barratt Hacking, Scott, & Barratt, 2007) — Listening to children: Environmental perspectives and the school curriculum — opened up all stages of the research process to the participation of young researchers aged 10-12 years. The adult project leaders were challenged to open up the research methods, those usually carried out solely by adults, and
I compiled the Cool Researchers’ responses and shared them in our lunch meeting earlier today. Again, we went through the questions, this time with their answers. I asked them how they found the questions and if there were any that they were not happy with, reminding them that we could observe and interview the students as well. We did not have to rely exclusively on the survey for data.

The question, “How many times have you been there?” generated a lot of discussion. Orange Soda wondered if we even needed the question at all: the one like how many times have we been, like we don’t care how many times they have been.

I agreed that she had a good point, for our purposes it was not important to have a specific number of visits (it was difficult to remember how many visits...
Cool Researchers explored openings and closures in the survey questions. For some questions, our hands came in to direct, and enclose, participant responses. For example, we added bullet points to answers and provided number ranges as possible answers. At the same time, we also took our hands away from the participant, opening possibilities in participant responses, by allowing space for difference. Here, for example, we posed some questions with open-ended responses and some students had to the garden (but we did want to know if students had only been once or twice or were visiting regularly. We decided that we would provide categories that students could choose: never, 1-5, 5-10, and more than 10.

Mindful of our research questions, we continued to go through our draft survey and the Cool Researchers’ answers. We decided to guide participants more for “Describe the garden,” adding five bullet points in hopes that they would encourage participants to list five descriptors. We changed the wording of “What would you like to grow or have in the school garden?” to “If you could grow anything in the garden, what would you grow?” For this question, we also went back and forth between making it multiple choice or open-ended—John Cena thought multiple choice might work best for younger students but Dynamite thought bullet points would be better—before settling on an open ended study’s research methods and the decision making was directed somewhat more by the young researchers.

There were some changes in the students who wished to participate in the Cool Researchers group. Awesome Blue and the Great One started with us but stopped attending meetings. Two other students joined us for a couple of meetings after we had already started and then stopped attending.
reworded some to reflect our openness to any possibilities (e.g., *if you could grow anything in the garden, what would you grow?*)

Schäfer and Yarwood (2008) explored power relations among youth in their inclusion of young people in participatory research. Their work suggests that, along with power relations between adult and young researchers, participatory researchers must also be alert to similar situations between the young researchers and the participants from whom they collect data.

Some questions were rearranged to make the survey flow a little more smoothly. We also included a final question asking the participant to choose a pseudonym by which they would be referred to in the research.

The Cool Researchers and I discussed again how the survey would work with the grade three participants. And again there were concerns about the difficulty of the survey for the younger students. Adam thought it was too long as it was (ten questions over three pages) and that it should only take about five minutes to complete—a good plan as doing the survey should not feel like too much work or require too much effort, especially for younger participants. I agreed with Adam and suggested that we try to cut it down to one page, single sided. We will need to see how our survey goes over with the grade sixes who will be completing it first.

It was interesting, and to be

Noted by Kemmis and McTaggart (2000), PAR is intended to be emancipatory, freeing participants from
honest, a bit frustrating in today’s meeting how Cherry asked over and over whether they would be leading things:

**So are we going to be in charge?**

I wonder what she meant. Were they going to be in charge of the research group? I was hoping that they felt that we all shared in that. Or, was she thinking of when we administered the survey to participants? Maybe she wished to run the class for a while. Cherry also asked a few times about who was in the research group and who was out. This was not entirely clear and I guess I will need to talk to a few researchers about whether or not they wish to continue working with the Cool Researchers. There are nine researchers (Adam, Cherry, Dynamite, John Cena, Laura, Orange Soda, Purple Roses, the Cool Guy, and the Guy that Rocks) who have been attending consistently and to be honest I the bindings of social structures. Freire, whose work deeply and inextricably informs PAR, warns of the tendency in the initial stage of the struggle of the oppressed to liberate themselves and their oppressors to themselves become oppressors, emulating those who have held them back. This, however, must not be the case; instead, and in order for this struggle to have meaning, the oppressed must not, in seeking to regain their humanity (which is a way
do not know how well the group will work with any more students and only one of me. Today was a challenge—several brought their phones along and my patience was really stretched by the lack of attention of a few researchers. I hope I was not too much of a grump...

to create it), become in turn oppressors of the oppressors [and of those who remain oppressed], but rather restorers of the humanity of both (Freire, 2000, p. 44).
May 1, 2012

What’s curriculum?

It’s like what you’re supposed to be learning

It’s school, it’s the purpose

- Susan
- Dynamite
- Laura

Or,

It is time not to reject but to decenter the modernist-laden curricular landscape and to replace it with the C&C landscape that accommodates lived meanings, thereby legitimating thoughtful everyday narratives.

(Aoki, 1993, p. 263)
By collating and organizing the grade six students' survey data, I closed one seemingly minor but important part of data analysis to the Cool Researchers - the first look at student survey responses. My organization was the first interpretation of data and how I (re)presented student responses would inherently inform how the researchers read and in turn interpreted the data. Here, my hand is very much directing the work of my research partners.

Hart (1997) notes that the analysis of interviews (and I will add surveys) and ease of analysis depends on the type of questions asked. If questions are predominantly answered with yes or no or are degrees to which respondents like or dislike, or disagree or agree, the analysis and summary of findings can be relatively straightforward.

Dear R,

Over the past couple of weeks, we started some analysis of the grade six students' survey data. Our first look was very quick during a recess meeting - meetings at recess need to be so organized, there is such a limited amount of time.

I put together the survey responses of the grade six students into tables for each question. I thought this would help us along and save a few steps; because it seemed to be just organizational. I went ahead and did it myself rather than take up meeting time having the researchers work on it. The researchers worked with a partner and read through their peers' survey responses, looking for big ideas, shared responses, and key words; as in earlier sessions, I encouraged them to write on the pages, underline passages, and
It has been said in literature related to participatory research with young people that data analysis and interpretation is typically the most difficult part. However, if questions are more open and ask for participants’ perspectives, thoughts, ideas, and views, I asked the researchers to share what the big ideas were that they identified in the survey responses and these were surprisingly difficult to get to: many of the researchers

<table>
<thead>
<tr>
<th>Name</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alex</td>
<td>To help the plants survive</td>
</tr>
<tr>
<td>Bat Man</td>
<td>Because I like to and you have to</td>
</tr>
<tr>
<td>Violet</td>
<td>I go to the garden because sometimes we have to sketch</td>
</tr>
<tr>
<td>TCABVG</td>
<td>To try the leaves. Sometimes in school days we work like digging, measuring and draw</td>
</tr>
<tr>
<td>Huey Freeman</td>
<td>To explore it</td>
</tr>
<tr>
<td>Pit Stang</td>
<td>Sometimes to help clean the clean but I don’t remember all of the times I did in the garden</td>
</tr>
<tr>
<td>God of Thunder</td>
<td>I go to the garden because I want to look at nature</td>
</tr>
<tr>
<td>B4</td>
<td>To look at plants, taste them, just walk around</td>
</tr>
<tr>
<td>Hatsune Mika</td>
<td>We go there to do things like draw/sketch and most of the time we eat plants</td>
</tr>
<tr>
<td>Super Agent X</td>
<td>I go to the garden to learn and eat. Sour leaves are good. Yum. It’s fun though.</td>
</tr>
<tr>
<td>Maya</td>
<td>For taking care of plants and learning about the different types of plants</td>
</tr>
<tr>
<td>Awesome Blue</td>
<td>To help the garden, plant something, and with the class</td>
</tr>
<tr>
<td>Alison/Abby</td>
<td>I go to the garden because I like plants and it makes me feel happy that I can help out</td>
</tr>
<tr>
<td>Sone</td>
<td>To try to create more habitats for animals and more trees so that we can grow food</td>
</tr>
<tr>
<td>Spongebob</td>
<td>I go to the garden to see how much my plant grows</td>
</tr>
<tr>
<td>ABPL</td>
<td>Because to help the school to be more of an EcoSchool</td>
</tr>
<tr>
<td>Sarah/The Gent</td>
<td>Because I have to</td>
</tr>
</tbody>
</table>

5. Why do you go to the garden?
challenging part of research for young researchers to engage in (Kirby, 2001; 2002). Young researchers might find it to be boring or difficult and not want to be involved in it and therefore adult researchers will often simply take on the data analysis without the input of their younger research partners or limited their involvement to only a few elements of analysis (Kirby, 2002). Dyson and Meagher (2001, as cited in Kirby, 2002) note that research is... a highly technical process which many simply read verbatim what the grade sixes wrote rather than share what the main ideas were. Again, I encouraged them to look for the big ideas and we talked about what we understood from the responses and shared themes that we could identify. This analytic process proceeded very well for the question about why people go to the garden.

S Let’s actually do question #5, why do we go to the garden because I think that ties in well with #7, OK, so Laura, the big ideas there, why do people go to the garden?

L To help the plants

S OK so the big ideas here

L To help plants and to take care of them, that’s one

S OK... so there’s caring and helping

L Caring, helping, and two sketching, and sketching/drawing

S OK

L OK, and there is eating

C Eating?

analysis can be much more challenging. In this case, Hart asserts that children will need assistance in learning how to go through an interview to pull out categories of ideas and evaluations made by the respondent (1997, p. 174).

The Ontario Grade 6 Language curriculum includes the overall expectation that students will read and demonstrate an understanding of a variety of
professionals spend an entire lifetime perfecting. Perhaps unsurprisingly, the experience of [their] case studies is that some young people lack the skills, expertise, and attitudes, to become involved in anything other than a periphery role. They go further to assert that young researchers inevitably compromise the trustworthiness of [the] research. Badly designed studies, poorly-conducted field work, weak analysis, and

L Yeah
C Mostly there’s two
S Is there anything else?
L Um, there’s
[pause]
S ...this response was to look at plants, taste them and just walk around so it sounds like he likes being there, just being in the space... so we’ve got people who like caring for and helping plants, they like sketching, they like feeding things there, and they like being in the place. How are these related to each other? Are there any ways that we can describe these? I am thinking about sketching here, that’s part of the schoolwork that you guys do
A Yeah
S So that’s school related so I am going to say school... and I am going to say curriculum in there. What’s curriculum?
L Subjects
D It’s like what you’re supposed to be learning
L It’s school, it’s the purpose

literary, graphic, and informational texts, using a range of strategies to construct meaning and specific expectations that include demonstrat[ing] understanding of increasingly complex texts by summarizing and explaining important ideas and citing relevant supporting details and develop[ing] interpretations about texts using curriculum— from Latin *currere*, racing chariot, from *currere*; adopted for ‘course of study or training’
currere— from Latin *currere* run
m i s - interpretation of data cannot be expected to generate ‘safe’ knowledge (Dyson and Meagher, 2001, as cited in Kirby, 2002).

Data analysis is challenging, and challenging for any researcher regardless of their age or level of experience. What some of the literature illustrates, as above, is a very particular, very modern and (post)positivist perspective on what research should be, and even can be, which makes impossible the stated and implied ideas to support their interpretations (Ontario Ministry of Education, 2006, p. 111).

The comments of the researchers (here, myself included—those other ones) illustrate a holding central of a modernist curriculum of disciplines and structures, one that is separate from caring and helping...those things that make you feel good...emotions.

It is a perpetuation of a curriculum that does not embrace, and legitimate the everyday stories of...
possibility of doing research that is open, that is inclusive and that encourages a multiplicity of methods, of voices, of ideas, of directions, of possibilities. This (en)closure makes PAR of any kind, let alone PAR with children, an impossibility. 

guide them closely, modelling the methods of analyses that I have used previously, namely thematic coding. But was this guidance too close? I worry that I went into the process with an idea – perhaps too set of an idea – of how the data might be interpreted. Was I open to other ways of interpreting the survey responses? Did the researchers feel that their ideas, particularly those that differed from the interpretations that I shared, would be accepted in our discussion? Was my guiding, rather than opening the research, actually closing it off? Did I come across to the researchers in the role of teacher? When working with the researchers, I do try to step back and so the researchers can move things along but sometimes the pauses and silences pull me back into a teacher role. 

As we read through the grade sixes’ responses, some of the knowing and being, those lived meanings that Aoki (1993) accommodates within the C&C landscape. Within the C&C landscape, every experience with and in the school garden—a lesson connected to the curriculum-as-plan, a tasting of sour leaf, mint, and parsley, a planting of seeds or seedlings, just [a] walk around—is curricular.

Prior to their involvement in the research, grade six and grade three participants were given consent forms and
Of the grade sixes, 21 students chose to participate in the research and 8 chose not to. Of the 21 students who wished to participate, all of their parents and guardians consented to their child’s participation in the project.

Of the grade threes, 21 students chose to participate in the research and 2 chose not to. Of the 21 students who wished to participate, all of their parents and guardians consented to participate knowing that they would not be identified.

Researchers were preoccupied with trying to identify who each participant was (the responses were anonymized using the students’ chosen pseudonyms). I reminded them of the importance of keeping the identities of participants anonymous; they agreed to participate knowing that they would not be identified.

If you do participate, I will change your name in my research.

The video recordings of interviews will only be seen by me. I may use photographs that I take in presentations of my research; faces in these photographs will be pixilated/blurred out.

A It’s so obvious, I know who [student] is
JC The Great One
S [student] is not the Great One
OS The Great One is [student]
L [student] is [student]
A [student] is Abby
S ...please make sure, these people have agreed to take part knowing that it’s anonymous, knowing that people won’t be identifying them...one of the things we need to make sure that we do is we don’t go back to class and say ‘why did you write this, why did you do that,’ OK? You know the stuff that we talk about stays within this group.
their child’s participation in the project.

The grade six students were each given a written consent letter that I read aloud in class; I then answered their questions about the project, their participation in the project, and anonymity and withdrew from participation. The grade six students then read the letter on their own and signed and returned the form to me if they were interested in participating.

The grade three students were each given a written consent letter that I read aloud in class; I then answered their questions about the project, their participation in the project, and anonymity and withdrew from participation. Until we share results with the rest of the class, OK?

OS  Who is ABPL?

S  It doesn’t matter, OK?

I wonder if maintaining confidentiality will be an issue in the research. I think, right now, the researchers are having fun figuring out who said what; I hope that the novelty wears off.

Another concern that has come up is related to the number of consent forms that students and their parents have to read and sign.

D  My dad said it’s too much

S  He doesn’t want to sign anymore?

D  He makes my mum sign it and he says that people forge it

S  OK

A  That’s true

S  OK, I won’t be forging signatures but, OK, I know it’s a lot of paperwork to

Of considerable concern when doing research with students, and researching with students, is gaining consent, reliable consent, for their participation in the study. This is particularly the case when the research is situated within the context of a school. The relationships of power in school settings, both spoken and unspoken, situate teachers and adults in a dominant position to students and as such, students will often simply follow adult
students were read a letter of assent aloud in class and, as with the grade sixes, I answered questions that they had about the project. Then I spoke to each student individually and asked if they wished to participate in the project and if they consented to having photographs that included them used in the research. I recorded their responses with coloured circles: green if they gave consent to participate and red if they did not give

sign

OS My mum keeps saying that it’s the same form all over again

There are four consent forms to complete: two for researchers (one for participating in the study with their class and one for participating as a researcher) and two for their parents or guardians (one for their child’s participation in the study and one for their child’s participation as a researcher). I understand that the forms need to be detailed, and that the review board requires particular points to be outlined, but the resulting letters are very lengthy and very dense with information. And when there are multiple letters that read very similarly, it can certainly become frustrating, especially when you are not as familiar with the lingo. It must be like getting a report card that is written in inaccessible expectations related to work and behaviour. And here, when teachers (or parents) consent on behalf of their students (or children), it cannot be assumed that students are genuinely informed and are allowed choice in their involvement (or non-involvement). This assumed consent is prevalent in school-based research in which students may assume that the research participation is simply part of the regular and required class activities and that their involvement
consent to participate.

Parents and guardians for both the grade six and grade threes participants were given a written consent letter to read, sign, and return to me. These letters included a note to please let me know if they wished to have the letter translated.

teacher-speak. Even though the students participating in the project, both the researchers and the participants, are under 18 and could be covered by a consent form signed only by parents, I felt it was important to actually have the permission of the students themselves. If I am justifying, and encouraging, and honouring, their voices throughout the research process how could I not seek their own consent to participate? Looking back, I do wish that I had, for the researchers, put both consents on one form to cut back on paperwork for students and their parents or guardians. And perhaps, as for the grade threes, I should have made a verbal consent checklist instead. But, I wanted to respect their maturity. Here again is that elusive balance.

is expected (David, Edwards, and Alldred, 2001; Morrow, 2008). For these reasons, and others, it is essential that students are clear and fully understand the separation of the school curriculum and expectations of their teacher and school and the participation in the research project.
May 8, 2012

People who hate the garden can sit there so they don’t have to look at it
—Adam

Or,

Do you think [the garden] is seen as belonging to the school or belonging to the community?

Belonging to the community

But only the school goes there

- Susan
- Adam
- Dynamite
Dear J,

Today’s meeting was one that brought up the notion of access, access to a number of spaces and places related to the garden and to the research.

The researchers and I were reviewing our survey questions and how we might adjust them to fit our interviews with the grade three students. As we spoke about when they themselves went to the school garden – most visited during class time, and some on the weekends and after school – I wondered if other people in the community, those who were not students or teachers at the school, visited the garden and so I asked them what they thought:

S Do other people use the school garden? Do parents come out?

OS No

S No? How come?

C They’re too busy

A I think it’s because they

The fence of the garden, the enclosure within its very etymology, acts again to enclose, to close in the space, this time to community members. A barrier keeping the school in, and the community out. Separate. Sidney and Rachel noted previously that they wondered if the fence may be communicating to the community the school’s exclusive ownership of the garden, silently but rigidly closing off the space to community members. While schools and school grounds are funded by the public, they are owned by the school board or district. Access to the school and school grounds is determined by the board or district.
like might not know if they’re allowed to go
C Yeah
A Or, yeah
D Or like there’s a concern if they’re going to get in trouble if they go in there
C Yeah
A So guilt…. No, concerns
S OK, so how do you think the garden is seen? Do you think it is seen as belonging to the school or belonging to the community?
A Belonging to the community
D But only the school goes there
S What do you think about that?
D Not enough people are interested
S You don’t think many people are interested?
A Not adults
D Unless they liked it
S OK, so do you think that’s a good thing or do you think that it should be different?

In the perceived (lack of) openness, the enclosure, of the garden experience to the community, there run traces, roots, of past garden experiences, past enclosures of garden spaces, and openings to only a select few.

The Ancient Greek academy gardens were recognized as spaces for learning but were exclusive to those deemed capable of studying philosophy. Medieval monastic gardens were sites for meditation and contemplation; they also served as living libraries of classical horticultural knowledge and practice. But, like academy gardens, monastic gardens
acknowledges though that more could be done to engage community members with and in the garden; the Cool Researchers offered suggestions of how the community might be further welcomed into the garden as they voiced that they thought more adults in the community should be interested in and helping out with the school garden.

There too persisted that fence, that bounding and enclosing of the garden and the garden experience, in the openness, and closure, of the garden to students as well. The

D  **No**

OS  **I think a lot of people should help**

PR  **Yeah**

A  **Yeah, people should, yeah**

The researchers offered many suggestions of ways that we might encourage, and welcome, the community into the garden, some realistic possibilities (e.g., newsletters, signs, word of mouth) and others a bit of a stretch (e.g., hiring a skywriter, having a fireworks show, threatening to riot).

We circled back to discussing when students spend time in the garden and came to talk more about time spent in the garden outside of school hours and without teachers. Was the garden a place that students wanted to spend time? And if so, how would they spend their time there?

S  **Do you guys ever just go to the gardens because you want to?**

were open to the public in a limited capacity. And, the gardens of Versailles, the magnificent gardens displaying the wealth and power of the head of state, while open to the public to celebrate the king’s greatness, still maintained a textual barrier, one that wordlessly yet botanically demarcated and divided the lived experiences of the king from those of his subjects. In the school garden, like these historical gardens, the role of the gatekeeper is preserved, selectively opening the garden space though which institution actually keeps the gate—the academy, the church, the state,
researchers noted that they only went to the garden if they were with their teachers or doing a specific activity. The gate seemed to be closed without the presence of a gatekeeper.

And when the students imagined the gardens as open, without the fence, unbound, the garden became for them an open space, an unstructured place, one for relaxing, for refreshing, for rejuvenating, for revitalizing; it’s our treehouse.

C No, it’s always with teachers
A Not if we’re not doing an activity
D Because if we went, what would we do there?
S I don’t know, what would you do?
D Cause we’re not even allowed to get there
S OK
OS Because teachers would be like, “Why are you here?”
S OK, so if you guys were allowed to go to the school gardens whenever you wanted, what would you do?
A I stand in front of the school garden, yeah, I’ll go in, relax, talk, just chill, and when I’m ready, I’ll go back inside
S So you’d go there to hang out
D Yeah, it’s our treehouse
A And get some fresh air too and eat the plants

We talked as well about the physical enclosure of the garden; it is bounded by a brick

Given the opportunity to visit the school garden whenever he wished, Adam said that he would go there to relax, to talk, to chill. The garden was a break for him, a pause, and when he was ready to go back into school, he would do so. Dynamite identified the garden as their treehouse, a place for play and for fun. These ways to experience the garden are echoed in the literature on school gardens and their influence on
Along with the semiotics of the fence, tracing boundaries around the garden and around spaces opened by the garden, there is also the semiotics of the bench, of the two benches by the garden. Both benches are outside of the fence, that bounding fence. And both benches face out from the garden, their backs to the garden, opening away from the enclosure. What might these benches mean? What signifieds might these signifiers signify? They might be a place for rest. A place for contemplation, school wall on one side and by chain link fence and gate that is most often closed (though not locked) on the other sides. On the surveys, some of the grade sixes said that they wished there were benches in the garden to sit on. There are some benches at the garden but they are on the other side of the fence from the garden and facing the street so those seated would have their backs to the garden.

S  It’s interesting because the benches that are there face away from the garden

PR  You could move them inside

D  People who hate the garden can sit there so they don’t have to look at it

S  They’ve got their backs to the garden

A  Why would you do that? With their back to the garden?

And as we talked through our questions for the grade threes, there remained concerns about students and school community members. Time spent in school gardens can be like an escape for students (Morgan et al., 2009), a feeling shared by Adam. And as observed by Rachel, happiness and emotional and psychological wellbeing can be nurtured by time spent in natural spaces (Hartig, Mang, & Evans, 1991; Kaplan & Kaplan, 1989; Wells & Evans, 2003); this is also shared by Adam and Dynamite.
perhaps of contemplation for what lies before. And the orientation of the benches; consider what might be signified by this seemingly simple setting of the bench parallel to the fence, outside of the fence, and facing west and away from the garden. Perhaps it looks out and beyond the garden to the broader environment. Perhaps it not only places humans outside of the garden, of nature, with our back turned, ignoring, silencing. These musings only hint at the difference, the différence, of meanings in those two benches how easy it would be for the younger students to participate. The ever-present concern. Would our questions be too difficult? Too confusing? All of the researchers wanted to be sure that the grade threes would be able to contribute. Again, questions were revised to open them more to a broader range of students and ideas. Orange Soda proposed that rather than ask the grade threes directly what they would like to see in the garden that we ask them to draw what they wished was in the garden and then ask them to describe their drawings to us in their interviews. A great idea because this too could alleviate some of the stress (if any) that the grade threes felt with being interviewed.

Kirby (2001) recommends, along with photography, role play, and visualization, that drawing as a prompt for discussion or as a form of data collected be considered in participatory research with children to engage young participants from a range of age and ability groups, and with a variety of interests.
June 12, 2012

Why is [Richard] wearing sunglasses in the classroom?

Hahahahahaha..... I have no idea

—B4

Or,

And the men who hold high places
Must be the ones who start
To mold a new reality
Closer to the heart

—Susan

(Peart & Talbot, 1977)
Dear J,

Today Richard and his researchers came in to work with Sidney’s class. It was really funny at the time but now, looking back, so telling; at the start of the day, when Sidney was going through the attendance list, Richard stood inside and to the side of the classroom, wearing his sunglasses. After coming into the classroom, greeting me with our usual high five, and settling into his desk, B4 turned around, smirking, and asked me why Richard was wearing his sunglasses inside. I started to laugh, because I had been wondering the very same thing, and said that I had no idea. The sunglasses made Richard visually quite separate from the rest of the class, further highlighting what I saw to be Richard’s present absence from the school community and his distance from the students, the class, and the school.

Richard’s research brought him

The range of discussions in qualitative research methods books related to issues of ethics, the role of the researchers, and the place of the researcher with and in the research space is as varied as researchers themselves and their assumed identities with and in that space.

Creswell (2009) notes that researchers need to respect research sites..., be cognizant of their impact, and minimize their disruption of the physical setting (p. 90). Disruptions of the
to the school on a couple of occasions to do project work. His research was a great opportunity for students to participate in a unique activity but was quite separate from the curriculum and instruction being done at the school. While they were happy for their students to be able to participate in Richard's work, I sensed that the teachers at City felt stressed by yet another research project being done at the school. And, Richard's timeline was extremely tight. His project work was scheduled to be completed within a couple of very busy weeks in June—immediately following the EQAO assessments. It was more work to be fit into an already stretched schedule—quite the norm for schools. Curricular topics had to be wrapped up and the school year brought to a close. Teachers needed to complete their assessments and reporting. There were many boxes to be ticked.

There were also the big changes, research space can also impact on routines (e.g., changing of schedules to accommodate a lesson observation) and relationships (e.g., not acting respectfully as a guest in the research space) (Creswell, 2008). He further warns that issues of ethical concern can surface when the research is not reciprocally beneficial to both the researcher and participant (and I would add, the research space) (Creswell, 2008; 2009).

Flick (2006) elaborates on the multiple roles of
the transitions, that come with the end of a school year—looking forward to new classes, schools, peer groups, grade assignments, and so on loomed after the lazy days of summer holidays. Big adjustments and, for some, very difficult adjustments to make. With the busyness of the past few weeks of testing, the teachers have not been able to spend time with their students, on their own schedules, on their own projects, in a long while. I really felt for the teachers and for the students, I knew the bittersweet feelings of June—the excitement of summer and the end of a school year but also the sadness and uncertainty of change and changing relationships in the coming year. I felt especially for Sidney and her grade sixes. She had been teaching many of the students for two and three years—they were her kids—and students would be going on to new schools. Big changes. I wished that they could spend June together, enjoying familiarity and each other's

power from a select few enclose it from others, perpetuating the understood exclusivity of power, and of knowledge. Richard’s stance within the research space displays this.

But the students are on to something. B4 questions Richard’s stance—why is he wearing those sunglasses in the classroom? B4 sees the wearing of the sunglasses, the shading, the hiding, as humorous, as ridiculous, and laughs at the glaring difference in Richard’s stance and those of the

the researcher with and in the research space and their negotiated entry into that space. Situation in the research space is described along a continuum, with the researcher as a distant and objective observer at one end and the researcher as an actively participating, fully immersed member of the research space. When considering access to the research space—to the field, to the institution, to the community—the researcher must also consider their role within the space and what can, and what
others in the class. The separation is humorous; it is ridiculous that Richard postures himself in the classroom.

And the posturing, a static installation with the separate pose accessorized with sunglasses, and the expression and perpetuation of exclusivity of power can also be traced in Richard’s moving interactions with and in the research space. Richard asked for the teachers’ feedback and yet when the teachers voiced their suggestions, their voices were not heard, or were heard but not listened to. The presence, knowing the upcoming unfamiliarity and absence.

And so Richard’s project came at a stressful time. And there was also tension leading up to his project. I think the teachers felt that their voices were not being heard. Richard asked for their input on the feasibility of the activities but then seemed to dismiss their suggestions. The teachers knew their students and knew better than quite possibly anyone else what would work for the class and what would not work for the class. But, this was coming from one of the universities in the city and those connections were good to have. It looked favourably on the school to be partnering with the university and those occupying rungs higher up on the ladder.

Richard requested that teachers distribute and collect all of the consent packages from the students and participation was not presented as optional; those students who had not returned their forms were told that they cannot, be learned through a particular research orientation. For example, the ‘stranger’ in the research space might be able to more easily recognize taken-for-granted structures and routines. On the other hand, the ‘initiate’, through becoming a participant observer, can have spaces within the research space opened to them, spaces otherwise closed to distant observation. While the role taken on by the researcher, observer, participant, some place between
teachers were kept down to their assigned rungs on the ladder of power. And the teachers were also requested to ensure that consent forms were completed by parents—students were not given their own consent forms.

Research is inherently a relationship between those who pass through, or those who dwell, or those who pass through and dwell, with and in the research space. Depending on the project, those relationships might include the researchers and the researched, partners in must be signed and returned. Gathering parental consent for Richard's work was a difficult task because students, and their parents, had many questions that teachers were unable to answer (it was not their research). I did my best to help out and also quickly saw that students and their parents were becoming frustrated with the number of consent forms going home to be signed; my work had several forms for students and parents to sign. And of course, the consent forms were written in a way that satisfies the requirements of relevant ethical review boards. This does not always result in a letter that accessible to parents, let alone students (particularly primary students). Also, in research involving children, consent forms are often given only to parents to sign; students are not always given a choice in their participation. In my project, this was not an option. If I wanted to really honour the students’ participation and voice in my research, and I did, I needed, at and within the research space, will depend on the intentions and inclinations of the researcher (or researched) and the open, or closed, casting by the researched (or researcher), qualitative research is normally not simply interested in the exterior presentation of social groups. Rather, [the researcher] want [s] to become involved in a different world or subculture and first to understand it as far as possible from inside and from its own logic (Flick, 2006, p. 119).
research, and researchers and place. But what is common throughout is the relationship that is always and already there. It is one that should be treated with empathy, and with care, and with respect. And it is one where what is given exceeds what is taken.

My concerns echo Creswell’s (2008) noting that one researcher act [ing] in an appropriate way [can] reflect badly on all researchers (p. 239) in the research space, here in the school community. In this case, my engagement, my the very least, ask for their own permission to participate.

J, Richard’s presence in, and absence from, the class community really upset me. I saw my co-learners, my partners, my peers, my friends, being treated with the lack of respect and care, a lack that I was trying so hard to reverse and upset in my own work within that community. I was seeing all that I did not want to do or be as a researcher played out in front of me. Selfishly, I thought of how Richard’s work and the negative feelings surrounding it that I perceived might influence my work. Would the students and teachers that I was working with become frustrated and tired of being a part of so many research projects and simply choose to end their participation? Would their participation be very superficial, would they simply be putting in the time? I felt badly for even thinking this—this research was about them first and foremost—but those concerns were there and were According to Patton (2002), qualitative inquiry requires getting close to the people and places being studied, actively participating in the life of the observed [and] going where the action is, getting one’s hands dirty, participating where possible in actual… activities, and getting to know … participants on a personal level (p. 48). This is in sharp contrast to the objective researcher on the outside purposely project[ing] an image of being cool, calm, external, and detached (Patton,
very real.

I spoke with Sidney on a number of occasions leading up to Richard’s project, of the tensions that his presence and absence bought, and she assured me that my being in her class and the school was different. She told me that the time that I put in at City, the commitment that I made to the school, and the relationships that I had fostered with students, teachers, and the school community meant a lot to them. I had invested in them and so they were invested in me.

Empathy and introspection gained through personal connections, a closeness rather than an enclosure, are needed for insights to be gained (Patton, 2002).
June 15, 2012

Here you can actually like express yourself... you just respond.

—Cherry

Or,

You feel like you’re not really talking about it but it’s in your heart and you’re saying what you’re feeling.

- Cherry
Dear J,

The researchers and I finished all 14 of the interviews with the grade threes and grade sixes – seven with groups of threes and seven with groups of sixes. Each interview included two researchers and me interviewing two or three students. After each interview, I debriefed with the researchers participating in that interview, discussing what went well, what could be changed, what was surprising, and so on, as some initial analysis and also to get a sense of how they were feeling about doing the research. Was it what they expected? Were they comfortable? Were they confused?

The first few debriefs included much discussion of the interview questions themselves and how they might be adjusted and revised. Laura and the Cool Guy thought that their first interview with the grade threes went well but wondered if we needed to ease the students into the interview a little more; the
Grade threes had little to say in response to the first question without additional prompting. And so, “please tell me about your school garden” was removed; we thought it was too open of a question to ask right away and that it was captured within other questions anyways.

On the whole, we kept the other interview questions the same.

The researchers shared with me their surprise with some of the students’ responses. Cherry found that some of her peers who she thought were not interested in gardening actually

McTaggart, 2000). These turns and movements are fluid; they do not follow a set pattern but rather they respond to the research as it is happening. What is needed? By looking back, the researcher then looks forward. Here, the Cool Researchers

later analyzed by the Cool Researchers and me.
In the researchers’ reflection on the interviews, the work of speech and writing, writing and speech, is revisited. Cherry discusses noticing that participants seem to be more open in their spoken interviews than in their written surveys. She sees that were and suspected that the openness of their sharing was due in part to the interview format:

Some people look like they really aren't into gardening but when they talk, their words just go into the gardening... and you feel like you’re not really talking about it but it’s in your heart and you’re saying what you’re feeling...because people maybe they don’t know what to say when you’re writing surveys, like they want to express themselves but then look back on the interviews, on the ease of the interviews, on the responses of the participants, on what worked, on what did not work, and look forward by planning for their next actions.
students tend to express themselves more freely, open up, about their feelings and emotions; to Cherry, the students’ speech is coming from their hearts. She suspects that in writing, students do not know what to say, that they can’t in the words.

Here, words seem to be understood by Cherry as written text—and this understanding of words would of course be different and in difference, différence, to another reader. Speech and writing, writing and speech, to Cherry, allow for difference to be realized, for

they can’t in the words and here [in an interview] you can like actually express yourself... you just respond.

Being able to speak about the garden, to Cherry, was more open than writing about it.

When considering the students’ responses to the interview questions, Adam and Orange Soda noted that most students voiced similar ideas, feelings, and stories. For example, nearly all groups of grade threes talked at length about growing walking onions during the previous school year. Adam and Orange Soda were surprised to hear Bella saying that she wanted to see more bugs in the garden; most other students wanted to have more fruits, vegetables, and flowers:

A I think it was kind of amazing when Bella, when she said she would like to see more bugs, it was kind of like the first time anyone said that

S Yeah, exactly

OS Cause, like usually people don’t like insects

Walking onions, *Allium proliferum*, are similar to common onions but instead of flowers, they grow bulblets that sprout and grow while on the stalk, causing the stalk to bend over and take root near to the parent plant. Because of this quality, they are very hardy and disperse widely. They are also called tree onions or top onions.
difference in experiences to be described. Here a binary of speech and writing is of no use as both speech and writing, writing and speech contribute uniquely, and necessarily, to the story of the students’ experiences of the school garden.

In the first few interviews, the Cool Researchers found that the younger grade three students tended to be quieter in their interviews than their older grade six peers. Some researchers wondered if they

A Yeah, I thought she would be like, “I would like to see more flowers” or maybe less bugs but then she said more bugs

OS It was interesting...maybe she wants to see how they live, how they eat the food there, cause we eat it too

Some of the researchers compared interviewing the grade threes and sixes. Cherry and the Cool Guy found that the interviews with the grade sixes seemed to go much more quickly than those done with grade threes. Cherry thought that the grade threes were much quieter than their older peers and the Cool Guy wondered if this might be because they were a bit scared. Adam and Orange Soda had a similar experience and felt that the grade threes they were interviewing were hesitating to answer questions. They discussed ways to help some of the interviewees to feel more at ease:

A I think if that happens, then you should be like, “Don’t be scared”

Often the surprises, the differences, in research are more interesting that findings that follow a predetermined hypothesis. Adam was surprised to heard that Bella wanted to see more bugs in the garden; he thought that she would want to have more flowers in the garden instead. At this point in the interviews, Bella was the first participant to say that they wished there were more bugs in the garden; others said that they wanted to see more flowers, fruits, and vegetables. What did Adam’s surprise stem
might be nervous in the interview setting and following a quick brainstorm of ideas, settled on some ways that they might help to ease any anxiety or stress that participants might be feeling. Nervousness is not surprising; the arrangement of the interview context can be intimidating for any participant, young or old. In our case, the participants sat in chairs opposite the two interviewing Cool Researchers and me. There was also a video camera (albeit a small one) directed towards

OS  “It’s cool”
A  Yeah, like “Don’t be scared, even if you say the same things, it’s still OK...say what’s on your mind”

That said, not all of the grade six students were comfortable being interviewed; The Great One and Ivy seemed very nervous, hesitating before answering questions and responding to several of the researchers’ questions with “I don’t know.” Their body language also communicated their discomfort; they looked at each other, the floor, or the wall for the better part of the interview.

PR  Yeah, I think they were afraid to open up, like they were unsure of what to say
C  And they were just smiling
S  They were nervous, yeah
PR  And like some questions they answered but they were kind of afraid to say
C  Maybe it’s wrong, they’re just like whoa
PR  Yeah

from? That no other students said they wanted to see bugs? That younger students wanted to see flowers? That girls liked flowers and not bugs? Adam’s surprise is informed by his understanding, his interpretation of the history of the research space—of the participants, of the garden, of the relationships and inter-actions with and in the space.
They're just like afraid of us like sitting there and staring at them

The researchers thought that the discomfort of some interviewees was due, at least in part, to being video recorded; the camera was relatively small but present all the same with that little red light on and indicating that it was recording. Also, for some of the grade threes (and some grade sixes too), the researchers wondered if the students may have felt intimidated being asked questions by their peers. I really sensed this in many of the grade threes who were very excited and talkative when I picked them up from their class to go for their interviews but then, despite being told ahead of time that they would be interviewed by two grade sixes and me, quietened down completely when they saw the older students who would also be interviewing them.

While the benefits of PAR with children have been voiced widely—talking the same language as participants, understanding shared experiences, knowing participants, and so on (Kirby, 1999)—it has also been noted that, as in any research interview, and despite any relationship or connection to interviewers and giving consent to take part, participants might simply not be.

Most often young participants will feel less intimidated being interviewed by researchers in their peer group (Kirby, 1999), however this is not always the case. Sometimes being interviewed by a peer can have the opposite effect and, while upsetting the dominant and emphasized (adult) researcher-(child) researched opposition, it can introduce another equally powerful yet quietly underexplored...
The researchers also perceived a difference in the level of honesty of the grade threes and the grade sixes in their interviews. Laura felt that the threes were honest in their interviews:

_They actually gave good answers, like they didn’t give what I, they didn’t say what we wanted to hear, they gave like their honest opinion._

Alternatively, in his interview with a group of grade sixes, Adam questioned the honesty of the interviewees:

_I had kind of like a doubt that they weren’t like telling kind of the truth, they wanted to say what we expected._

The researchers thought that the students might be worried about giving an incorrect answer even though at the start of each interview, we did voice to the students that there were no right or wrong answers and that we just wanted to heard their thoughts on the garden and what their experiences were.

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start of each interview, the Cool Researchers and I clarified for participants that we wished to hear their thoughts, ideas, and feelings, and that there were no right or wrong answers. There. Of course, the students knew that I had an interest in the garden – I did not try to hide that from them and many noted that whenever I was there, they did something to do with the garden – and could simply have been providing us with what they thought we wanted to hear. It will be interesting to go through the transcribed interviews to dig a little deeper into this concern. But, one can never know for sure. Complexity and difference in the multiple relations of power that exist, persist, and are perpetuated within the space of research involving young researchers and researched, researched and researchers. Empowering students as researchers does not clear the research space of issues of power.
Students aren’t paying attention when there in the garden but when they were talking they really had care and thoughts in there heart about the garden

—Cherry

Or,

. . . [I] marvel at the creativity and ingenuity of our own species, but at the same time, I wonder why we all cannot see that we create our future each day, and that our local actions affect the global community, today as well as for generations to come.

(Bondar, as cited by Ontario Ministry of Education, 2007)
Dear R,

The researchers have been really excited for the past week or so. It has been in the pipelines for a few months now that Major Tom—yes, the astronaut, scientist, and activist—would be visiting City to help promote school gardening initiatives in Ontario schools.

From the initial planning up until today’s visit, the researchers have been central in helping to make the day a success. In March, they wrote together a letter to Major Tom that outlined why he should visit City:

Garrett Hardin (1968) wrote of the tragedy of the commons, following Whitehead’s usage of tragedy—the essence of dramatic tragedy is not unhappiness. It resides in the solemnity of the remorseless working of things. Of the commons, Hardin explains that this tragedy, this

We are an EcoSchool and we respect the earth. We have a nice garden. The food is very nutritious and is used in the snack program at our school. We helped to build the raised bed gardens at our school and we have been working on our gardens for several years now. We are helping our garden to grow every day but we need some more help from you to encourage our school be a better EcoSchool. We would like you to be here to give ideas so our garden can grow better.

We are members of a student research group. The research that we are doing with our research group involves the school garden. We are trying to find out how to make our garden better. We want to know who uses the garden and how the garden is used. We are also interested in what students would like to have in the school garden. We would like to share our research with you.
They also planned to give him a tour of the garden and speak at the school assembly organized for his visit.

In preparation for the assembly presentation, we discussed what they wanted to share at the assembly about their research. We did a quick write with the following questions, pulled and turned from our interview questions, as prompts:

- What have you found out or learned through your research?
- What would you like to tell the world about your research?

As noted by Sidney and Rachel, and in other studies of time spent in gardens and natural spaces (see, for example, Kaplan & Kaplan, 1989; Morgan et al., 2009), the Cool Researchers found that their peers identified the garden as a place of refuge, a

Among other points, the researchers highlighted that they had found that their peers enjoyed going to the garden to learn and to help out, and found it to be a beautiful, relaxing, and amazing place to be. They noted that the garden taught students to take care of the environment and that over time, people were caring more about

\textit{solemnity}, presents itself as the actions of individuals motivated by short-term needs, wants, and desires and contrary to, and to the detriment of, the long-term interests and well-being of

\begin{itemize}
  \item \textit{common}—belonging equally to two or more;
  \item from Middle English \textit{comun}, adoption of Old French \textit{comun}, normal development of Latin \textit{communi-s}, formed on Indo-European \textit{ko(m)}- + \textit{moin-}, \textit{mein}–change
\end{itemize}
the garden. The researchers also
shared that they enjoyed doing
research themselves. The
following are quick writes done
by Adam, John Cena, and
Dynamite.

1. What I have found out or learned
through this research is that
people have started to care more
about the garden or even the
earth.

2. I would like to tell the world
that us kids have worked on
researching plants and also working
in the garden. I enjoy doing
research and wish to
continue doing research.
Through the research that I did with Miss Susan, I got to know many new things about my school garden. We found out that people care about our garden and some people even just go there to relax as a common place to be. I would like to tell everyone that our school garden is very important because it has some very special resources that are good to have.

We have found out that ever since we had the garden and have students participate in the event, I have become more eco-friendly.

Also, the more I worked with Susan and the researchers, I learned about better ways to help the earth, and working with all the kids that we've interviewed, I've found out what gardening and being eco-friendly means to them.

special place to relax and enjoy the beauty of the natural world. Their findings also mirror those of the group, the collective, the system. Like the national parks in

These led directly into the researchers planning what they would say at the assembly. The following are the Cool Guy and Cherry's contributions:
Today's visit from Major Tom was incredible, a huge boost. It was at once an affirmation of my
Mayer-Smith et al. (2007) and Skelly and Bradley (2007) who found that garden-based learning experiences can foster the development of a sense of environmental stewardship and positive environmental action in students.

This assembly with Major Tom was the first time the Cool Researchers shared their research project, and parts of their research process, with their peers, the school, and the community. In PAR, especially PAR with students, dissemination of work and more importantly, an affirmation of the important work being done by the Cool Researchers.

The researchers did a brilliant job of sharing their work with the school and with Major Tom. They were so confident and so proud of their work. And to present their work to, for several of them, their hero, was pretty special.

Major Tom followed the researchers’ presentation with a talk and slide show. As he spoke, he gestured to the Cool Researchers when referring to research and he also addressed them as “researchers.” He confirmed the importance of sharing the work of the Cool Researchers, noting that they were researching things that we do not yet know. The Cool Researchers were beaming, so proud.

discussion, parks that with continual and continuous visits from individuals will unquestionably and inevitably lead to natural degradation and erosion, John Cena’s identification of the school garden as a common place to be also presents a space within which to meditate on our place with and in the natural world. Gardens, including the school gardens at City, are planned constructions of the natural world, enclosures of natural spaces, and depending on the description followed, may be for the pleasure of
findings can be the most challenging stage of the research process (reference). For the Cool Researchers, sharing their findings in this venue, as experts in their school, within the educational institution that is so rigidly a hierarchy, upset the very structure and directionality

Major Tom then spoke more generally about school gardens and environmental education. He asserted the value of getting students out of the classroom, discussing how learning outside of the classroom can stimulate the imagination. Here, Major Tom highlighted the role of difference and exploring differences. He used colour as an illustrative example: in the garden, students can see the range of differences in shades and hues of green. It is through these explorations of difference that students can experience a different level of looking at the world around them, a different way of knowing. Learning in place can allow students to develop critical thinking skills and mindful way of knowing life and the world around them. Major Tom called for teachers and educators more broadly—there was a news media presence in the audience—to include such opportunities for man [sic] or may be for cultivation (van Erp-Houtepan, 1986), and may require ongoing care and attention from humans (Brook, 2010). Gardens themselves might be identified as enclosures of the commons, bounding of biophysical and cultural spaces, perhaps even tragedies themselves.

Bowers (2004) calls for a revitalization (re-vitalization) of the commons, a re-opening of what has been enclosed, a re-sharing of biophysical and cultural elements of collective environments.
learners to think differently as they look at the Earth now and forward to the future.

Following the assembly, four of the Cool Researchers—Dynamite, Purple Roses, Orange Soda, and The Cool Guy—along with April and I gave Major Tom a tour of the school garden. He asked the researchers many questions about the garden—he really focused his time in the garden on the researchers—actively engaging them in discussion about their school garden and their research. It was wonderful for the Cool Researchers to have such an important figure recognize and respect their hard work and their research contributions.

What might this mean for gardens? For school gardens? And for the knowledge and understandings related to school gardens? An opening of the garden space. An acknowledgment of the inherent bounding of nature and culture, culture and nature, tied up in what was the garden and what will be the garden.
June 21, 2012

Sometimes you look like a park ranger and sometimes you look like a biker and today you look like a lounge singer

—ABPL to me

Or,

. . . In order to be a good listener and [research] partner, researchers require emotional intelligence, a democratic personality, and the skills to build truly collaborative partnerships.

(Reilly, 2010)
Dear J,

Who am I in this space?

ABPL said to me today that I always look like a different person—a park ranger, a biker, a lounge singer—with each outfit I wear to school. How do students, teachers, and other members of the school community see me? Am I a teacher? A student? A researcher? Am I a part of them or apart from them? And do these roles, these personas, these identities change as do my outfits?

By spending the year at the school, I hoped to minimize the barriers between me and the school, to open myself to openings in the community. I recognized that I was coming to City as a doctoral candidate from OISE and that I would be viewed, at least to some extent initially, through the lens of difference. I was separate. And so often, and despite attempts bring them together, I think the university is viewed as apart

The students in this grade six class—the class including the Cool Researchers and the grade six participants—were used to me being with their class regularly over the course of the school year. At this point in the year, in June, the students knew me well and were comfortable talking openly with me about most any topic, from what happened on the weekend, to how they were feeling about starting grade seven at a new school, to which of their
PAR’s casting sets the actor formerly known as researcher in the role of facilitator, co-researcher, and partner. In PAR, the former researcher is a catalyst, there to stimulate and encourage action rather than impose views, structures, or directions. The process of doing open and inclusive research, how things are done, characterizes the work rather than an exclusive focus on the product of the research. Involvement in PAR is very much in a supporting role in which members of the research space from rather than a part of K-12 schools. Theory apart from practice rather than a part of practice. And practice apart from theory rather than a part of it. I felt this to some degree when I visited schools as a faculty advisor for teacher candidates and representing the university. There was a formality about the visits, one that I knew from my own teaching experiences and a formality that was not the norm in elementary schools. Very much a keeping up of appearances. A role play and a play of roles.

In my role and play in the role of faculty advisor, I visited City on a number of occasions prior to beginning my research there. And this year, I continued my work (play) in that role along with my volunteer time at City. Some teachers knew me in the role of advisor, even introducing me to other teachers and City staff members as such, and in their interactions with me, would always seem to turn our discussion to my supervision of classmates they had a crush on. Because the ease of our relationship, ABPL’s comments to me about my appearance were not out of the ordinary.

Kirby (2001) discusses the potential tensions in the negotiation of roles of the participatory researcher within educational contexts. Teachers, and other adults in schools, typically hold a role of power that sees them directing the curriculum and instruction of students, making decisions, and
are enabled, encouraged, and empowered to ask questions, explore answers, and take action. And this supporting role comes not only out of its inherence in what PAR is but also in its characteristic place in the relationships that are foundational to PAR. These relationships are ones that are open to and respectful of the presence, voices, and feelings of all members, and are cooperative, responsive, personal, and meaningful (Stringer, 1999). And, in order to be a good listener and [research] teacher candidates, of programs and people at OISE, and of new teaching strategies that they had been thinking about and were working with. Initial connections and commonalities. In early days, and even nowadays, I worried about being solely the OISE researcher and advisor and how this would set me apart from the community.

Sidney and Rachel opened their classrooms to me from the start of the school year. Despite this I was initially very aware of my presence in their classes—the classroom dynamic can change dramatically with the presence of another adult, another teacher, and, at first, a stranger. Both Sidney and Rachel had partnered with teacher candidates and were accustomed to sharing their classes. But I was not there as a beginning teacher, a teacher candidate. I was already an experienced teacher but wanted to step back and simply be another (an other) in the class and school community. maintaining the structures within the institution. On the other hand, the researcher is often an outsider, detached from the group as an impartial, objective observer. The participatory researcher rests in an in between space, another space, an other space within which there is a free dialogue with students, an open and honest partnership, an acceptance and encouragement of students’ active critiques and questionings, and a willingness to step back and allow the research to emerge.
And so, my roles were multiple from the start. But also, I wrestled on my own with my multiple roles of researcher, particularly in doing participatory research with the Cool Researchers. In other research projects, I had taken an outside role that had moved closer to within but remained peripheral. Observing interactions with and in a science centre exhibition from a distance. Asking participants questions following a particular learning experience. Co-planning and co-teaching a project and discussing the project and understandings with students. Never before had I intentionally, purposefully, engaged participants as researchers, as research partners. I had previously kept these roles separate—at least attempted to, though through my presence, was present in understandings and experiences of participants and traces of whom inescapably would have lingered in the work,

My role in the research was dynamic, it could not be pinned down. I responded to the research space while being inherently immersed within that space. I attempted to un hinge myself from the defining bindings of expert, teacher, adult, and so on, to allow for an open and

Consider the binary oppositions that can be traced in this research space, and that quietly, and not so quietly, inform the research:

- expert-novice or, novice-expert,
- teacher-student or, student-teacher,
- adult-child or, child-adult,
- advisor-advised or, advised-advisor,
- university-K-12 school or, K-12 school-university,
- researcher-researched or, researched-researcher
finding their way into all elements of the research.

In this research, though, I was intentionally opening the work, explicitly inviting participants to join me in the many roles of what is, or what might be, researcher. And in doing so, my role changed. I also needed to navigate different roles. At times, I thought that I needed to act as a teacher of research. Yet how did I, could I, elevate myself to the level of expert (whatever that might be), perpetuating the very binary that I so hoped to upset? Sometimes I felt that I needed to be a guide for the researchers. To lead them as we worked through a process of doing research that evolved through our interactions with each other and within the research space that together we worked to open. I was a facilitator, a mentor, a scribe, a recorder. But at the same time, I was also be a student, a learner, a novice. The research space was constantly changing and re-newing. The content and context

This research intended to upset these structures, to rattle the chains of signifiers and signifieds, of meanings, and in doing so, open up opportunities for difference, for différance, in research methods, in representation of research, in thinking about, and imagining, and re-imagining, possibilities in environmental education and garden-based pedagogies.

Did it succeed? Perhaps. But that is of course up to the reader, you, who is now also writer, and researcher, of this research text.
was all new to me as well. I needed the Cool Researchers to guide me as much as (I thought) they needed me to guide them. And I was learning as much, if not more, from the Cool Researchers as they could have learned from me. The research necessarily opened up all roles to each of us and held us within none exclusively.
June 27, 2012

It was pleasantly wonderful to be a student researcher

—TGTR

Or,

We need to give more attention to how we give children genuine opportunities to disseminate their perspective with their voice and in their style.

(Kellett, n.d., as cited in Tisdall, 2009, p. 205)
Dear R,

This afternoon I had a last meeting at school with the Cool Researchers. I wanted to talk with them about the possibility of extending our work together into the summer and the next school year and also share with them some opportunities for presenting their research that they might be interested in. I did not want to push them to present or share their work in any particular space but I did want to open up opportunities for them to do so.

I wondered if the researchers would like to come to OISE to present their work, either to a class of graduate students - I was thinking of a qualitative research methods course - or in the spring research conference. I also thought they might like to make a research poster that could be presented to their teachers at City and then

In doing PAR with children, one of the challenges is to actively include young researchers in all stages of the research, particularly in the dissemination of findings. When the research process is directed too closely by adult researchers, student researchers may not feel that the project is theirs and not have a sense of ownership of the research. With respect to dissemination of findings, opportunities should be illuminated, their access opened for young researchers to share their

We are getting better at involving children as active participants in research but we are still not very good at involving them in the dissemination of that research. We need to give more attention to how we give children genuine opportunities to disseminate their perspective with their voice and in their style, which may not be as polished and ‘eloquent’ as an adult dissemination but should have equal value (Kellett, n.d., as cited in Tisdall, 2009, p. 205).
The researchers’ consent to continue with the research project brings up a number of potential issues related to consent. The consent was as informed as it could be but given the nature of the research—emergent and open—it was simply not possible to explicitly inform the researchers on the details of their participation and on the route that the research would take. At this point, the researchers understanding of the research project and the research process displayed at the school.

This additional work together would require time, and I recognized that this was another commitment, after what I thought was (knew to be) already a considerable commitment already on their part, and I did not want them to feel pressured at all to carry on with the project. I shared this with them after proposing that we meet a couple of times in the summer to work together:

I want you guys to know, like if you are not interested in carrying on with the group, that’s totally OK, you don’t have to, this is extending it beyond what I originally anticipated because we’ve got a lot of different opportunities that we can take advantage of and if you’re interested in continuing to work on it, that’s awesome, if you’re not, that’s totally OK too.

A renewal of the ethics approval for this project was applied for and approved by the university’s Office of Research with their community and to motivate and lead change. The adult researcher must not be motivated solely by personal and career gains from publication and presentation in academic circles (Kirby, 2001). The young researchers should be empowered to share their work in their words and on their terms.
Everyone was excited to keep working together and the Guy that Rocks noted that:

**we’re doing, like, really serious work.**

When I let them know that this meeting was the last that we would have together at the school, there was a collective *Ohhhhhhhhh...*

As sad as I was that the year had come to an end, I was pretty happy to hear that our time together meant something to the researchers.

In the meeting, I also wanted to do a reflective quick write with the researchers, to get a feel for how they felt about being researchers and working together on the project. I asked everyone, myself included, to think back on the project and tell me what it was like.

Research Ethics. I did not ask students to read and sign an additional consent form; at this point, their continued participation was identified as their consent. Their willingness to continue participation was then assent rather than explicit consent. Following the end of the school year, three of the Cool Researchers—The Guy That Rocks, Cherry, and Adam—chose not to continue working on the research project.
I shared my writing first:

- things take longer than I expected but this is good... it's important for this project to come from the students & be centered on them—they are the experts.
- I need to work on letting other researchers take charge—they are more than capable & v. strong at this work.
- I really liked how the group came together & how everyone brought unique strengths to the group—made an excellent team that had most all bases covered.

unequal social status—the adult voice carries over the child’s voice. But pressure from the peer group, especially for early adolescents, to continue, even when the individual does not wish, to can be extremely powerful and coercive. And, while I tried to emphasize the

I told the researchers that I still needed to work on really handing over the reins to them, not talking so much. Cherry agreed but noted that I had improved over our time working together.

The researchers then shared their reflections. They spoke of the highlights of doing research together—working with others, sharing ideas, working with me, getting to interview students and teachers, gardening with other students, working with April, and meeting Major Tom. The Cool Researchers were positive in their reflections on the research that they had done together up to this point. They enjoyed having the opportunity to talk with their peers about the garden, share their ideas, and work together; the highlight for the
They also discussed what they found challenging in the project—doing research, interviewing some of the students, remembering many things, and finding out information about plants. For Dynamite, working together could be both interesting and confusing:

— meeting with each other was interesting because sometimes I wouldn’t know what it was for

Overall, it seemed that to the researchers working on the project together was fun and interesting.

I asked Sidney a few weeks ago about what I could do to recognize the hard work that the Cool Researchers put into our project; given that the students seemed really into ribbons and special certificates, I thought that they might like it if I

It is important to note that, like the Cool Researchers’ concern that some participants may have been telling the researchers voluntary nature of participation, and that their consent was an ongoing negotiation, the researchers may have felt obligated to extend their participation in the project because they felt this was what the group wanted, expected, or required.

The elements of the research project that the Cool Researchers were challenged to the social and interpersonal aspect of doing research. This is similar to the findings in the L2C project (see, for example, Barratt Hacking, Scott, & Barratt, 2007) in which students doing research also enjoyed talking with others in their community and learning about the views of others.
what they thought was the right answer, I too wondered if the Cool Researchers may have been telling me what they thought I wanted to hear. It was no secret that I thought school gardening was important and that I thought PAR was valuable—if I did not I would not be working on this type of project.

I think that the relationship that I had with the researchers was open and honest. They were comfortable to share with me, and did on several occasions, critiques of my

presented them with very special, and very official looking, certificates and letters of thanks. Sidney agreed that they would love that and so I put together a certificate and a letter for each researcher. I included within each letter those qualities that the researcher brought to the project:

Orange Soda...you were able to successfully build upon students’ responses in your own questioning...

The Guy that Rocks...your questions during the [research] process – they really helped to bring the project along...

Dynamite...you are particularly skilled at working from a few questions and leading a rich and meaningful discussion with participants...

John Cena...you really helped students to feel comfortable being interviewed...

by were also those things that they enjoyed. I hope that it was that enjoyment, and feelings of accomplishment in their achievements, that motivated them to persevere in doing the research and work through those

My intention with the letters that I wrote to each researcher at the end of the school year was to recognize their contributions to the research project. Each researcher brought something unique and valuable to the
work with them (I was most often told that I needed to stop talking so much and they were absolutely right about this).

I trusted that the Cool Researchers were comfortable enough with me to openly reflect on their participation in the research project.

The Cool Guy... I am really delighted with your enthusiasm toward research and the process...

Purple Roses... your kind and soft-spoken manner really helped to put students who were being interviewed at ease...

Cherry... your enthusiasm has been really inspiring and I really admire your dedication to the group...

Adam... you used the guiding questions to easily lead discussions with participants with maturity and the research questions in mind.

Laura... you really put students at ease... and you asked very meaningful questions of participants...

Each of the Cool Researchers brought with them to the project a unique and important set of understandings, experiences, and interests; these differences helped to open our group and our group and I wanted to share my gratefulness for their participation. Looking at the letters now, and the timing of their delivery, they may have served to perpetuate the hierarchy between adults and children, children and adults, in the context that we were working within. In June, final report cards are taken home and year end awards ceremonies are held; students are evaluated by their teachers. Perhaps I should have just spoken with the researchers, not had the written document, the reward.
work together to possibilities in all parts of the research.
August 3, 2012

Fruits that are so tiny, plants that don’t taste good, flowers that are so beautiful, vegetables that are so tasty.

—ABPL

Or,

. . . peaceful bees fresh air nature biodiversity green worms pretty soily dangerous biodiversity worms big watery open quiet compost pretty fresh very very pretty you get to play kind cool wormy awesome plant stuff fascinating nature peaceful pretty eco-healthy it’s lovely for me eco-friendly fresh air healthy quiet and I don’t like noise . . .
Dear J,

As I transcribe the interviews that the Cool Researchers and I did with the grade threes and grade sixes, I have been watching and listening to the video recordings and what is really interesting me is how students describe the school garden. The range of words shared trace paths of understandings and feelings, and dreams even, of the garden and for the garden. I decided to present the descriptors in a few different ways to open the words up visually and spatially. For the interviews, I listed all of the descriptors in a long and punctuation free stream of words and created a word cloud of the descriptors used.

The compiled interview response stream to “Please describe the school garden in five words” is:

peaceful— disposed to peace
peace— freedom from war, disturbance or dissension; quiet, stillness, concord; from Latin pāce, nominative of pāx
peaceful some stuff you can eat
full of plants vegetables
peaceful lots of cool plants
fresh lots of green cool lots of leaves fun to go to different plants peaceful there’s a fence sometimes quiet big and small very relaxing exciting quiet eco-healthy no noise or anything awesome less cars cool all natural scientific relaxing eco-friendly calm and relaxed fun big healthy green cool soil fantastic bugs fun plants healthy compost eco-friendly big cool green beautiful tasty pretty flowers colourful colours amazing big worms open dirt area with biodiversity walking onions peaceful bees fresh air nature biodiversity green worms pretty soily dangerous biodiversity worms big watery open quiet compost pretty fresh very very pretty you get to play kind cool wormy awesome plant stuff fascinating nature peaceful pretty eco-healthy it’s lovely for me eco-friendly fresh air healthy quiet and I don’t like noise cool creative awesome fun many diversity interesting
very eco-friendly nature
peaceful nice it’s like a night in
the classroom beautiful
biodiversity natureistic tasty
artistic smelly in a good way
nature it’s got good smells
interesting tasty impossible to
make quiet it should be safe
crunchy it should be pretty
beautiful there’s different ways
to dig nice soil beautiful space
good smelling water greeny
sunshine big cool I don’t know
plants natural a lot of light
beautiful just plants
extraordinary trees biggish
worms lots of biodiversity
happy comfortable-ish soft soil
peaceful

The students at City
shared descriptors of
the school garden that
highlighted the
sensory experience of
the garden—crunchy,
tasty, soft, smelly,
colourful, fresh, and
so on. These ways of
knowing recall the
early iterations of
environmental
education. For
example, first hand
experience, knowing
through the senses,
was central to
learning in nature
study. Now, sensory
understandings of the
natural world can be
traced through to, and
throughout, place-
based environmental
education which itself
opens up and
validates knowing
(and knowledge) of
place through seeing,
tasting, smelling,
touching, and hearing.
And like the work of

The students listed animals that
live in the garden: worms, bugs,
and, especially from the grade
threes, bees. Students
mentioned plants very often but
did not identify specific types
except for onions (a broad group
itself); most simply said trees,
flowers, and vegetables. The
grade sixes used biodiversity to
characterize the garden as well,

The words used by
grade three and
grade six students
can be traced in their
respective prescribed
science curricula. For
example, the grade
threes listed bees,
onions, plants, trees,
and flowers; these
students had recently
completed a series of
lessons on bees and
their importance in
ecosystems and the
grade three life
systems unit focuses
on plant growth and
changes. Similarly,
the grade six students
spoke often of
biodiversity in the
school garden and
biodiversity is the
focus of the grade six
life systems unit in
science.
The students’ descriptors of the garden suggest the positivity of their experiences there. To them, the garden is exciting, extraordinary, and awesome and being there made them feel happy, relaxed, calm, creative, and comfortable—it is like a place of refuge for them. These expressions mirror those of other students participating in school garden-based learning (see, for example, Dyment & Bell, 2008; Morgan et al., 2009). Likewise, the students’ feelings of peace and wellbeing while in the garden are echoed in the literature on the psychological effects that time spent in a direct connection to one of the curricular themes that they focused on in science that year. Students also noted other features that identify (and perhaps define and bound) the garden at City: fence, sunshine, water, air, light, and classroom.

The adjectives used by students to illustrate the garden were broad, from awesome, beautiful, and cool, to exciting, extraordinary, and eco-healthy. They also described the garden with words related to their sensory experience of the space: crunchy, tasty, soft, smelly, colourful, and fresh. Students further expressed feelings to describe the City school garden; the garden made students feel relaxed, happy, calm, creative, and comfortable.

There were juxtapositions in how students painted the image of the school garden. Many students said that the garden made them feel safe, another student said that it was dangerous. Some students said Dewey and Rousseau, the importance and persistence, the memory, the meaning, of sensory experience is clear in the students’ discussion of the school garden. The curriculum, with and in the garden, is opened to knowing, to what knowing can be, beyond the classroom, beyond the prescribed curriculum. The very experience of being in the garden, in place, is curricular.

The students expressed several examples of binary opposites as they described the school garden. While some said the garden was
that the garden was *big*; others said it was *small*.

J, the range of descriptors brought me back to the grade six students’ responses to the survey and specifically to the question, “Please describe the school garden.” How were the responses similar and how did they differ from the students’ later interview responses to that same question? Again I played with the arrangement of the written words used by the grade six students in a word cloud.

The following cloud shows the descriptors shared by the Cool big, others thought it was small. Some saw the garden as being dangerous, others felt safe there. These binaries, these differences, remind of the differences in meanings made, what is signified, from a signifier. To this group of students, the garden holds a multiplicity of
Researchers in the draft survey that they completed in April: In the survey, the Cool Researchers tended to focus on the physical and biological characteristics of the garden, its dimensions and its components, seemingly scientific observations of the space. The researchers’ feelings were not expressed in their descriptions of the school garden; fun and awesome hint at positive emotional responses to the experience of the garden but nothing is explicitly stated.

I also created a word cloud of the survey responses of the
school garden, this play is at work as the written word (survey response) inter-acts with the spoken word (interview response) to realize meanings that are in difference and deferred along the flickering chain of signification.

grade six participants:

Here, the grade sixes also described the garden by its physical and biological characteristics but also included in their descriptions emotional and sensory experiences of the space. The garden was described as *peaceful, quiet, beautiful,* and *tasty,* and students specifically, and regularly, identified the garden leaves that they ate: *sour leaves, mint leaves,* and *parsley.*

Again, students shared opposing descriptors of the garden: *big* and *small, little, mini, tiny; delicious* and *don’t taste good.*
October 11, 2012

Susan, I hate when you are always giving the kids ideas

—Laura

Or,

How can adults get beyond the power constraints and expose intricacies of power in relations between children and adults?

(Alderson, 2000, p. 254)
Dear J,

Since the end of the school year in June, the researchers and I have met twice at their neighbourhood public library to analyze and talk about the data from our study. It has been difficult to find times to meet - the researchers are now at three different schools in different parts of the city and have very busy schedules. I have started another project that is proving to be very time consuming as well. Also, a few members - Adam, Cherry, and the Guy that Rocks - have chosen to stop attending so our numbers are down a bit. While I do miss their contributions to and presence in the group, this is not such a bad thing; I found it to be difficult at times to work with such a large group.

As we have only met twice, a good portion of our meeting time is spent by the researchers catching up with each other. For example, today's meeting was a little over an hour long and for

While Morris (1998, as cited in Clark, 2004) recommends paying young researchers for their time and expertise, in this project it was not financially feasible for me to do so. But more than that, and counter to Morris' argument that payment to researchers shows that their work is valued and they must be taking the work seriously, I wanted the research team consisted of eight young researchers (11-12 years old) and me; following the 2011-2012 school year, our group was reduced to five young researchers and me. In contrast, the L2C research team included sixteen 11-12 year old researchers, four 16-17 year old mentors, four university researchers, two teachers, and one parent who worked together for one year (Barratt, Hacking & Barratt, 2009).
at least half of that, John Cena and Dynamite were talking about basketball, drama class, and their teachers. I have a hard time reeling them back in because their participation is voluntary and they are making time in their day to meet with me to talk about a project that was started last year. I want for this work to be motivated by them as well so I am trying to find a space within which they are directing things but also in which our momentum is still there. Right now, I am organizing our meetings, sending out emails, and booking the work room at the library. I feel like I am driving things when I really should be taking a back seat.

I met at the end of July with Laura, Purple Roses, Orange Soda, and the Cool Guy and we each read through a couple of the grade three interview transcripts with their first research question in mind: “How do students use the garden?” They were unsure of how to be motivated by participation in the project itself, not a pay cheque. I did however provide snacks at several of our research meetings and cover the transit cost of the researchers coming to OISE toward the end of the project to prepare for and present at a conference.

Creswell (2008), acknowledging the impossibility of a definitive method of data analysis, provides a series of PAR projects with young researchers, despite a focus on children’s involvement in the research process, will almost certainly include some adult involvement. In some projects, adult involvement might be minimal. Or, adult researchers might act as facilitators. They might also take on the tasks that their younger counterparts are not interested in, for example, managing the

Researchers to
be motivated by
participation in the project itself, not a pay cheque. I did however provide snacks at several of our research meetings and cover the transit cost of the researchers coming to OISE toward the end of the project to prepare for and present at a conference.
of steps for conducting a thematic analysis using a process of coding. First, he suggests reading through all of the interview transcriptions and making note of ideas that emerge during the reading. Next, one document might be selected to be read more closely with the question of what the meaning of the text is in mind. As it is read, the transcript is divided into segments and assigned with codes that describe their relation to the meaning of the text itself (e.g., context, start and had questions about what they should be doing and so I reassured them and gave them some guidance:

**Remember that this is the first time that we have done this so, it’s not easy, it’s weird at first and you don’t really know what you are looking for, sometimes it helps if you just look for key words so we are looking for how students use the garden so we are probably looking for verbs, action words, things that describe what they are doing in the garden or how they are doing it**

I also reminded them that they could write directly onto the transcripts, and highlight key words and passages – whatever helped them as they looked for the big ideas in their readings.

After reading through the transcripts, we shared our findings. There was some hesitation from the researchers so I spoke first. I shared the project and writing up research reports (Davis, 2009). Adult researchers could take on the role of trainer or teacher and focus on helping younger researchers gain the skills and understandings needed to take on their own research projects (Kellett, Forrest, Dent, & Ward, 2004).

Along with negotiating what the role of the adult researcher will be, PAR presents challenges specific to research analyses that must be considered by both younger and
ways that the interviewed grade threes (Vintage Beef, Alice, and Bautista) used the garden: eating things, cooking and making tea, looking and learning about plants and science, finding living things and discovering different plants, passing time while waiting for the bus, having fun, planting things, and taking care of things by watering and composting. I then shared four big ideas about how students use the garden that I drew from their responses: the garden was a place for learning, experiencing plants, caring, and having fun. I wrote down the four big ideas and as each researcher shared their findings, we discussed under which big idea each finding might fall. I decided to act as a scribe so that the researchers could focus on the discussion and also, being mindful of our limited time together, to keep things moving along. As we went through this initial process of analysis, I reminded the researchers that this was just a start and our groupings would most likely adult researchers. As alluded to earlier, the involvement of young researchers should be negotiated; will they simply respond to analyses made by the adult researcher, serving as a member check for validity, or will they be immersed within the analysis of data? Furthermore, and particularly given the power dynamics that are always already at work within the work, it is important to create together a collaborative research community in which the
And a return again to Socrates and Plato, Plato and Socrates. At once being the guide and being guided. Throughout our project together, I have struggled to find my role in the research for myself, that flicking place that is always on the move, that responsive space that provides just the right amount of direction and also allows itself change with additional transcript readings and discussions.

After going through the grade three interviews, Orange Soda said that she wanted to look through the grade six interviews and compare how the grade sixes used the school garden with our findings for the grade threes. I again reminded them that they were free to write on and highlight the transcripts as they wished. The researchers kind of lost momentum here and turned their attention to One Direction videos on their iPads. It is hard to compete for the attention of twelve year old girls against a British boy band and so I asked if they wanted to wrap things up then. We decided perspectives, views, and ideas of all participants are valued and heard. Related, ethics issues of confidentiality, of both participants’ responses and of the work of the research team, must be respected. Also, depending on the size of the research team, managing the process, and researchers, can be challenging, and a delicate
to be directed. In PAR, adult researchers go back and forth in between roles and within the in between space, and over time, younger researchers typically take on more responsibility, and are more proactive in decision making and discussions (Barratt Hacking, Scott, & Barratt, 2007). Orange Soda’s interest in comparing the grade three and grade six interviews did show her taking the lead and in the research, this was a new turn.

to meet early in the next school year, but after the chaos of the first few weeks at a new school settled.

The researchers and I next met two and a half months later, only just today. To me, our meeting felt a lot like teaching in September, when much of your time is spent reviewing what was done in the preceding year, but in our case, it was the previous meetings that we were reviewing. And necessarily so as of the researchers at today’s meeting, only Laura and Purple Roses had worked through the transcripts before; John Cena and Dynamite did not meet with us in the summer. We organized ourselves into pairs (John Cena and Dynamite, and Laura and Purple Roses; I worked between the groups) and divided up the transcripts so each researcher had one grade three and one grade six transcript. The researchers read the transcripts individually but spoke with their partner about ideas that came up. They also started to add balance. The opening of the research process to students cannot be then closed by firm dictation from adult researchers. A balance also must be negotiated between learning to analyze data and doing data analysis. In PAR, these decisions are (ideally) made collectively by all members of the research team (Patton, 2002).
Who is using the garden?

1. Squirrels, Birds, Worms
   - Soil

2. Animals:
   - Raccoons, squirrels, chipmunks, insects.

3. People
   - Other animals (Animalia)
   - Plants (Plantae)
   - Fungi
   - Soil

4. Compost

5. Teachers
   - Students
     - Classes
     - Worms & insects - compost
     - Students > classes
     - Teachers
     - Community members
     - Visitors

6. Squirrels
   - Birds
   - Insects
   - Worms
   - Raccoons
   - Chipmunks

As we write our findings, consider for the reader who these ideas are intended for. Ask if there are any big ideas that they don't understand.
their findings to our chart paper lists; we had one list for each of the researchers’ seven research questions: 1) who is using the garden; 2) how do students use the garden, 3) how do we take care of the garden; 4) how does our garden affect our Eco-School level; 5) what are other schools doing with their gardens; 6) what do we want in the school garden; and 7) what does the school garden mean to you?

As in the July meeting, I acted as a scribe for the researchers as they shared the big ideas that they found in their readings of the transcripts. The researchers tended to read verbatim from the transcripts as they shared their findings; they did not seem to be making connections between the students’ responses and the big ideas we were working with and the big picture we were painting. I hoped for the researchers to use a wider focus lens through which they could view the data differently, perhaps see an image beyond direct quotes and start to see
Follow-up questions and comments, or probes, can be used in interviews for a number of purposes. Detail-oriented questions can be posed to gather more information about an experience or event. Related, elaboration probes are often nonverbal cues, for example, nodding and smiling, and can indicate active listening and also encourage the participant to continue sharing. These can also include verbal cues that ask participants to expand on something that some connections between ideas that were emerging. I responded by inserting myself more into the discussion and asked questions in hopes of extending the conversation:

S  OK, so how do they use the garden?
D  To learn about nature and to connect with nature
S  Ah, connecting with nature. What does that mean when you connect with nature?
L  Like connect with nature
D  Understanding it from both views
L  No, not really
D  I don’t know
S  What do you think? Because there are different ideas, right, of what it means to connect with nature
L  I said it doesn’t always have to be like that, you don’t actually like have to
D  You understand it, you understand the world, you’re at peace
S  OK, so there is something about how you feel in

In research discussions, and in classroom discussions, silences, pauses,
has been shared. **Clarification probes** are used to have the participant explain or restate a comment. Contrast probes might also be used to have a participant clarify a point by comparing an experience or idea to another. Altogether, probes, and follow-up questions and comments help to guide the participant and also the flow of the interview (Patton, 2002).

D **Meditate on it**

I do worry about the extent of my contributions. Am I stepping in too often and too far? Am I directing and asking leading questions? Laura spoke up at one point this afternoon and the researchers and I discussed my voice in the process:

L **Susan, I hate it when you are always giving the kids ideas**

PR **Yeah, shouldn’t they come up with it themselves?**

S **What I try to do, and it doesn’t always work, what I try to do, after the people who are being interviewed say something, I try to rephrase what they are saying just to check that’s what they mean and sometimes it doesn’t always work and I end up putting words in their mouth and they just agree, which isn’t**

PR **Yeah, you always do it**

S **I don’t always do it**

D **You do** waits, seemingly empty spaces can be agonizing for researchers, and for teachers. How long should we wait? Is there silence because participants and researchers, and students are actively thinking about the topic of discussion? Are they engaging with it? Are they understanding what we are talking about? Do they simply have nothing to add? Are they wondering how much longer they need to sit there before they can leave? In doing research with the Cool Researchers, and in interviews with students, I
In research about children, a key question is: how can adults get beyond the power constraints and expose intricacies of power in relations between children and adults?.... The limitations in Europe and North America for research by children seem to lie less therefore in children's (in)competencies, than in adults' limiting attitudes (Alderson, 2000, p. 254).

L  Most of the time

S  I have a hard time keeping quiet in interviews, I can't stop talking

L  You would make a good lawyer, no, guidance counsellor

This is something I have been struggling with throughout the project. The extent of my insertion into discussions is responsive to the interactions of the other researchers. Some days I speak often, other days I do not. Some days I provide questions to extend conversations, other days I do not. I am never really sure of how much I should be inserting myself. I know that I fall back on what I know from being a teacher and in this context, a space in which I hope that the researchers feel and act as they are equal participants, taking on the teacher role will only undermine these efforts. Is it possible to work in a shared research space with students without that power dynamic wanted to be sure that they were comfortable in the discussions, and in the interviews so I purposely did not let silences linger for too long. Looking back, I wish I had let the silences rest, allowing them to be openings and letting their closure be decided by the voices of my research partners.
playing a part and pulling apart
the shared space?
Because if you are learning about the garden in the garden, that’s better than just learning about it somewhere else because you have real life examples all around you

—Dynamite

Or,

We encourage participants to explore and challenge the role of education in society.

(Kmiec & Yosef-Hassidim, 2012)
Dear R,

The past few weeks have been a frenzy of preparation for tomorrow’s conference presentation at OISE. The Cool Researchers are really excited but also pretty nervous. We had our last few meetings at OISE: I wanted to familiarize them the room that we would be presenting in and give them a feel for the place (OISE) in hopes that knowing more about the setting would help to relieve some stress but I worry that it only worked to heighten it.

I first proposed presenting at this conference to the researchers at the end of last school year: I wanted to open up opportunities for the Cool Researchers to disseminate their findings, and in venues that they might otherwise not have been aware of and, if they were interested, help to make those opportunities happen. The

In PAR, it is important to open up opportunities for participating researchers to share their research findings. Along with analysis, dissemination of research can be a particularly challenging part of the research process to engage young researchers in; some researchers might find this difficult or boring (Kirby, 2001). However, those involved in actually doing the research will likely want to know of its outcomes; who
The 13th Annual Dean’s Graduate Research Conference will take place on March 21st & 22nd, 2013. The theme is Education: Taking the Lead. We encourage participants to explore and challenge the role of education in society. The conference provides a forum to share your ideas in an inclusive and accessible space, receive the feedback of your peers, and gain a renewed understanding of your work (Kmiec & Yosef-Hassidim, 2012).

The conference’s call for abstracts came out before the winter break and we decided together that we would submit a proposal. I drafted an abstract and sent it along to the researchers for feedback. We sent in our abstract, *Digging into the Student Experience of the School Garden*, and were accepted to present.

The Cool Researchers and I met in December, in February, and then had three additional meetings this month, and we have really worked hard to focus the project. The researchers began in spring of last year with seven research questions which, in the fall, we whittled down to five: 1) how do students use the garden; 2) who is using the garden; 3) how do students take care of the garden; 4) what do we want in the school garden; and 5) what does the garden mean to you? For the conference, I thought that five questions will find out about the research and what actions will be taken based on the research findings (Smith, Monaghan & Broad, 2002)? Also, those who have done the research are entitled to recognition for and feedback on their work (O’Kane, 2000).

Furthermore, the involvement of young researchers in dissemination can have a considerable impact on audiences, both young and older: Involving young people themselves in the dissemination has been shown to have a strong
Theory and practice, practice and theory speak to the hands of Socrates and Plato, Plato and Socrates. Within the boundaries of our presentation, the structured 20 minute time slot, it would be difficult to present our findings to five research questions and so my hand, that of teacher, that of practice, led those of my partners, pushing aside how theoretically I knew I should be acting: I think we should try to narrow it down to two research questions. The Cool Guy’s exclamation—What?!?—halted would be too many to share in a 20 minute session so I challenged them to further narrow down to just two questions:

S I think we should try to narrow it down to two research questions. So some of them we can combine, and some of them we might just set aside...

TCG What?!?

S Are there any questions that we can get rid of or combine?

TCG How about we keep the most important ones?

JC How about these two?

S How do we use the garden and how do we take care of the garden?

TCG Yeah, those two.... You know how it says who is using the garden, right?

S Yeah

TCG That one says why do students so it already answers the question

S OK. What about what do we want in the school garden? Who really needs impact on adult audiences (Bragg, as cited in Barratt Hacking & Barratt, 2009, p. 379).

Most commonly the results of PAR with young researchers are shared through leaflets, posters, presentations, and media contributions (Hart, 1997; Kirby, 2001). Young researchers participating in the L2C project shared their research in a range of ways including presentations to their school administration, meetings with Members of Parliament, and
my hand, paused my move, and called for my turn from dictation to question as I tried to open the space for the researchers to decide our next move. And here, rather than my exclusive direction of them, Socrates leading Plato, our hands here gently guide each other, my hand responding to the movements of theirs, their hands responding to the movements of mine.

to know that?

JC Students and teachers

TCG And like caretakers

JC And April. Maybe we should take that out

And so we came to: 1) how do students use the school garden; 2) how do they take care of the school garden; and 3) what does the school garden mean to you? We discussed these questions further and the overlapping themes within each, and settled on: 1) how do students experience the school garden; and 2) how do students feel about the school garden?

The researchers worked in pairs as they returned again to the transcripts— I warned them that they would read, and re-read them— to find support for both research questions. Our first research question was modified slightly: it started as how do students use the school garden but one of the themes within conversations with visitors from the university (Barratt Hacking & Barratt, 2009). There do exist as well, albeit rare, publications of the work of young research in scholarly journals (see, for example, Kellett et al., 2004, which includes reports written by three 10 year old
it—experiencing—seemed to encompass all of the other themes. Therefore we adjusted the questions to ask How do students experience the school garden and maintained, for the most part, the four themes discussed a few months ago: observing, learning, having fun, and caring.

Some of our emergent themes were further divided. For example, Orange Soda identified Research on school gardens and on garden-based pedagogies has indicated that students taking part in learning for learners, the school garden can be an awakening of the senses—tasting, touching, seeing, smelling, and hearing—that invite the learner into the sensual world, and a different way of knowing place (Williams & Brown, 2012).

How Students Experience The Garden - Observing

- Used most of their senses
- Looked at different plants
- Ate and ripped out sour leaves, parsley, mint, etc
- Smelled flowers and leaves
- Planted plants
- Felt textures of plants

“It’s got good smells...tasty...quiet...it feels crunchy and when you eat them, sour leaf is crunchy too”
- Alex, grade 6
opportunities in the garden can develop conceptual understandings across the curriculum; this has been well documented in science content two different types of learning that were happening in the school garden and the researchers and I discussed how we might identify them:

S Guys, we need help with a word. We are thinking about learning and it is like there are two different groups of things that are learned, there are like actions that are learned and then there’s like learning different facts about plants and animals. So as far as learning different actions, they are learning how
dig

D Verbs

S How to dig

I am trying so hard to choose the right words, to not tell the researchers what I think we should call with groups, not direct, not talk too much, and end up talking on and on in circles, confusing things so much…

...and Dynamite calls me on it.
How Students Experience the Garden - Having Fun

- Play games
- Digging and planting
- Discovering
- Researching
- Sketching
- Eating
- Building garden beds
- Participating in clubs

“You can discover things and have lots of fun like dig stuff up...make new things, water plants...taste plants”
- Brett Laurie, Grade 3

understandings
(Carrier, 2009; Cronin-Jones, 2000; Mayer-Smith et al., 2007). At City, through garden-based learning, students have noted learning in science (e.g., topics of biodiversity and growth and changes in plants) and mathematics (e.g.,

OS Composting

S OK, like learning how to compost and learning how to dig and learning how to

D So what is your question?

S We are trying to think of a word to describe that. So there’s that kind of learning and then there’s learning about the different types of plants, it’s like knowledge and action?

D Physical and mental, yeah, mental work and physical work
Along with content knowledge, students have learned skills to be applied across the curriculum, in language arts, art, and geography to

**That's a good, yeah, like that. So mental learning and physical learning. Nice! I like that!**

The researchers eventually termed the two types of learning curriculum learning which included science (e.g., plants, ecosystems) and mathematics physical learning which included measurement.

Along with content knowledge, students have learned skills to be applied across the curriculum, in language arts, art, and geography to

**How Students Experience the Garden - Caring**

- **Caring for plants**
  - Planting, watering, and composting
  - Not stepping on plants
- **Caring for the garden**
  - Making and fixing garden beds
- **Caring for self**
  - Feel happier
- **Caring for Earth**
  - Earth Day activities

“They’re like little kids...like you are caring for a little kid but it’s like, you have to water it and you have to weed it” - ABPL, Grade 6

Student expressions of care and caring are common in school gardening projects. At City, the students showed care for several things; they cared for the plants, for the garden, for themselves, and for the Earth through their actions in and interactions with the

name but a few disciplines (Morgan et al., 2007). Studies have also suggested that students...
Also, caring was organized into caring for plants, caring for the garden, caring for self, and caring for Earth.

The second research question was also changed from what does the garden mean to you to how does the garden make students feel; this reflected the researchers’ analysis of the data and their recognition of the prevalence of students participating in garden-based learning began to care more about the environment and were in turn motivated to take positive environmental...
composting, digging, planting, building flower beds). Furthermore, learning in school gardens appears to have a positive impact on students’ environmental behaviours (Mayer-Smith et al., 2007; Skelly & Bradley, 2007); City students also showed positive environmental actions as they cared for individual plants and for the whole of the garden.

All text, spoken or written, written or spoken, is a symbolic representation (representation) of another, a signified representing (representing) another signifier, feelings and emotions about the garden expressed by students.

As the researchers went through the transcripts, I asked them to keep an eye out for student quotations that nicely captured our emergent themes. Many fit under more than one theme—and I explained that this was often the case in research, and that there were rarely clear answers just a lot of grey areas. Dynamite questioned why we needed to go through the transcripts and touched on an important element of doing research—honesty.

D Susan, why do we have to go through these [transcripts]? Can’t we just make it up and say that we found it there?

S No because that’s being totally dishonest

D But they won’t know

S No, they won’t know but that’s one thing with research, when you’re doing research they trust you to not be making up data or lying about things actions; Skelly and Bradley (2007) found that students who took part in learning experiences in school gardens showed a similar sense of environmental responsibility and care. And like ABPL’s assertion that you must take care of plants like you are caring for a little kid, other school garden research has highlighted students’ recognition that one must treat plants and gardens as you would people, with care and respect (see, for example, Skelly & Bradley, 2007).
which in turn is a signified of another (an other); for example, students in this research use written and spoken word, textual symbols, to signify their experiences or ideas. Signifieds and signifiers, signifiers and signifieds, to some, work back, link by link, to the presence of a transcendental signified, what is real, what is true, what is truth. But within that chain there is play, and there is difference, and différance, as meanings differ and are deferred. And with this difference, this différance, textual readings, tracings

D It’s not lying
S Well, it is, if you are saying kids said that and they didn’t

Dynamite brings up a very good point: why do we have to report what has been said and not just make things up? Really, other kinds of research, for example some types of narrative inquiry, are fictional. Within our quotations of others, we omit words and also add them for clarity of reading. And our interpretations of the research texts that we engage with are truth, real, honest for only ourselves, they are not truth, real, honest for others. What is our debt and our duty to our participants in what and how we report?

As we went through the transcripts, I came across a quote from Mighty Robot that really resonated with me, and

Place-based environmental education is situated and is inherently experiential; it involves being in and actively experiencing and learning about the environments within which we dwell. Within it, place is both the content of the curriculum and also its context. These foundations remember nature study, which a century ago focused on and celebrated local knowledge and understandings. Place-based environmental education also recalls the voices of advocates of experience in learning, particularly the theoretical work of Dewey (1902/1966) and Rousseau (1911/1966).
of signifeds and signifiers, differ. Each interpretation, and interpretation of interpretation is different; the pen of the writer is passed to the reader. And so in interpretations, in the interpretations that write the research, and in re-presentations of those interpretations, there remain distances between the reader of the research text, the researcher, and the next reader of the research text, the reader of the re-presentation of the research text. Research works toward the impossibility of the possibility of what is real, of what is that I remember mediating on after our interview with him and Randy.

S What does this mean to you guys? One kid said...we go to learn in the garden and learn things about the garden

TCG I think it means like learn in the garden about the plants and about the garden like, just about the garden

S OK, so how is learning in the garden different from learning about the garden? Or is there a difference? They could be the same

TCG Yeah, it’s possible

S What do you think?

TCG I think it’s the same

S OK, to learn in the garden and learn about the garden? John Cena and Dynamite, what do you think? Learning in the garden or learning things about the garden?

D What do you mean?

S Does that mean the same things?

D No, it’s different. Learning in the garden can mean you’re learning, like, math but you’re in the garden and learning about the garden, you are learning

When presented with a binary, learning in the garden or learning about the garden, the researchers resist the opposition. Instead, they discuss the possibilities of both, learning about and in, in and about, the garden. Difference is recognized, respected, and responded to.
truth. It is a story.

Is it fiction?

about what happens in the garden, like how things grow

JC Like you’re learning the history of the garden

S OK, what do you think is more important?

JC Learning about the garden

D I think learning in the garden because you can be learning about very important things

S So the important thing is, it sounds like what you’re saying is like it’s actually where you are learning

JC Yeah, versus what you are learning about

S OK ...

D Because if you are learning about the garden in the garden, that’s better than just learning about it somewhere else because you have real life examples all around you

S Totally, yeah
We’re doing, like, really serious work.

- The Guy That Rocks

Or,

All this machinery making modern music
Can still be open hearted
Not so coldly charted
It’s really just a question of your honesty, yeah
Your honesty
One likes to believe in the freedom of music
But glittering prizes and endless compromises
Shatter the illusion of integrity

(Peart, 1980)

... afterward
Dear J,

And what comes afterward, after the words, and before what is to come?

A re-presentation of the re-presentation of the interpretation. Which once written, is then at once read and rewritten as I, the author of this telling of the story, pass the pen on to you, the reader and next author.

First, to you, J, as before and now after, a modest and humble extension of thanks and of gratitude to you and to your work for opening up spaces and texts for further, and necessary, openings of spaces and texts to difference, to discourse, to discussion. For releasing possibilities in seemingly impossible spaces and texts. In my working with and in the work that is this research space, this research text, I have been guided by your lead, attempting to follow your gait, but of course, wandering, and wondering, along different paths, tracing different possibilities that I discover, uncover, and recover. And for the memory of you in the work that is at work, the presence in your

Dear R,

And what is to come? What remains to be done? And what comes next?

And first, at the end, as at the beginning, there must be a recognition, a thanks to you, Reader, for engaging with this text, for accepting the postcards that I sent out, unsure of their recipient, and grateful for their receipt by your hands, and in your time. This sharing of the work, the research text, is an opening of me and this story to you and I am happy that you accepted the invitation to add your authorship to it.

Our presentation at the conference was great. The Cool Researchers, while nervous, did an excellent job presenting their research to an audience of OISE graduate students, faculty, and even a few of their parents. They answered questions from the audience thoughtfully, honestly, and eloquently. And to be honest, but
absence, I am both honoured and grateful.

And now, let us turn, and turn to the earth, to the very ground beneath our feet, supporting us, supporting this research space and this research text, and nurturing its growth and the very possibilities that it opens.

A garden, an organic emergence, a space opened, from a collaboration between the earth, the natural world, and humans' bounding, enclosing, shaping of it provides us with a motif for the opening and exploration of the research space and the research. The garden, that enclosure of a natural space for the use and benefit of humans (often a selected group of), providing in part for our basic needs (i.e., food) and also for our pleasures (e.g., for leisure activities, for spiritual reflection, for aesthetic appreciation), has over history represented a breadth of relations between humans and the environment, from dominance and control to a reciprocal partnership. However, there runs through the history of gardens a centrality of human desire, of power over, of course biased, the research that the Cool Researchers presented, their engagement in the research process, the level of skill, and also intuition, as they worked through determining research questions, planning and conducting data collection, analyzing a large volume of data, and disseminating their work matched the work of other researchers presenting at the session. The conference organizers were very excited to have the Cool Researchers there—this was the first time OISE had elementary school students present a research project that they had done—and enthusiastically congratulated the researchers. To this, the Cool Researchers graciously accepted the kind words and very humbly spoke of their research experience.

And in their response, and in their participation in the conference, and in the whole of the research project, I was struck by their honesty, and their openness, and their humility. Despite concerns at the university
enclosure and bounding.

But despite this bounding, this fencing in, these enclosures, the garden grows beyond its boundaries, beyond the plan in the gardener's mind, in her imagination. Seeds are planted, seedlings transplanted, nutrients added, beds watered, but then the gardener has to stand back, to let go, to see what will emerge, to how these elements will play off of each other, with each other, in spite of each other. The garden's roots burrow deeply and shallowly, broadly and narrowly, converging and diverging, tangling and untangling only to tangle once again. The garden's stems, strong and woody, delicate and herbaceous, rising above ground, and hidden below the surface, support, nourish, and re-

whether it was feasible to have elementary school aged students participate as researcher, I suspected that the students would be able to do it. I did not know, I could not possibly know, how the research text would unfold, how the research space would be navigated. There was no map. But there was in the Cool Researchers a willingness to explore, an openness to try, a curiosity to find out what might actually be possible.

And the school garden, while being the focus of the research space and the research text, also provides a motif for the research itself. Working with and in the bounding structures of the overlapping historical structures of education, and academia, and traditions of research, this research space and research text extends beyond, spilling over its planters, growing over its fences, resisting the boundaries of these structures, even weakening their strength and uplifting their foundations. Despite
generate the plant and the garden. The garden's vines coil and climb, twisting, turning, and trailing, at once leaning on the structures enclosing them and weakening, even breaking down, those structures. The garden's flowers bloom, showing in turn, and at the same time, different sensory experiences—colours, shapes, sizes, fragrances, textures—simultaneously deceivingly simple and unfathomably complex. The garden's seeds, and their protective and dispersing fruits, pods, and cones, disseminated to re-new, re-vitalize, re-create traces of the garden, the absence of the garden in the garden that is to come.

And the garden does not simply include its plants; it reaches beyond this bounded kingdom as it inter-acts with the environment, inviting the outside in and inside out, welcoming animals, plants, and other living things and visiting animals, plants, and other living things. The defining enclosure of what is garden is unclosed, the fence taken down, the gate opened.

And so can be described the research space and the research text the structures, and the fences, and the boundaries put into place to enclose the space, to separate inside from outside, the garden grows in its own way, sustaining life from the environment around it and giving life back to that environment, quietly persisting, quietly growing, quietly carrying on, always and already there. The garden opens up its enclosures to possibilities, to difference.

This openness, this opening to possibility, the organic dehiscence, permeated through the research space that was shaped and through the research texts that were penned collaboratively by the Cool Researchers, the student research participants, the adult research participants, and me, and so informed by the contexts that we worked with and in. And these openings were both recognized always and already within the research space and also re-created through our inter-actions with and in that space.
meditated upon in this dissertation.

Like the garden, the research space was full of life, of actions, of interactions, growing beyond, beneath, and over the boundaries and structures already in place.

*Take an object,*

**[We go] to learn in the garden and learn things about the garden.**

-Mighty Robot, grade 3

Learning in and about the school garden blurred disciplinary distinctions, those subject areas so often ranked and ordered became obsolete. Instead, learning in and about the school garden was a decentering of the traditional curriculum, upsetting the dominance of cognitive learning in mathematics, language arts, and science, those subjects that haunt large scale testing.

This decentering opened a space for affect and action, for caring and caring for, and for what is not in the prescribed curriculum. The voices within the research space, and with and in the garden, were curricular openings. The garden was both a content and context for learning about the prescribed curriculum; for learning and teaching in science, social studies, language arts, mathematics, and fine arts. And with and in the garden, these disciplines separated by name in written, and widely understood, texts came together, complemented each other, supported each other, blurred each other’s boundaries and in doing so opened up further possibilities for unique and different experiences for...
that echoed through this opening spoke not only of external frameworks, of learning objectives, but also of internal connections, of emotions, of feelings, of ways that they felt cared for by the garden.

**It’s like you get to take your mind away from stuff in the garden...there’s no stress and you don’t have to worry about stuff, like in real life.**

- Maya, grade 6

And in return, students cared for the garden. Their connections to, their rootedness with and in, the garden ran deeply; to the students of City, their school garden was important, was a special place, a space that they cared for and that cared for them. The school garden created unique opening within the framed and bounded institution that is school for inter-actions with the natural world, with the community, with each other, and with the self.

**I have noticed that... when they were talking they really had care and thoughts in there heart about the garden.**

- Cherry, Cool Researcher

And not only was the garden a context for engaging with and in the traditional curriculum, but organically opened, but it was also a place where students, through experiencing place, and being in place, nurtured affective understandings of the garden and of the broader environment. For many students, the garden was a place of refuge, a space for relaxing, and for caring and for being cared for. And for the Cool Researchers, this was surprising, it was unexpected and opened up for them further a curriculum of the garden beyond what is written, enclosed within science, social studies, and so on.
Students experienced the school garden through their senses, nurturing students’ embodied ways of knowing their community, their environment, and their place within it, and with these ways of knowing, spaces are further opened for difference, for difference of meanings as countless and endless chains of signifiers and signifieds, signifieds and signifiers, are caught up in the play of meaning, in differing and deferring.

The school garden, as a content and a context for learning, displaces, decenters the centrality of the C & I landscape (Aoki, 1993), upsetting its rigid and divided structures. The garden digs beneath, and digs around, uprooting and replanting curriculum, nurturing a curriculum that grows from lived experiences, experiences in place and with place, sensory experience, emotional experiences, memories of past experiences, possibilities for experiences to come, and that organically, persistently, quietly shouts to the learner of a curriculum of difference, of multiplicity, of alterity that is always and already there.

*do something to it,*

*My favourite part of the research group was interviewing the grade 3’s because we could hear their opinion about the garden.*

- The Cool Guy, Cool Researcher

Through difference, through deferral, through différance, and in difference, in deferral, in différance, The garden, and the research space that it permeated, also opened necessary spaces for difference in
deconstruction is at work within the work, with the research space, and the research text, freeing contradictions, interrogating oppositions, and reversing hierarchies that are always already within the space, within the text. And in its intervention, deconstruction over-turns classically held oppositions, displacing the systems within which the oppositions are held.

J, this research space, this research text, attempted to undertake such a displacement, an overturning, an opening as the traditional roles, oppositions, of researcher-researched
teacher-student
expert-novice
adult-child
university-K-12 school
quantitative-qualitative
objective-subjective
to difference.

And it is true, J, that much educational research that is done does not follow exclusively to the research methodology and methods. Going into this research project, I was very much responding to the roles of researchers and the framing of research within classrooms that I taught in and whose communities I was a member of. I observed and experienced research projects in which researchers, experts, outsiders, standing at the periphery with their sunglasses on, came into the class, the school, the community, armed with surveys and questionnaires to be completed, snapped some postured photographs, and then left just as abruptly. In some instances, findings were shared, usually as listed recommendations to be followed to improve our practice with their theory. This is not to say that all research in schools is done this way—it is not and there are many examples of research that is respectful, reciprocal, and supportive of classes, schools, and school communities— but these are the traces, the cinders of my experiences that I bring forth to this project.
dominant terms of these binaries. But what lingers in the spaces, in the shadows, in the (typically) unspoken and taken for granted norms of educational research and in the texts of educational research are the memories of these dominances, memories that continue to, albeit sometimes quietly, actively shape the spaces and texts of educational research. For example, participatory research projects with teachers are planned by researchers from the academy. Student perspectives, ideas, and understandings are gleaned from discussions with teachers and parents. Interview data are quantified and tabulated. Research findings are presented in academic publications and presentations and not to the communities in which and with which the research was conducted. This is not to say that the traditionally dominant members of these oppositions should be wholly silenced. Instead, this research space, and research text, seeks to illuminate, to remove the shades, to take off those sunglasses, and to open a space for and give voice to another, an other, previously unheard. For Socrates and Plato, And these experiences, so highlighting the binary oppositions commonly, and historically, traced in educational research,

researcher-researched
teacher-student
expert-novice
adult-child
university-K-12 school
quantitative-qualitative
objective-subjective

and so on were what I wanted to work against, to overturn, to upset.

And so I chose to counter the dominant terms of these binaries by working collaboratively, openly, not with teachers, not with adults, but with elementary school students and opened up the research space, and the research text to their active involvement in all elements of the process—discussing and planning topics to study, creating methods for and conducting data collection, analyzing data, and disseminating research findings.
Plato and Socrates, to both guide and be guided.

The opening in space and text came through difference, through actively including students as researchers throughout the process of doing research. The Cool Researchers and I worked together as research partners to plan questions to explore, to create ways to collect data, to discuss and analyze the data, and to disseminate the research findings. Our collaboration in doing research was very much a relationship, a conversation.

In this research space, and the research text, I was not exclusively in the role of expert, or teacher, nor was I in the role of student, or novice. Instead I, and the Cool Researchers, worked within the tensions of the space in-between, the text in-between, where we were at once teacher and student, student and teacher, expert and novice, novice and expert. It was a space, a text, in flux, always changing, responding and requiring response.

*Susan, I hate when you are always giving the kids ideas.*

- Laura, Cool Researcher

In this research space, this relationship, this conversation, there were tensions. J, I often felt, often knew, that I was dominating our conversation. My uncertainty, my insecurity, my transition to this uncovered research space, one that I had not previously worked with and in, had me pulling on the threads of roles that I had previously held: teacher, researcher, expert.

And the research space, the research text, opened up spaces in-between for additional tensions as we negotiated our respectively shifting roles. I struggled throughout the research with the very impossibility of possibly knowing what my role should be at any given moment in the research space, the research text. I worked through these tensions on my
Sometimes I hurriedly filled those newly realized research spaces, uneasy with the gaps, with the spaces, without the boundaries. I tried to embrace the unknown, to enjoy the silences.

Meeting with each other was interesting because sometimes I wouldn’t know what it was for.

- Dynamite, Cool Researcher

And I think that, over time, and in spite of the lingering traces, the cinders, of those oppositions, I became more open to really stepping back, to letting go, to quietly allowing myself to be guided, to rest with the impossibility of knowing and the possibility of what might be to come.

I tried really hard to keep my mouth shut, and I think I got better.

- Susan

Yeah, you did.

- Cherry

Hahahahahahaha...

- Susan

However, their confusion (if indeed it was confusion) did not seem to hold back the Cool Researchers as they dug into the research space, the research text, with enthusiasm and a keenness to explore, to question, to take risks, to try things out. And together, these characteristics allowed them to wonder and to wander through the research space, the research text, reading that space and taking a shared authorship, for that time, of the research text.

I did tell the Cool Researchers at one point early on in our work together, in our exploration of the research space, the research text.
With and in the research space, and the research text, the Cool Researchers explored the openings that were made, uprooting and rooting, entangling and detangling, and they rejoiced in their voices being heard and recognized the importance of the work that they were doing, both within their school community, and in the wider space of educational research. The Cool Researchers saw the boundaries, the fencing, the enclosure of the research space, and the research text, and simply dismantled it. They were inherent within the research space, and the research text, Plato guiding the hand of Socrates, and tracing the paths of difference with and in the space and the text.

that there was some uncertainty at the university whether or not they would be able to do research, they were after all only in grade six. And, as these spoken uncertainties motivated me to quietly prove louder voices wrong, I suspect that the same was true for the Cool Researchers. And while fuelled, at least to some extent, by spite, this motivation helped them to break through the dominance of the researcher, the teacher, the adult, the expert, the academy, the institution, and in doing so, create a space, a text, that quietly but certainly asserted the ability, the extent of which is immeasurable, of the Cool Researchers in particular, and children in general, to engage with and in research, and make invaluable contributions to practice and theory, to theory and practice. Their voices can, and should, be heard both as the researched and researcher, researcher and researched.
This dissertation, the envois that I am sending out with this representation of the research space, of the research text, whose arrival is not assured, whose acceptance is not guaranteed, is an extension of the opening of the research space that I was working with and in with the Cool Researchers, and of the research text that we were uprooting and rerooting (re-routing). Following, and heavily tracing your own textual explorations, the dissertation itself, as a written text is an opening. It represents the multiplicity and historicity always already within the research space, and the research text. Postings of methodology, of philosophy, of history, of education, of art—inter-act, inter-sperse, inter-mingle, with and in each other and with and in the stories, the images, the quotations, the comments of the research space, and of the research text. And there is space as well, interruptions in the textual flow for meditation, for play, for difference.

And then do something else with it.

(Johns, 1963-64/1996, p. 31)

These openings in curriculum and in methodology, for me, needed to be mirrored in my re-representation of the research text. My re-presentation needed to reflect the openings, the disruptions, the spaces created by the research itself. It needed to itself have spaces, openings and disruptions, in its physical layout and in its possible readings. Following Derrida, trying to trace his gait but with my own steps, and informed by Barthes, my re-presentation of the research space, the research text, attempted, with the very possibility of non-arrival, of failure, to upset the linearity, the structure, the rigidity of the dissertation. I remember a friend in academia once telling me that a thesis (or dissertation) could be written in any number of ways and then proceeding to tell me that chapter one would be the introduction, chapter two the literature review, chapter three the
Let us space.

(Derrida, 1986b, p. 75)

The re-presentation that I have worked with and in is also a response to the confining structures of the traditional dissertation, the frames that enclose, and separate, the work. Its openness is a resistance to that bounding, a dismantling of the fence, and, I admit, a quiet V raised behind the back of the institution.

Once the Author is removed, the claim to decipher a text becomes quite futile. To give a text an Author is to impose a limit on that text, to furnish it with a final signified, to close the writing (Barthes, 1977, p. 147).

The openness of this dissertation upsets the accepted, and so often unquestioned, architecture of the dissertation, rupturing its solid foundation of introduction, literature, review, methodology and methods, and so on. And again, I needed to push boundaries, this time playing with and in the structure of what is a dissertation, interrupting its typical linear flow and hiding within the space of the texts the introduction, literature, review, methodology, results, discussion.

And in this re-presentation, I quietly extend an invitation to you, Reader, to join in the play of the text, in memory of the Author, in my passing, and which you have so graciously accepted.

And with this playful space of text comes the impossibility of a fixed meaning, a certain reading. Meanings differ and are deferred, différance coils throughout the text and throughout its readings. Traces, cinders, ashes, memories of my
And so, J, in the aftermath of writing this text, these texts, and with and in this textual space, and as I come to mourn the death of the author, of my authorship, I resist forecasting and broadcasting what comes next, recognizing and embracing the impossibility of predicting l’avenir, a future that is unexpected. What will this text disseminate? What will this garden grow? What is to come? These questions can only possibly be answered in the envois, the sendings, parcels, letters, postcards, and the impossibility of assuring their very arrival. What will you, J, and others now taking on the authorship write?

In general, I try to distinguish between what one calls the future and “l’avenir.” The future is that which – tomorrow, later, next century – will be. There’s a future which is predictable, programmed, scheduled, foreseeable. But there is a future, l’avenir (to come) which refers to someone who comes whose arrival is totally unexpected. For me, that is the real future. That which is totally unpredictable. The Other who comes without my being able to anticipate their arrival. So if there is a real future beyond this other known future, it’s l’avenir in that it’s the coming of the Other when I am completely unable to foresee their arrival.

(Derrida, 2002)
...the very condition of a deconstruction may be at work, in the work, within the system to be deconstructed; it may already be located there, already at work, not at the center but in an eccentric center, in a corner whose eccentricity assures the solid concentration of the system, participating in the construction of what it, at the same time threatens to deconstruct. One might then be inclined to reach this conclusion: deconstruction is not an operation that supervenes afterwards, from the outside, one fine day; it is always already at work in the work; one must just know how to identify the right or wrong element, the right or wrong stone—the right one, of course, always proves to be, precisely, the wrong one. Since the destructive force of deconstruction is always already contained within the architecture of the work, all one would finally have to do to be able to deconstruct, given this always already, is to do memory work. Since I want neither to accept nor to reject a conclusion formulated precisely in these terms, let us leave this question hanging for a while.

(Derrida, 1986b, p. 73)
Everyone is of course free to interpret the work in his own way. I think seeing a picture is one thing and interpreting is another.

(Johns, 1964/1996)

Or,

Employing an intricate combination of techniques, Johns worked intermittently across an array of mediums. Problems and solutions from one work inform the development of ensuing works, contributing to both the physical and conceptual richness of the series. This exhibition lays bare the importance of process and experimentation, the cycle of dead ends and fresh starts, and the incessant interplay of materials, meaning, and representation so characteristic of Johns’s career over the last 60 years.

(MOMA Exhibition Abstract, 2014)

......a postlude. The death of the author and the birth of the reader.
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