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**THE CAPACITY OF CONNECTION: ENGAGING ACADEMIC DISCIPLINES WITH
DEMOCRACY, COMMUNITY, AND IDENTITY**

A Thesis in the Field of Education
for the Degree of Master of Science in Education

Art of Teaching Program

SARAH LAWRENCE COLLEGE

Ariella Carle

May 2024

Abstract

It is not enough to think of interdisciplinarity only in terms of curriculum. We also have to think about HOW we teach, and what of ourselves, as teachers and as engaged humans, we are bringing to the classroom and to our students. **What I'm proposing as necessary is a conception of interdisciplinarity which foregrounds the humanity of both students and teachers as prerequisite; which considers care and growth of identity as its own discipline; and which goes beyond curriculum and extends, crucially, into interdisciplinarity of approach.** I will further argue that, rather than taking away valuable instruction time from academics, engaging multiple disciplines and modes on this level can buttress and enliven academic subjects, while also better equipping children to be flexible thinkers and communicators in a swiftly changing world. It can also begin to unravel the negative effects of the "hidden curriculum" most often associated with traditional education, the worst effects of which are felt most consequentially on those who have already been injured by historic marginalization. Transforming the implicit part of curriculum by acknowledging the value of different ways of knowing, being, learning, and speaking, *in a school setting*, can also begin the process of re-engaging humans with their sense of citizenship, and help them to know that they have a hand in shaping a participatory democracy.

Acknowledgments

Thank you to my family: Alma, Tony and Mars. You all have had to put up with a lot over the last two years, and I could not have done any of this - nor would I have been able to find a reason - without your support and love. Thank you to Denisha: The DEY summer institute of 2020 helped me to get through a year of pandemic teaching while still prioritizing connection, and is a big part of the reason I am where I am today. Thank you to Debi, who showed me what it's like to leave space for a person to bring their whole humanity to school and be met with care. Thank you to my host teachers Lorraine and Kelly, who invited me in and gave me space to figure things out. Thank you to all of the children of the ECC, Blue Rock School and Brookside, who taught me about specificity, about joy, and about friendship. Thank you to Rue, Emily, Lorayne, and to my brilliant and hilarious cohort. You have all given me a model for how bolstering and generative a learning space can be when it is also so consistently loving. Thank you, thank you, thank you.

Annotated Outline

1. Introduction

- a. What we know about what children need
- b. What is happening instead - separation, disconnection, siloing
- c. Interdisciplinarity and Multimodality, in terms of WHAT we teach and also HOW
(Thesis: **What I'm proposing as necessary is a conception of interdisciplinarity which foregrounds the humanity of both students and teachers as prerequisite; which considers care and growth of identity as its own discipline; and which goes beyond curriculum and extends, crucially, into interdisciplinarity of *approach*.**)
- d. Teaching in this way can:
 - i. Enliven academic disciplines
 - ii. Help to transform the "hidden curriculum" to one that is affirming and activating
 - iii. Give children a sense that they have a voice in a participatory democracy

2. Literacy, Culture, and Power

- a. Personal story about coming to understand that dominant language and literacy practices are only one set of practices among many
- b. Quote: "Claims for literacy per se are often in fact tacit claims for essay-text literacy, a form of literacy that is neither natural nor universal, *but one cultural way of making sense among others* (Gee, p. 731)."
- c. Autonomous vs. ideological models of literacy
 - i. Understanding of literacy as neutral and remote, agent of change on human consciousness
 - ii. Contrasted with more recent understanding of literacy as existing in a context, socially constructed, constantly changing, and fundamentally plural

- d. Quote: “Expanding literacy undeniably has been an instrument for more democratic access to learning, political participation, and upward mobility. At the same time, it has become one of the sharpest tools for stratification and denial of opportunity (Brandt, p. 2).”
- e. The Western forms of literacy are not dominant because they are inherently superior, but because Western culture is dominant
 - i. Brice Heath - example of why this matters in school
- f. How this made me realize how ingrained ideas of literacy were in both my own and the public imagination
- g. And how much all of these things have to do with power

3. Hidden Curriculum and Multimodality

- a. Quote: “In a no less important, but more tragic sense, [students] learn that ‘knowledge’ is the product of professional rank and entitlement; or to put it another way, students learn how to be silent in the face of authority. In the long run, they learn how to legitimize their own powerlessness (Giroux, 1978).”
- b. This is not just academic - practical repercussions in the classroom
- c. Explicit and implicit messages in school and curriculum
- d. This does not impact all students equally - intersections of race and class
- e. Quote: “Students must be given the opportunity to recognize a broader conception of learning, one that represents a continuum of interactions and processes that overcome the distinctions between classroom vs. non-classroom, intellectual vs. manual and emotional, and curricular vs. extra-curricular (Giroux).”

4. What literacy can be, and why it matters

- a. Quote: “How would the democratic mission be strengthened if students learned to read and write as forms of civil rights (Brandt, p. 206)?”
- b. “Subrosa” forms of literacy - all along, people have been grasping it in resistance to dominance

- c. Reciprocal relationships: Frederick Douglass and the word “abolition.” The word acted on him, and our collective understanding of the word has been acted on and influenced by him
- d. Transactions and schema: Constance Weaver’s idea that we all bring all of our experiences to text; reading and writing act on us and our sense of identity and connection.
- e. Capacity and connection: all that these words carry
- f. Quote: “Reading is not exhausted merely by decoding the written word or written language, but rather anticipated by and extending into knowledge of the world. Reading the world precedes reading the word, and the subsequent reading of the word cannot dispense with continually reading the world. Language and reality are dynamically intertwined (Freire, 1981).”

5. Bringing These Ideas into the Classroom

- a. Three questions to ask yourself when developing curriculum
- b. Quote: Haas Dyson: “Such gaps in the use of written language in official and unofficial worlds – and in and out of school – MAY raise children’s awareness of situated options, but, without official acknowledgement, it may lead them to view their own linguistic and semiotic experiences as irrelevant to schooling. The worry, then, is that children’s resources and communicative skills will be lost to the official world if that world’s composing constraints and possibilities are too narrow (Haas Dyson).”
- c. When we fail to bring children’s own modes of learning into school, it is not only the child that suffers. School definitions of literacy, language, and learning will suffer also

6. Examples of Multimodality and Interdisciplinary Approaches in the Classroom, in Theory and Practice: ELA version

- a. Explanation of how examples were chosen/constructed
- b. Sarah Lawrence ECC: Nourishing a Child’s Identity in Relationship to School
- c. Green Meadow Pre-K/K: Play and literacy, and the deft re-editing of ‘cops and robbers’

- d. Manhattan Country School Kindergarten: Becoming an Artist, a Scientist, and a Writer of your own story
 - i. In school
 - ii. Over zoom
- e. Brookside Elementary Second Grade: Giving children opportunities with other action-forms of literacy
- f. Quote: “As children develop as writers of words, they should not be discouraged from drawing, but rather encouraged to use drawing more deliberately (Souto-Manning, p. 113).”
 - i. Jacob
- g. Blue Rock Fourth Grade: Using Comics to explore character, story form, and identity at the same time when a lot is on the line
 - i. Tatiana
 - ii. Snow
 - iii. Collaboration

7. Curriculum Experiment One (Language): Spelling engages with History

- a. Quote: “It goes without saying, then, that language is also a political instrument, means, and proof of power. It is the most vivid and crucial key to identity: It reveals the private identity, and connects one with, or divorces one from, the larger, public, or more communal identity (Baldwin).”
- b. Asa Hilliard III: Taking culture, history, and the legacy of oppression into account in the classroom
- c. Changing attitudes towards language, while also learning about spelling
- d. Quote: “[The word] becomes ‘one’s own’ only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention.... Language is not a neutral medium that passes freely and easily into the private property of the speaker’s intentions; it is populated–overpopulated–with the intentions of others. Expropriating it, forcing it to submit to one’s own intentions and accents, is a difficult and complicated process (Bakhtin, The dialogic imagination).”

- e. Curriculum Experiment process and sequence (Fifth Grade)
 - i. Research project on different spelling convention families
 - ii. Map of influence of other language groups on formation of English
 - iii. Narrative about domination and exchanges of power
 - iv. Extension into British colonizing and further language changes - American English, Taíno, Bantu language groups
 - v. Examples of recent changes in language generated by students

8. What Math can be and why it Matters: The first step is always connection

- a. Math can give one tools to broaden understanding and enrich the experience of citizenship
- b. But it is usually taught as the most siloed of all the disciplines
- c. This alienates people from all that it can offer
- d. Quote: “In addition to the effects of sexism, racism, and classism, the hegemonic ideology of ‘aptitudes’ – the belief, in relationship to mathematics, that only some people have a ‘mathematical mind’ – needs to be examined (Frankenstein, 1987)

9. Examples of Multimodality and Interdisciplinary Approaches in the classroom, in Theory and Practice: Math Version

- a. Quotes: “I challenge the typically tacit but operative assumption that numbers can themselves tell the story the way it really is; that is, that the numbers are self-evident and value-free, devoid of social and political context. THEY ARE NOT.”
- b. “A first requirement is not to pare away the complexities in order to get something manageable that can be efficiently measured.. I suggest width of consideration has to be a first priority, and that to achieve it the great advantage is to have present many points of view.” (Carini 189)
- c. Defining Characteristics of Shapes in the 5-6s
 - i. Humanizing geometry
 - ii. The shapes in Nia’s braids
- d. Integrated Math Classroom and Joy

- e. Math Textbooks in the Second Grade: Why Does Academic Rigor Have to be the Opposite of Fun?
 - i. Valentina
 - ii. Natalie
- f. Building From Interest in the Fourth Grade: Dog Age Math

10. Curriculum Experiment Two: Math Befriends Community, Democracy, and Identity

- a. Quote: “A project’s methods cannot be dichotomized from its content and objectives, as if methods were neutral and equally appropriate for liberation and domination.” - Paulo Freire, 1970, p.44
- b. Teaching about democracy with math, doing democracy through math
 - i. Changing power structure and relationships in the classroom
- c. Example of Polling and Gerrymandering in the Second Grade (Math about Democracy)
 - i. Quote: “When autonomy and community are combined, they define a concept more often invoked than practiced in our society: democracy (Alfie Kohn).”
- d. Example of Using Data to Support an Argument in the Second Grade; Democratizing Assessment (Doing Democracy with Mathematics)
- e. “Emancipatory content presented in a nonliberatory way reduces critical insights to empty words that cannot challenge students’ taken-for-granted reality and cannot inspire commitment to radical change. Humanistic methods without critical content can make students ‘feel good,’ but cannot help them become subjects capable of using critical knowledge to transform their world (Frankenstein, 1987, p. 186).

11. Conclusion: Hope is an Action Word

- a. All the barriers to teaching in this way
- b. Balance between affirming and valuing what students bring, and teaching them what they need to know to navigate dominant culture

- c. Hope as an action word
- d. Quote “This is a great discovery, education is politics! When a teacher discovers that he or she is a politician, too, the teacher has to ask, What kind of politics am I doing in the classroom? That is, in favor of whom am I being a teacher? The teacher works in favor of something and against something. Because of that, he or she will have another great question, How to be consistent in my teaching practice with my political choice? I cannot proclaim my liberating dream and in the next day be authoritarian in my relationship with the students.” - PAULO FREIRE, A Pedagogy for Liberation

12. Dedication: August and Tony, joy and language

Process Paper

Ari Carle

The seed of the idea for this project has been with me for a long time. I first learned to think about literacy in terms of *what, why, and how* in an Anthropology class soon after my return to college after a 12-year gap. It had never occurred to me to think about literacy in these terms; this in turn led to me thinking critically about my own relationship with reading and writing, and the effects of a fairly Eurocentric education on my own ways of thinking and being in the world. The fact that I was learning about reciprocal impact on literacy practices and culture and power as a “non-traditional” learner in a school setting alongside others with this label added another layer when thinking about how learning happens and how literacy functions differently in people’s lives, about dominant forms, and about the consequences of restricted access to these forms.

When introduced to this thesis project, we were invited to think about themes or ideas that kept coming up for us, that we kept returning to. I found that, for me, this was the idea of interdisciplinary teaching in the broad sense – making connections across modes and methods, but also connecting to the world and to history in meaningful ways. I knew I wanted to engage these teaching practices with the understanding that I had gained about literacy, and about its plural, social, and dynamic nature; I wanted to reveal the many structural connections, the interactions of which create both the possibilities and the constraints of the classroom. I wanted to cinch together every new thing I was learning, every time this not-yet-fully articulated idea was sparked by another reading or experience in the classroom. I wanted to connect *everything*.

My idea got very big, and very populous. It included teacher disempowerment and patriarchy and the profit motive in curriculum development, and it also included syncopation, rhythm and rhyme games, and how they could be used to teach math. At a certain point, I realized that I was trying to stuff every idea I had ever had into a 45-minute presentation, and I knew I had to pare it down. Paring it down was an instructive process, though. It felt less like removing layers or simplifying the idea, than whittling it into a certain shape.

Similarly, going through my observations and collection of student work from the classroom in order to find examples to support my thesis was an important step in clarifying the central idea, and not let it sprawl out too far. It also made me realize that so many things are naturally interdisciplinary, it's actually harder work to separate disciplines – which reminded me of conversations I've been part of with other teachers, about how hard curriculum companies seem to be working to make something terrible, i.e. “How difficult is it to take all the joy out of animal stories? Well, they figured out a way!” This in turn threatened to lead me back down the rabbit hole of all the reasons why people are trying this hard to silo disciplines, to remove context, and to *not* activate prior knowledge. But looking at children's work reminded me of all the ways that children find to tell their stories and to be creative, if they are given even the tiniest bit of space. This realization gave this thesis its heart: humans often find ways to engage with the world on their own terms, and create beauty despite having to do so in opposition to structural barriers, *as a form of resistance*. But what else would change if school was not a barrier, but a place which prioritized making sure children know that they are valued and their ways of communicating and making meaning are important?

I probably have still tried to connect too many things. But the core of it is that relationships, on all levels, *matter*; school should not be a place where these relationships are

severed. Another theme that I have frequently returned to during my time in the Art of Teaching program is the desire to generate positive action items. It is not enough to state the problems and then leave it there: any statement of how bad or hard things are must be followed with an expression of active hope and a plan for how to make it better in practical and doable ways. Rather than being an explicit theme of the presentation, this is its armature. And, in full understanding that a teacher must be flexible and always responsive in order to be most helpful and effective, I consider this project on a continuum: it is one point in an arc of learning, and bringing that learning into practical action.

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THE CAPACITY OF CONNECTION: ENGAGING ACADEMIC DISCIPLINES WITH IDENTITY, COMMUNITY, AND DEMOCRACY

Thesis Presentation by Ari Carle

Hello and Thank you

WHAT WE KNOW

We know that relationships – between teachers, students, and their communities – are critical for effective teaching. We know that the most effective teachers create their own flexible classroom praxis, between educational theory and research, and the practical needs, gifts, and interests of their unique community of students. We know that students are best served and supported when their teachers don't just acknowledge but actively affirm and incorporate students' own cultural funds of knowledge, as well as the broader, plural cultural context of the neighborhoods in which their school is nested. We know that our modern world is multi- trans- and interdisciplinary, and that the tools of active agency within this world are similarly dynamic, and if we want students to be able to make their way in this world we will equip them with more dynamic tools. We know that no child can even begin to learn if their basic human needs are not met, or if they feel that their very existence is not valued.

We know all of these things, and yet, from the micro to the macro - from phonemes to legislation - we are seeing *everything* separated into its smallest-possible

unit of meaning: We are separating decoding skills from literacy and language as a whole, and from their most meaningful uses; we are separating teachers from their expertise and agency; and we are separating legislation and mandates from their historical context. This is a human emergency, and it calls for a massive, concerted effort to stitch things back together, in terms both of interdisciplinary, multimodal teaching, and also in terms of relationships – both one-on-one in the classroom, and, in a grander sense, the relationship between ourselves and our schools and the political and historical forces which have shaped our institutions.

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9. CONCLUSION: HOPE IS AN ACTION WORD

It is not enough to think of interdisciplinarity only in terms of curriculum. We also have to think about HOW we teach, and what of ourselves, as teachers and as engaged humans, we are bringing to the classroom and to our students. **What I'm proposing as necessary is a conception of interdisciplinarity which foregrounds the humanity of both students and teachers as prerequisite; which considers care and growth of identity as its own discipline; and which goes beyond curriculum and extends, crucially, into interdisciplinarity of *approach*.** I will further argue that, rather than taking away valuable instruction time from academics, engaging multiple disciplines and modes on this level can buttress and enliven academic subjects, while also better equipping children to be flexible thinkers and communicators in a swiftly changing world. It can also begin to unravel the negative effects of the “hidden curriculum” most often associated with traditional education, the worst effects of which are felt most consequentially on those who have already been injured by historic marginalization. Transforming the implicit part of curriculum by acknowledging the value of different ways of knowing, being, learning, and speaking, *in a school setting*,

can also begin the process of re-engaging humans with their sense of citizenship, and help them to know that they have a hand in shaping a participatory democracy.



LITERACY, CULTURE, AND POWER

The first seeds of this idea were planted a while ago. I went back to school to finish my undergraduate degree at age 30, after a 12-year gap. I was enrolled in an Early Childhood teacher training, and so was already thinking a lot about early development of reading and writing skills. At the same time, satisfying my other degree requirements, I took an Anthropology class. In that class, I had an experience with text which blew my worldview open in such a powerful way that I am still reeling from it.

“Claims for literacy per se are often in fact tacit claims for essay-text literacy, a form of literacy that is neither natural nor universal, *but one cultural way of making sense among others.*”

- James Paul Gee, 1987, p. 731

This was the first time I had been given the context to wonder about literacy in terms of questions like *what, why, and for whom*. I was introduced to the once commonly-accepted anthropological theory of the “autonomous model” of literacy, which placed literacy as the element of change in a binary system, as a kind of tool or a technology acting on human consciousness. Literacy’s impact on cognition and culture divided those who had achieved it from those who hadn’t — literate societies versus oral ones. According to this model, having gained this advantage in abstract thinking and the ability to decontextualize and reapply knowledge in other situations, literate societies represented a natural step in human evolution.

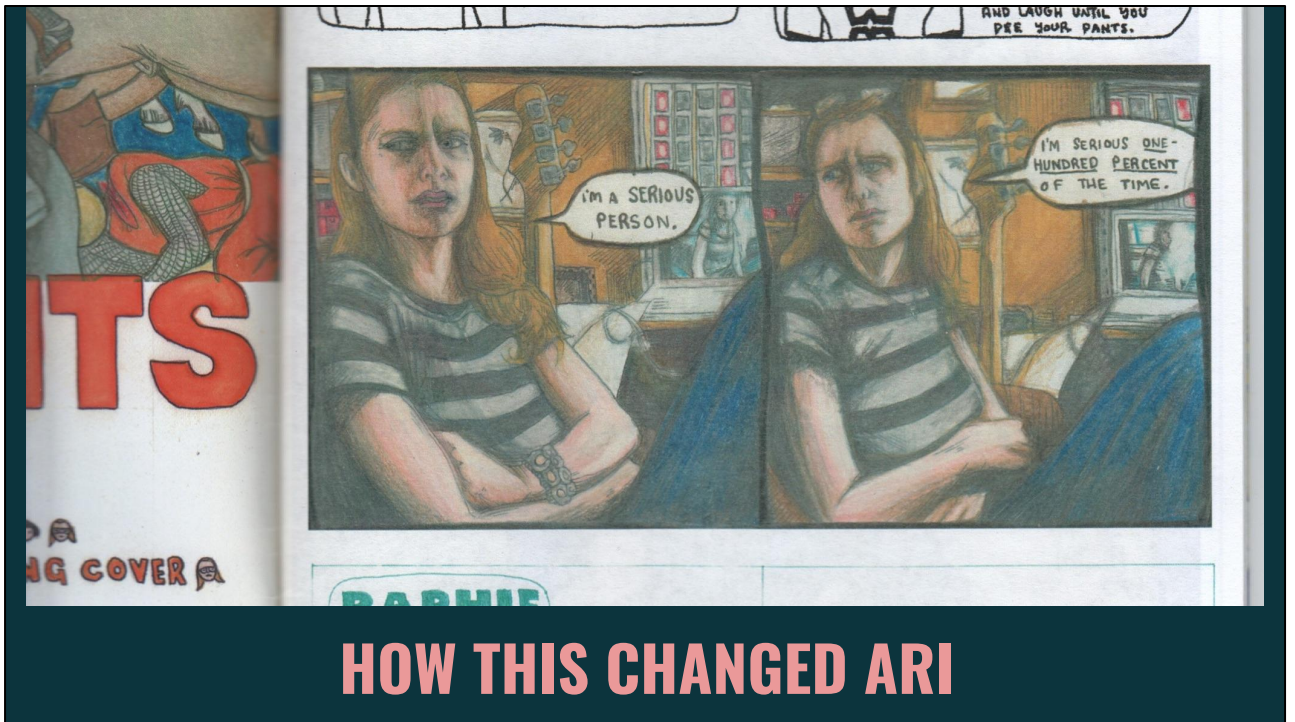
Beginning in the 1980s, Anthropologists and Ethnographers such as Shirley Brice Heath, Brian Street, and James Paul Gee worked to dismantle this autonomous model in favor of an “ideological” one (Street): They argued, variously, that literacy is not in fact a neutral, remote, civilizing force that comes from heaven to act on human consciousness. It is a fundamentally plural, totally messy, socially constructed, constantly-changing, OTHER kind of thing. The *thing* we usually talk about when we

talk about literacy is what Gee refers to as “essay-text” literacy: dominant, official, Western, *school literacy*, which, as he points out, is but one way of communicating and making meaning out of many others.

“Expanding literacy undeniably has been an instrument for more democratic access to learning, political participation, and upward mobility. At the same time, it has become one of the sharpest tools for stratification and denial of opportunity.”

-Deborah Brandt, 2001, p.2

The most important way these ideas began to dislodge the autonomous model of literacy was to show that the value structure associated with it is also meaningless outside of its context. Far from being the endpoint of evolution, inherently neutral and inherently superior, the Western form of literacy is dominant only because Western culture is dominant. Heath (1982) gives us a localized example also by showing a smaller arc inside the big arc: children who are successful within mainstream literacy structure are largely successful because they are encouraged from an early age to master a preferred skill set. It's still a lot about power and access. In this system, the children who grow up in a so-called non-mainstream culture that values skills other than the dominant ones are assessed as lacking. Because their skills and strengths are never seen as valuable in this official, sanctioned setting, they are never given the opportunity to view themselves as agents, or subjects, in these official spaces.



HOW THIS CHANGED ARI

So, yes, that was the moment when I realized that I had uncritically accepted the idea that *being literate* was a necessary tool for economic mobility; yes, I had uncritically accepted the idea that if a person is not literate according to this narrow definition, they are probably poor and pitiful and in need of saving. Yes, I attached a kind of morality to a level of comfort within this very specific form of literacy, and had never thought to wonder where any of these ideas came from. Because, I, with my \$10 words and sparkling grammar, Tisbury Massachusetts Middle School spelling bee champion of 1997, with a chip on my shoulder the exact size and shape of the collected works of Shakespeare – I had *unquestionably grasped* the tool of literacy, and the sense of righteousness that this grasping delivered ringed my head like a laurel crown. The dissonance between the grasping and the mobility had somehow been lost in the mix: I was also a 30 year old domestic worker with only a high school education, who had never had a credit card or health insurance, with two thousand comic books and one set of Labella flat-wound bass strings to my name. I was a walking mixed metaphor. My verb and my subject didn't agree. But I was learning.

Reading about all of this made me realize that literacy is another resource that can be hoarded and defined in order to privilege and preserve power. Learning that this narrative has been written and reified *by the same people who benefit from the way it is written* rattled some very basic assumptions that I had carried along with me undisturbed for my entire life. This is important because it showed me how entrenched and therefore unquestioned this idea about literacy is, that it is a *thing* which you can *grasp and use* to further and improve your station in the world. That it holds inside it all of these connotations of economic mobility, value, and also morality.

THE HIDDEN CURRICULUM AND MULTIMODALITY

“In a no less important, but more tragic sense, [students] learn that ‘knowledge’ is the product of professional rank and entitlement; or to put it another way, students learn how to be silent in the face of authority. In the long run, they learn how to legitimize their own powerlessness.”

-Henry Giroux, 1978

This anthropological distinction between literacy as singular, remote, and pure; and literacy as plural, context-based, and social – is hardly just an academic one. It has very real consequences for the way we value and measure the ways of communicating and making meaning that children bring into the classroom, the way our schools are structured, and the way we teach. All curriculum has an overt aspect, and also other layers underneath. There is the explicit lesson, and the implicit messages that this lesson brings along with it. As Henry Giroux points out, the implicit messages - or the “hidden curriculum” - often teach more lasting and consequential lessons than the explicit curriculum. It has been well documented that the majority of students in our school system experience the implicit message of our curriculum as limiting in the best cases, and actively nullifying of family, community, and self in the worst.

It also must be noted that the hidden curriculum does not impact all students equally. As we learned from Heath, school success most often has to do with having practice and experience with the mode of literacy and communication valued in dominant culture. Those children who are bringing facility and experience with

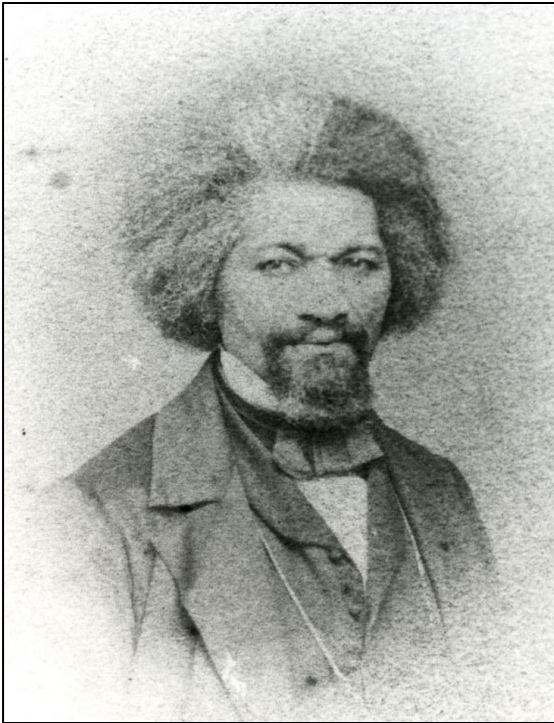
different modes of communication and meaning-making are most likely to experience school as an alienating or harmful place. We know that the people most historically marginalized in this country are also the people who are receiving the most restrictive, most identity-obliterating, least human educational opportunities.

People have been writing about the ways that students benefit from having their identities recognized in the official school setting, and writing about how this is not the usual experience, for a long time. But rather than catching up, it seems that in terms of instruction, we are moving quickly in the opposite direction: scripted curriculum and the total atomization of literacy skills, and total disconnect from their uses. Contrary to the idea of valuing their ideas, experiences, and humanity, this sends the clear message that no one trusts teachers to teach, or children to want to learn. This is the implicit curriculum; children are learning it. The autonomous model is alive and well in schools.

WHAT LITERACY CAN BE, AND WHY IT MATTERS

**“How would the democratic mission be strengthened if students learned to read as a form of civil rights?”
-Deborah Brandt, 2001, p. 206**

Just as there has always been an implicit message in standard curriculum, there has also always been another current pulsing beside dominant forms of literacy. History reveals the many ways that people have used literacy to forge new intellectual and ideological paths, *away from* the mainstream and *in resistance to* the dominant forms and the ways that they are oppressive. Bialostok and Whitman write about this in the context of Indigenous populations and the harmful effects of the hidden curriculum by pointing out that the standard ways that reading and writing are taught has resulted in an official literacy that excludes many, while those excluded groups have been busy building “an ongoing subrosa accompaniment to the official story (2006, p. 7).”



“soul set on fire:” unlocking a tool for action, a means of transformation, an understanding of the word as a way to “get things done.”

Freire described co-constructing literacy practices with people who had been historically denied access to it; bringing their experiences and expertise to dominant literacy, rather than trying to transform them through indoctrination.

Daniel Royer (1994) writes about the ways that words can be used to take apart or engage with the mythology of one’s surroundings, rebuild context, and create change. Royer applies this idea to the writing of Frederick Douglass: taking on the “strong-text” conception of literacy as a decontextualizing machinery, he instead emphasizes the opposite, the social and cultural components of literacy learning. Douglass is himself transformed by gaining the meaning of the word abolition, describing his “soul set on fire:” unlocking a tool for action, a means of transformation, an understanding of the word as a way to “get things done.” By entering into a reciprocal relationship with the word - as Freire describes, the difference between “memorizing an alienating word” and engaging in “a difficult apprenticeship in naming the world” – Douglass then acted on the word itself, permanently affecting, permanently enriching our understanding of it.

“Acquiring literacy does not involve memorizing sentences, words, or syllables – lifeless objects unconnected to an existentialist universe – but rather an attitude of creation and re-creation, a self transformation producing a stance of intervention in one’s context.” - Paulo Freire, 1981).”

This idea of reciprocity also comes up in the work of Constance Weaver (1994). She points out that we all bring all of our experiences to any given text; as we and the text perform this transaction, the text is changing shape at the same time that the text is changing the shape - the size and scope - of our schema. As one example, Weaver says that her understanding, her construction of the meaning, of a certain book would be different between when she read it as a child, and reading it again as an adult. The text itself is static, but a person’s experience and understanding and feelings are all endlessly dynamic.

It was with this in mind that I chose the words *capacity* and *connection* to title this presentation: Capacity has to do with what a thing can hold as well as what a thing can bear. An arena has a maximum capacity; I am exhausted and my capacity is limited. I know what those words mean, but their communicative power depends on an interaction: meaning in context, on a deeper level but also in every single interaction that we engage in, goes beyond dictionary definitions, past academics and straight to humanity. I will write the words “capacity” and “connection” at the top of my paper. I

will load up these words like little cargo ships with all of my ideas and experiences and I will send them to you across the stream of human existence; I will place a semicolon and hope that you know that when I use it I am using it like the sustain pedal on a wurlitzer organ. Everytime I speak and write, it is with the hope that you will meet me halfway, with the understanding that you are also bringing all of your schema to your side of the stream. To you, a semicolon might be the clutch in a manual transmission. It might be a winking eye. In any case, I know that there is no way that my ideas will make their way across this stream without being somewhat or totally transformed *by the very process* of you hearing and understanding them.

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BRINGING THESE IDEAS INTO THE CLASSROOM



Realizing what literacy is and can be in relationship with human beings, compared to the way we teach reading and writing in school makes me wonder why we're trying to stuff something so gigantic, so alive, so wild and powerful – into such a little box. Knowing this, how can we change not just the way we develop curriculum, but also the way we deliver and assess understanding of it?

THREE QUESTIONS TO ASK

1. DOES THIS AFFIRM OR HARM A CHILD'S SENSE OF THEMSELVES AS A LEARNER?
2. DOES IT FOSTER COMMUNITY, OR COMPETITION?
3. DOES IT ALLOW FOR AND VALUE MULTIPLE MODES OF EXPRESSION, MEANING-MAKING, AND COMMUNICATION?

“Such gaps in the use of written language in official and unofficial worlds – and in and out of school – MAY raise children’s awareness of situated options, but, without official acknowledgement, it may lead them to view their own linguistic and semiotic experiences as irrelevant to schooling. The worry, then, is that children’s resources and communicative skills will be lost to the official world if that world’s composing constraints and possibilities are too narrow.”

-Anne Haas Dyson, 2013.

When we make school a place where only one way of being, communicating, and making meaning is seen and valued, it doesn’t just harm students. It harms the official literacy and the school space as well, by denying it movement and richness.

EXAMPLES OF MULTIMODALITY AND INTERDISCIPLINARY APPROACHES IN THE CLASSROOM, IN THEORY AND PRACTICE: CONNECTIONS WITH COMMUNITY, IDENTITY, DEMOCRACY: ELA VERSION

Examples are balanced between those that I have experienced in the classroom, and curriculum experiments that are more theoretical. This is purposeful, as it reinforces the central idea that both teaching and learning are fluid and dynamic; our practical experiences inform our ability to reach the next step in our mutual development, which necessarily must begin with our ability, or even willingness, to imagine it. This is a statement also against dogma, the strict adherence to which can undermine even the most progressive approach to schooling.

I also acknowledge that structural practices related to schooling are deeply ingrained, set into place by a purposeful process, and as such it is going to be a process to unravel them - and doing so in a complete or satisfying way is more or less possible depending on the space where one is teaching. Applying the same strengths-based perspective that we advocate for our children, I think of this process as dovetailing meaningfully with the development of narrative and the growth of any skill set: We know that nothing is ever done perfectly one time only in isolation; we know that each of our sincere and principled attempts represent one point in the arc of our learning.

NOURISHING A CHILD'S IDENTITY IN RELATIONSHIP TO SCHOOL: SARAH LAWRENCE ECC



For the youngest children, this early experience of school is where they will build a category for school. This is the first time they are seeing how to be in the world outside of home. At the ECC, they are able to build an understanding of school as safe, loving, and good. A place where they are welcome.



What some rigor-focused observers would deride as “just playing,” combined with intentional language, warmth, and meaningful choice begin to shape a child’s identity in relationship to school – developing schema for school as a positive space, developing a value for self and community, developing a sense of yourself as the author of your own story.



In these images, we can see physical gesture combining with painting in the process of meaning-making that is clearly legible to the child – even though it might not be “readable” by adult observers.. Emig, building on the ideas of Vygotsky, writes about the importance of these stages as a child builds increasingly complex symbol systems with which to make sense of the world. Emig quotes Vygotsky, who wrote that gesture is “the initial visual sign that contains the child’s future writing as an acorn contains a future oak.... Gestures are writing in air, and written signs frequently are simply gestures that have been fixed (1983, p. 137).”



This child was making an important connection, adding to his schema of school the idea that in this “official” place, he can perform his own private mode of meaning-making, and it will be supported. He will also receive ample time to play, bringing this symbolic meaning-making into progressively (though not always linear) more sophisticated and relational modes.

**PLAY AND LITERACY, AND A DEFT
RE-EDITING OF 'COPS AND ROBBERS':
FOREST PRE-K/K**



From gesture to play:

Another example of play as an early form of literacy came while watching 4- and 5-year-olds negotiate the rules of “cops and robbers” with older children. The younger children were extremely disturbed by the highly ritualized dragging to jail that was the defining feature of the game. Characteristically for 8-year-olds, when the little kids cried and asked if they could still play but *never be taken to jail*, the big kids said the rules are the rules and if you don’t like it go do something else.



They did, but days later, the little kids were playing the game again – this time in school. In this familiar and consistent space, they re-edited the story of cops and robbers: Instead of robbers running and cops dragging them back to jail, this game was babies running and a mother picking them up and carrying them back home. I asked one of the little kids (my son Tony, now a big kid) if it was the same game that they were playing, and he nodded before clarifying “The place they go is *home*. The game is called *family*.” He then elaborated that the game also included many big sisters, and two komodo dragons on leashes — one of whom at some point *transformed into a friendly wolf*. I tried to ask again if it was the same game that the big kids were playing, but he ended the questioning by saying “You can just be whatever you want.”

**BECOMING AN ARTIST, A SCIENTIST, AND
THE AUTHOR OF YOUR OWN STORY:**

5-6s



Reddy-Ed. Grayelly.
I used all the colors around, and the black and white, and then added water to make it, like, squishy.
-Amelia



Bloody Nose Red. Dark Night. Cocoa Ice Cream.
-Emma Lucia



Geen the Green. Wack. Vue. Red, but with blue. Hollow. Pray.
-Elijah



Bella pink. Rainbow yellow. Light sonoris.
King orange. Mice blue. Soup green. Red queen.
-Yuma

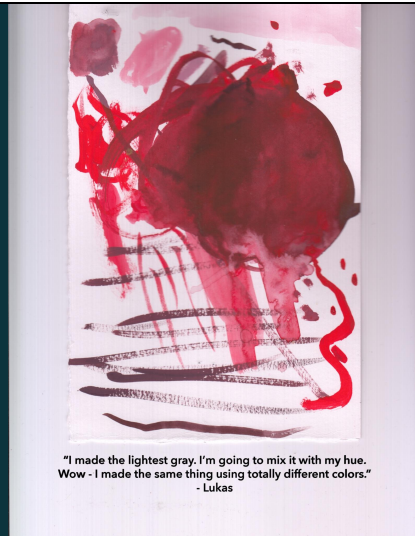
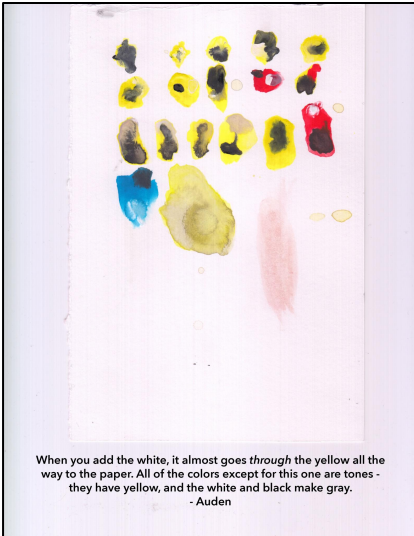
COLOR INVENTORS

Drawing is the bridge between playing and experimentation with more standard forms of literacy:

Beginning from color theory, experimenting with which colors can combine to form new colors. Giving children a sense of what it's like to approach a task with a *scientific bearing* – making hypotheses, testing, evaluating results. Explicitly saying “you are the inventor of this color. It did not exist before you made it, so you get to name it.” Seeing the sense of power and ownership this inspired.

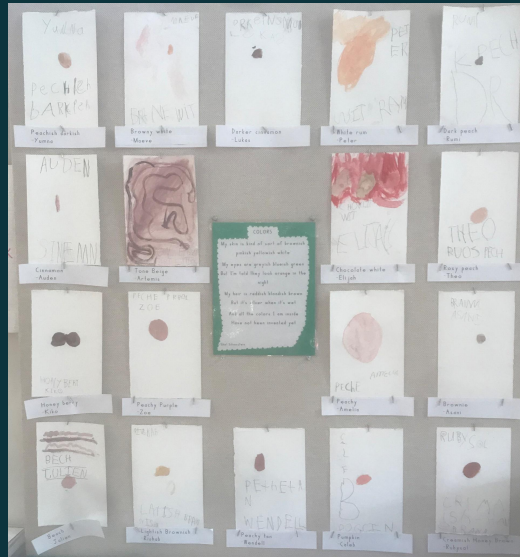


Moving from there to “puddle work” – in order to help kids work in a messier way, with more surprises. As Karen Gallas (1995) writes, lifelong fascination with science often begins with exploration in early childhood, and a teacher can nurture this fascination by emphasizing the most important science aptitudes as wondering and curiosity, rather than the production and distribution of science facts. Activities like this one, in the context of a larger project arc, can reinforce the child’s conception of themselves as a science thinker and a science doer.



HUES AND TINTS

Adding discipline-specific language of color theory



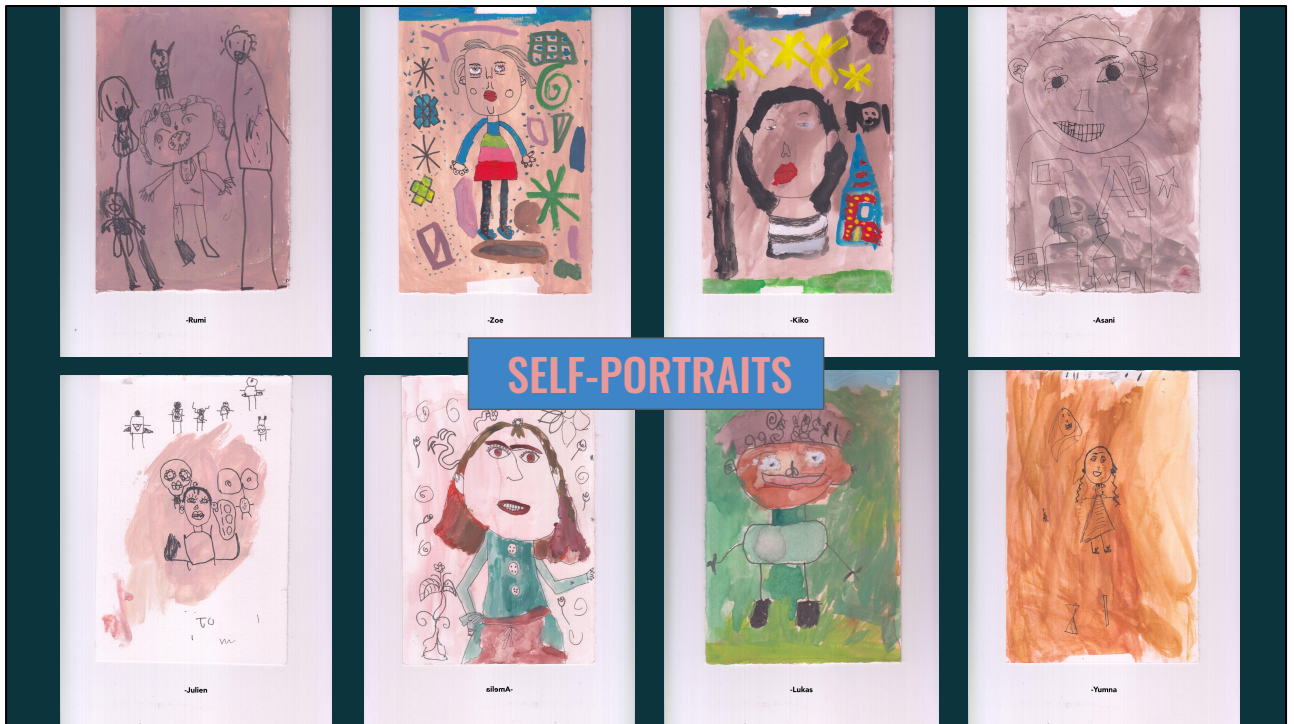
SKIN COLOR HYPOTHESIS

After practicing in all of these ways, reading *The Colors of Us* (Katz, 2002): all skin colors can be made combining just these few colors (hypothesis) – let's experiment and see if it works. Creating and matching your skin tone, and then giving it a name.

Combining this activity with other identity-affirming activities: What you can tell about me just by looking, what you CAN'T tell about me just by looking. Showing that it's really important by not just doing one drawing and leaving it there.

THEN we do the self-portrait, in two steps – we take the color we invented, and draw ourselves, adding all the details we think are important.

This is all done in service of telling a story, deciding what story you want to tell about yourself. Through a visual and scientific mode, we were building towards authorship.

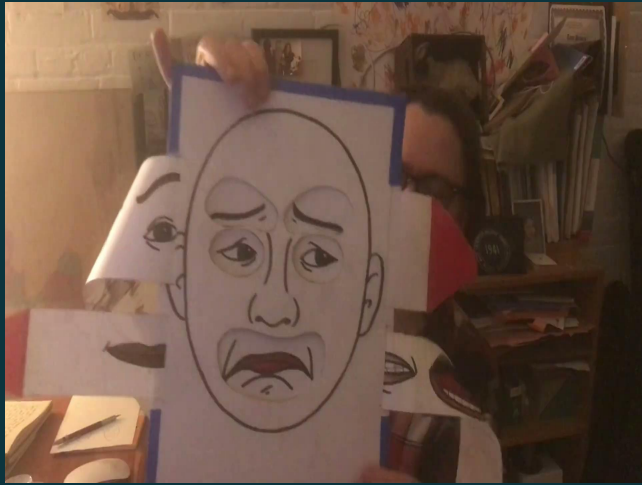


After the portraits, the plan was to bring all of the color theory and portrait work into a personal narrative. That year, the pandemic sent us all home in the early Spring, so we had to shift our objectives. We gathered up what we already knew about painting, drawing, and story-telling, and used it to support a more urgent objective:



COLOR OF CALM

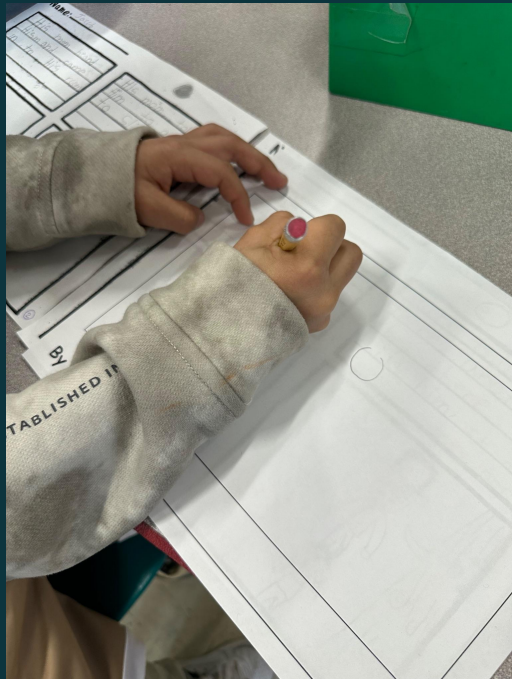
Having this shared language and skill set made it a bit easier to re-establish and maintain our human connection with each other over screens.



EVERY PART OF THE FACE TELLS A STORY

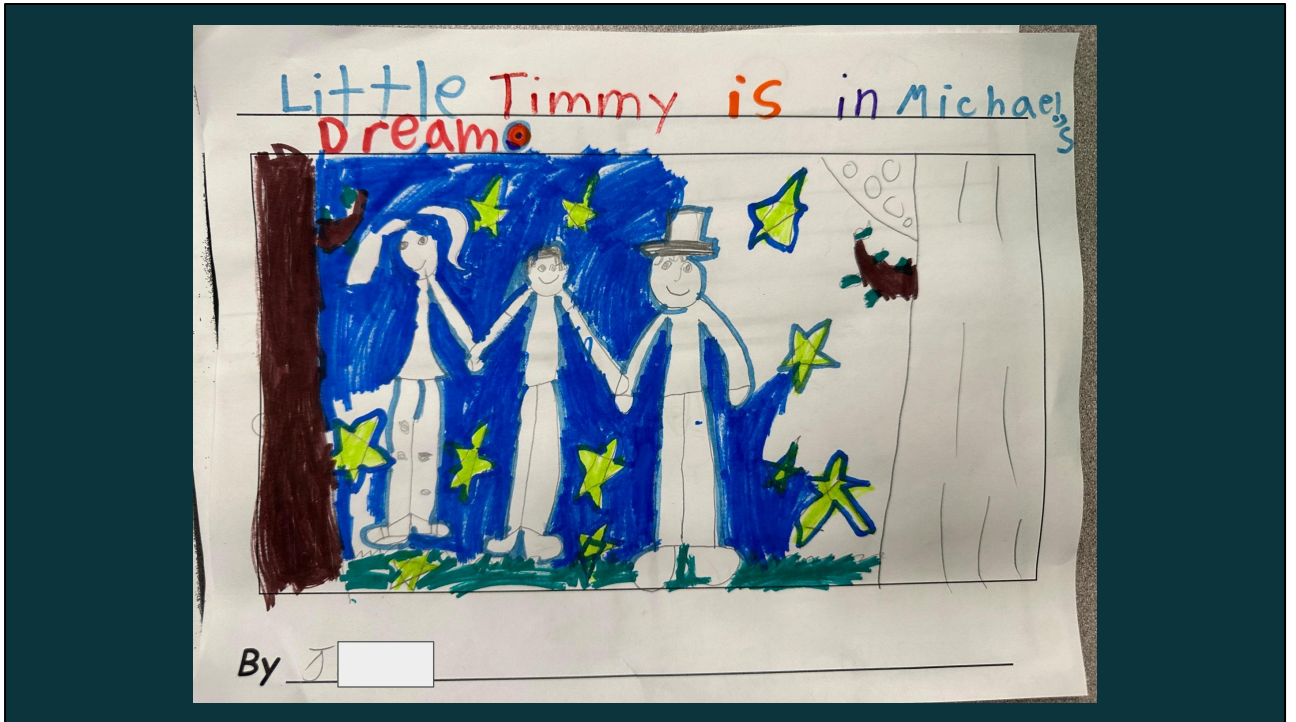
COMICS IN THE SECOND GRADE: GIVING CHILDREN OPPORTUNITIES WITH OTHER ACTION-FORMS OF LITERACY

Given an opportunity to bring comics curriculum to a second grade class in a fairly traditional public school, I thought first of J. J struggles deeply with almost every academic aspect of the school day, from finding language for his thoughts, to, especially, writing. But, J's spirit is formidable, and his readiness to learn is extraordinary. In a recent spelling test, I was impressed that - even though it was clear that Jacob was having trouble hearing, sounding, or writing any of the sounds in any given word, he frequently checked in with teachers to ask them to repeat a dictated sentence, and then worked hard to reproduce those sounds in writing, his body swaying and feet shuffling in a tiny bachata dance as he hovered over his work.



“As children develop as writers of words, they should not be discouraged from drawing, but rather encouraged to use drawing more deliberately.”
-Mariana Souto-Manning, 2016, p. 113

When they were supposed to do bug studies, he lost all of his papers and had to start from scratch. I was sent over to help him quickly make something, any small thing, so that he could share during the publishing party. While his struggles with writing were obvious, I also noticed that his drawings expressed EVERY REQUIREMENT of the assignment, in terms of understanding and recapitulation of content. He just couldn't yet do it with words yet – another example that a person's proficiency with school-literacy does not always track with their understanding or their actual ability.

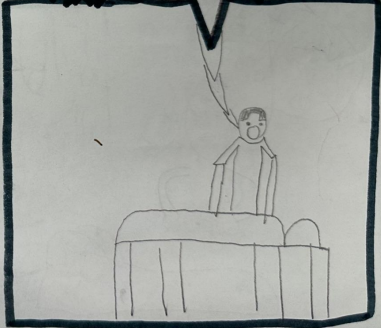


Within this different structure, he was able not only to meet the standards – write a story with a clear beginning, middle, and end, with characters, problem, and solution – but also to do it with joy.

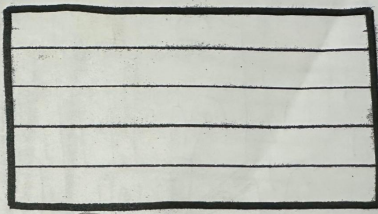
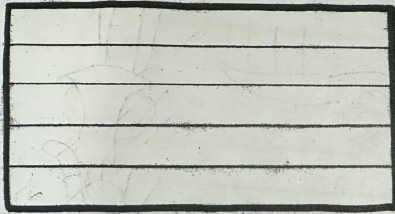
Michael was lost
in the dark
and SPOOKY
woods he was scare
because he was
alone.



I just
had a bad
dream!

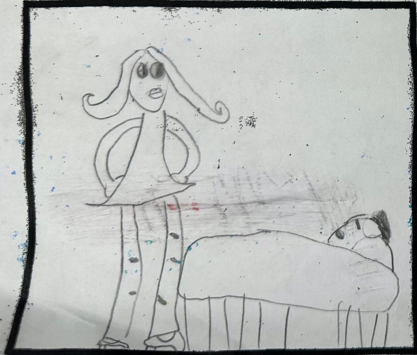


Name: _____

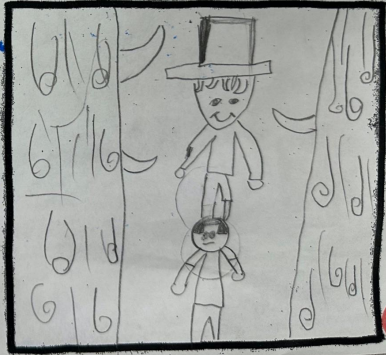


Name: _____

Michael went
back to his
dream...



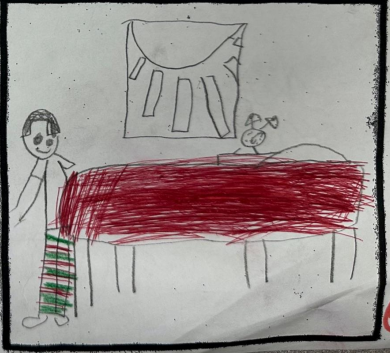
But this time
there another
boy there just
like him it didn't
feel so spooky anymore



Name: Jacob

The boy was
named Little Timmy.

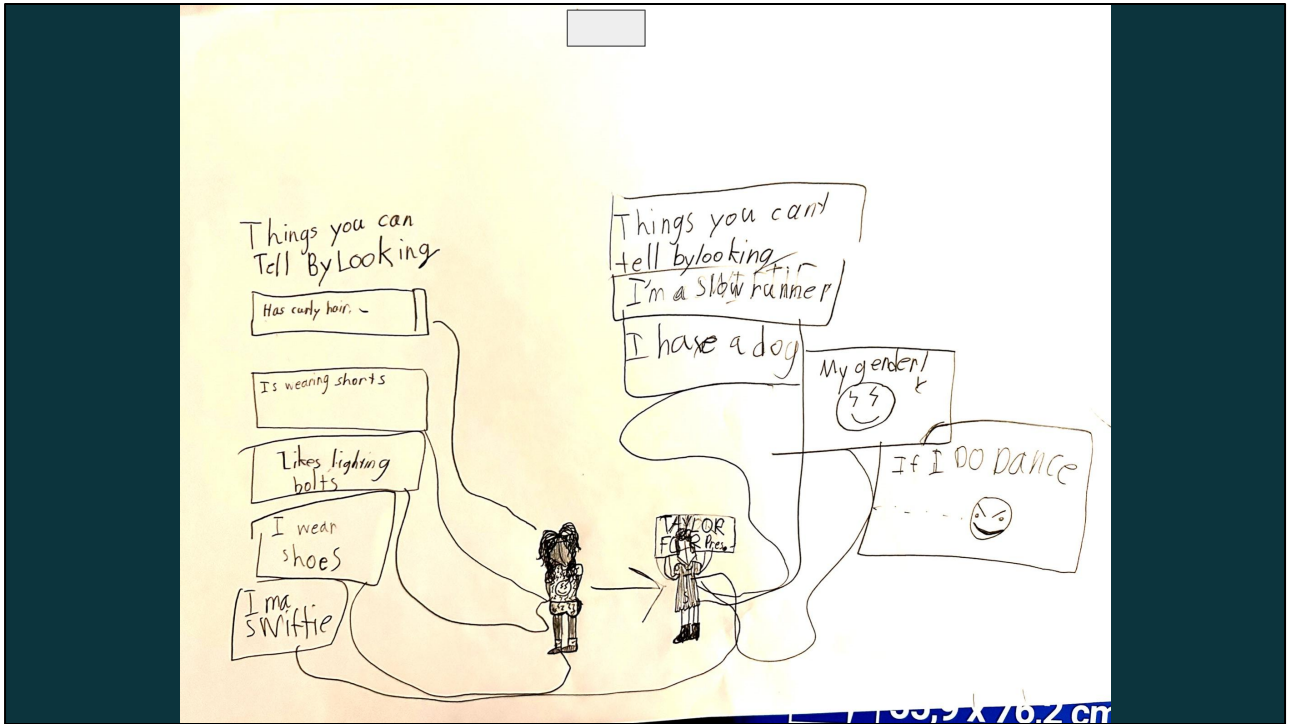
n Then The
Next morning
michael woke up
and he felt
good. The End.



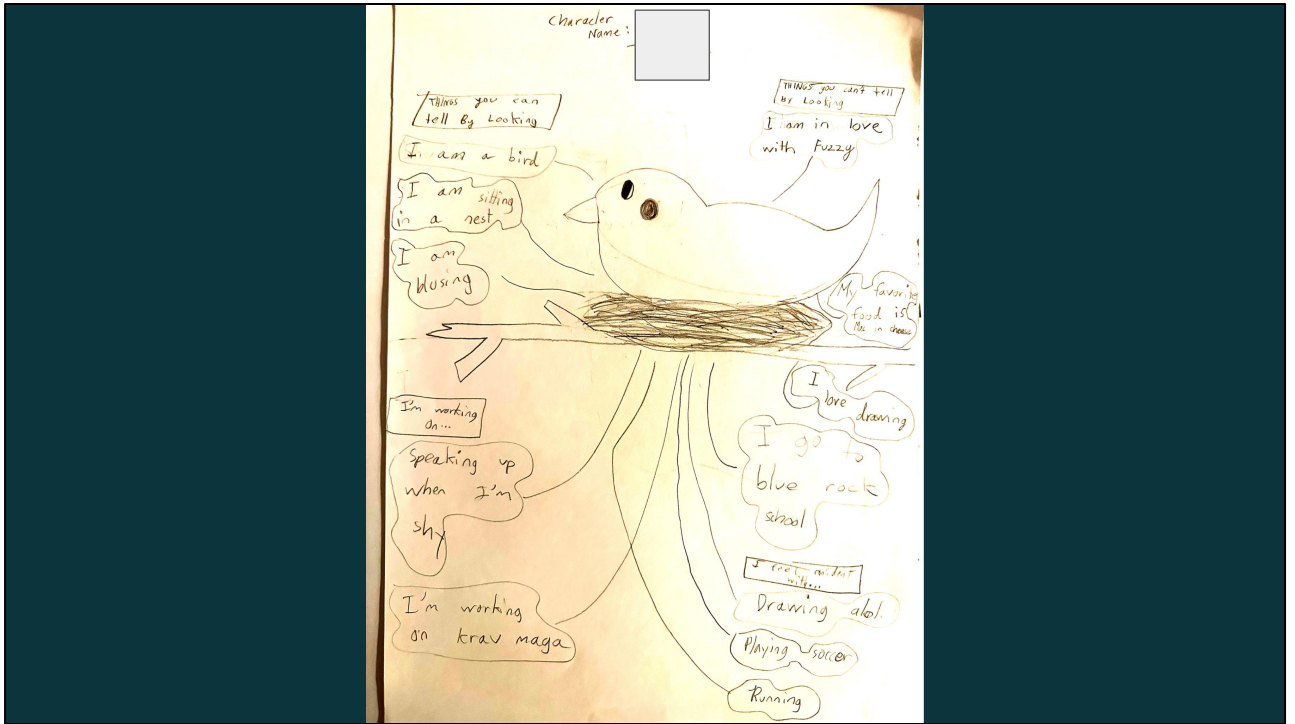
COMICS IN THE FOURTH GRADE: EXPLORING CHARACTER, PLOT, AND STORY FORM WHEN A LOT IS ON THE LINE

Fourth grade class having extreme difficulty relating to each other and finding social equilibrium, and this was making it very difficult to do anything else.

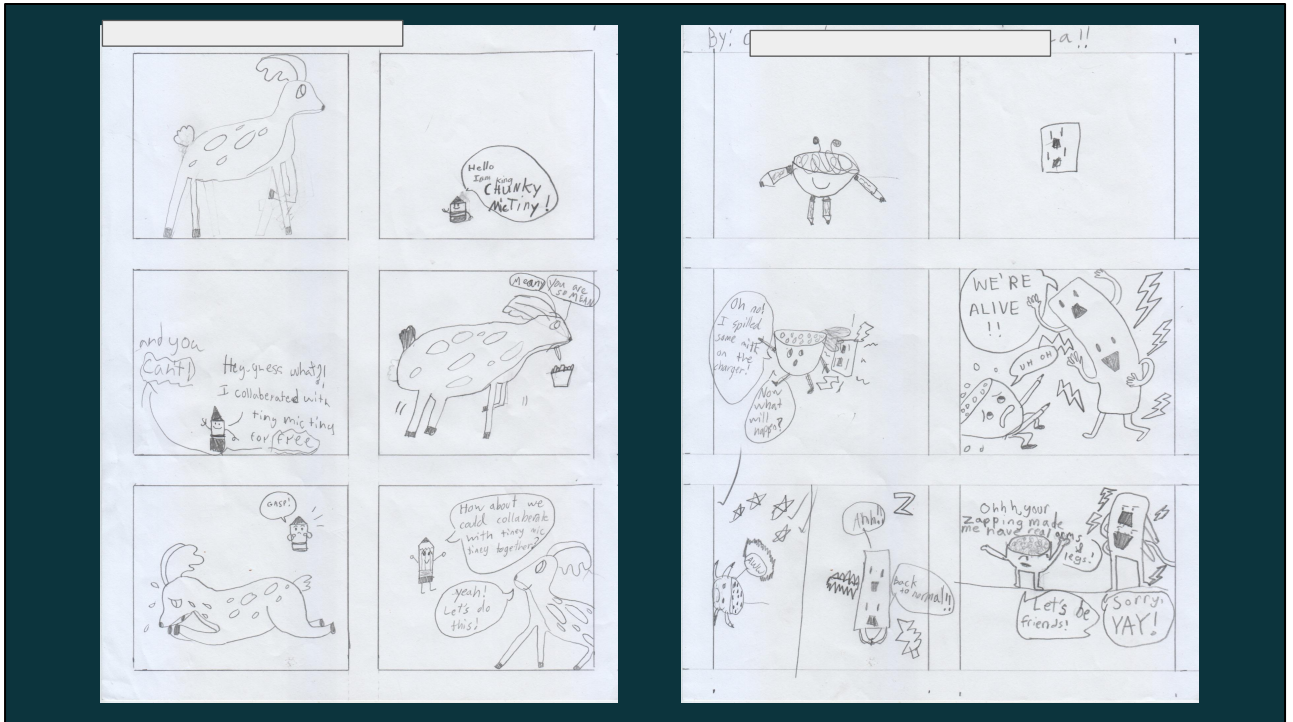
Expanding on the format of the K identity work, asking the question: What can you know by looking? What CAN'T you know by looking? About invented character, and then about a character based on yourself. Saying: The things you can't tell about a character by looking is the beginning of that character's biography. The things you can't tell by looking represent the beginning of plot..



Tasking if she could draw herself two ways, because she felt she was different depending on what space she was in.



S taking hold of an accommodation meant for a different child, and using it to branch into identity metaphor: rather than masking vulnerability, exploring it.



Group-constructed comics. Getting them to hear each others' stories, to listen to each other, to take a cue from someone else.

CURRICULUM EXPERIMENT ONE (LANGUAGE): SPELLING ENGAGES WITH HISTORY

This curriculum experiment was directly inspired by the writing of Asa Hilliard III on the necessity of change in the way we assess African-American children in school (2002). Reinforcing the idea that building curriculum cannot be taken out of the context of culture and history, he writes “teaching and learning are also rooted in environments that are shaped by politics. For example, the United States was created as a slave nation, complete with deliberate designs to prevent the education of slaves. The designs included measures that would create certain beliefs to justify that curtailment (p. 89-90).” Just as Deborah Brandt (2006) writes that forms of literacy do not erase each other, but rather pile up, history accumulates also. It accumulates in institutions and imagination, when stories told purposefully and repeatedly by those trying to consolidate and maintain power through exploitation are codified in disciplines. This is another dimension of the hidden curriculum. “It is the failure of scholarship to take history and culture into account that distorts scientific study. Failing to deal with the existence of oppression and its impact will result in a further distortion of study (Hilliard, 2002, p.91).”

“It goes without saying, then, that language is also a political instrument, means, and proof of power. It is the most vivid and crucial key to identity: It reveals the private identity, and connects one with, or divorces one from, the larger, public, or more communal identity.”

-James Baldwin, 1979

As we’ve already seen in standard or official literacy practices, standard English enjoys a privileged position in the minds of many as somehow “immaculately conceived” and “pure,” as well as “language, not simply a language (2002, p.94).” Hilliard wonders what teaching the history of the English language would do to these misconceptions, to our widely-accepted and rarely examined “chauvinistic attitudes” towards language.

Approaching language in this way also supports ideas for teaching spelling that attempt to demystify orthography by looking for consistent spelling rules and conventions within groups of words which share specific linguistic origins (Joshi, 2016). Combining these ideas, we arrive at an active exploration of “word biographies” – where the answer to the question (asked recently by my 7-year-old son) “why does ‘hour’ start with H?” could be “Because William the Conqueror invaded and conquered Britain in 1066 and made French the official language,” rather than “because the rules of English are impenetrable.”

“[The word] becomes ‘one’s own’ only when the speaker populates it with his own intention, his own accent, when he appropriates the word, adapting it to his own semantic and expressive intention.... Language is not a neutral medium that passes freely and easily into private property of the speaker’s intentions; it is populated—overpopulated—with the intentions of others. Expropriating it, forcing it to submit to one’s own intentions and accents, is a difficult and complicated process.”

-Mikhail Bakhtin, 1981

In an attempt to engage with Bakhtin’s ideas about the difficulty of controlling the meaning, or the intention of words while also both demythologizing and complicating the dominant story of the English language, this experiment begins by asking students why they think the English spelling rules are all over the place. If any students in the class speak other languages, invite them to share about the spelling rules in that language – bonus if it’s picto-graphic or has consistent vowel sounds. Opening up the dialogue in the form of wondering - rather than beginning by teaching the answers.

In this imaginary fifth grade classroom, we would have already been doing word work for a short period of time every day, building from the recommendations of Constance Weaver (1994) for vocabulary development: Doing this work with morphemes – “a sound unit that bears meaning,” including prefixes and suffixes – it would already be familiar to see spelling conventions grouped into “word root families.” Pre-selecting some of these word root families to offer some juicy options, the class will then divide into partners or groups. They will then be given the challenge

to explain why these word root families share certain spelling rules, and what is the origin-language – the prior linguistic home – of this word root family. (Having been given a set of viable options from the beginning, no group will have the frustration of hitting a dead end right away.)

WORDS THAT END IN -GUE

**VOGUE
VAGUE
DIALOGUE
FATIGUE
ROGUE
LEAGUE
(AND OTHERS)**


ROOT DICT-

**Dictate
Dictionary
Dictator
Contradict
Predict
Verdict
(AND OTHERS!)**

In the second part of this activity, groups will continue to research their word families, beginning to answer the question of how and in what manner these linguistic features came to enter the English language. As a narrative develops, students will be able to document their research on a large map, drawing lines from the origin-region to the point of contact or conflict in the area that eventually became Great Britain. When every group has documented their research on the map, the whole class can use these as bullet-points to write a “word biography” for each word group covered – where it has traveled, how it has changed and why, and then co-construct a timeline.



In the third part, students will continue to extend this language history into modern times by choosing a second research subject: they will choose one way that American English has more recently, and research why and in what manner this has happened. If British English had mostly settled into its current form by around 1500, that leaves all of the subsequent brutality of colonialism and slavery still to be explored when talking about the ways that other and more varied languages have influenced *American* English. This could include - but by far is not limited to - Taíno, one of the indigenous languages of the Caribbean; Filipino/Tagalog; and most notably, Bantu language groups from the central and southern regions of the African continent. In our lifetimes, language has changed for different reasons, including - but again, definitely not limited to - social and technological advances, with the internet and social media, and also in terms of rights and recognition, including in disability advocacy, and an increased awareness of the expansiveness of gender.



When all this is done, you will have co-constructed a very messy and bloody language history. But you will also have demonstrated that our language has been forged out of conflict, capitalism, and exchanges of power. And not only that, but it is also constantly changing. Students will be left KNOWING that language is fungible, social, subject to cultural and political and moral headwinds, and to human bad behavior. No one will be able to tell them that their own linguistic biographies are inferior to the dominant form; no one will be able to tell them that their Grandma's way of using language at home is less valuable than the language spoken at the academy. Because if anyone tries to make any claim for the inherent purity or superiority of the English language, they will LAUGH.

Through messages like this one being communicated in a school setting, the implicit lesson becomes one valuing diversity: rather than striving for standardization, uniformity, measurability, we are instead saying that while history is messy and full of brutalities, in our American culture as well as in our American language, our virtue is polyglot. Look at all the examples of those who have taken the "official" literacies and

shaped them, throwing around all the weight of their unofficial modes at the same time. All the people who have hybridized, syncretized, made something brand new.

Yes, history is ugly. Yes, every word we speak or write carries some freight of something being stolen, or something being forced. But we wouldn't leave it there! Going back to the autonomous model of literacy: even if it is a thing that you can take, it would still turn out to be impossible to control who takes it and what they do with it. There are so many examples of how it's been used by people not to climb within the structures already built, but to build new ones, personally, politically, big enough to house and protect others. Imagine how transformative it could be, to turn to a class of children, and say "Look at the ways that this language has changed, by force and also in compassion. Look at the ways that people have taken and used it. It's YOURS now. What are you going to do with it? What mark are YOU going to leave on it?"

WHAT MATH CAN BE, AND WHY IT MATTERS

“In addition to the effects of sexism, racism, and classism, the hegemonic ideology of ‘aptitudes’ – the belief, in relationship to mathematics, that only some people have a ‘mathematical mind’ – needs to be examined.”

-Marilyn Frankenstein, 1987, p.194

Just as Paulo Freire wrote that learning to read is about reading the world as well as the word, so can mathematics instruction become more than just assimilating a set of inert skills and procedures. Learning to read grants a person increased access to and mobility within the world, through familiarity with the tools of the culture; it also unlocks a more internal agency, moving beyond the mechanics of experience and into the world of ideas. This ability to think critically allows a person to make connections that lead to a fuller understanding: thinking, feeling, and doing become mutually enriching and mutually informing processes. Fluency with mathematics can perform a similar set of functions in service to a person’s movement within society. I would also argue that math knowledge and understanding can unlock the world in specific and unique ways: It can allow people to experience citizenship as a richer and more involved activity as they become more able to interpret the numbers and calculations that serve as the building materials of democracy. Confidence with these skills can increase a person’s sense that they have a voice, that they themselves are a part of the structure of society, and that they have the power to work for change when they know

a system to be unjust.

EXAMPLES OF MULTIMODAL AND INTERDISCIPLINARY APPROACHES IN THE CLASSROOM: THEORY AND PRACTICE, MATH VERSION

But, math is not usually taught with these goals in mind. It is a rare American who emerges from school with an understanding that math is anything other than a siloed, disconnected, context-free series of operations, and that performing well within this discipline consists *only* of repeating these operations precisely. This understanding gives everyone a kind of permission to disassociate themselves from math and not engage with it at all. This is not hard to understand: It is of no consequence to remove yourself from something when you've never seen yourself there in the first place. As Marilyn Frankenstein (1987) points out, though, people often experience their disconnection from math ideas as a personal or innate failing. They will say that they do not have a “math brain,” or that they experience “math anxiety.” It does not always occur to people to look for a larger reason, or to connect to the fact that *so many people* have had this same experience with math. Nor do we often connect our own fear of math to questions about who seems to most frequently access the skills of math, who seems most routinely to be left out, and whether this all might have something to do with the way the subject is *taught*.

Frankenstein was writing decades ago; it is instructive and also incredibly discouraging that her analysis is still so accurate – and the need for examination remains so sharp – after all this time. I believe that all of these pieces are connected: there is a connection between this feeling of lack of math access that so many of us share, and the lack of civic engagement that continually worries away at our democracy. If it is not a causal relationship of one-follows-the-other, it might be imagined as two offshoots on a family tree of branching systems of inequity and continually compounding disempowerment.

“I challenge the typically tacit but operative assumption that numbers can themselves tell the story the way it really is; that is, that the numbers are self-evident and value-free, devoid of social and political context. THEY ARE NOT.”

“A first requirement is not to pare away the complexities in order to get something manageable that can be efficiently measured.. I suggest width of consideration has to be a first priority, and that to achieve it the great advantage is to have present many points of view.”

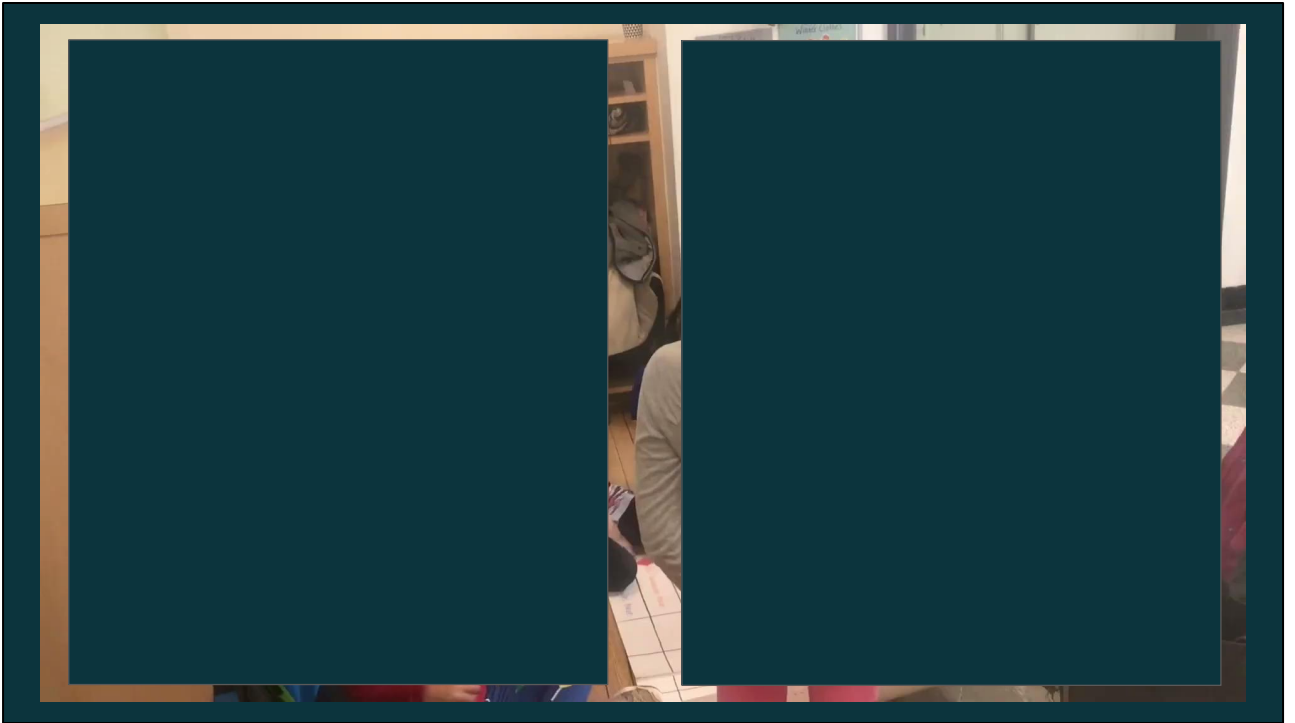
-Patricia Carini, 2001, p. 189.

Patricia Carini was writing about numbers relating to standards and standardized methods of measuring the progress and aptitudes of children at school. But I believe that her words are equally apt, and very much connected to, the ways that we teach mathematics.

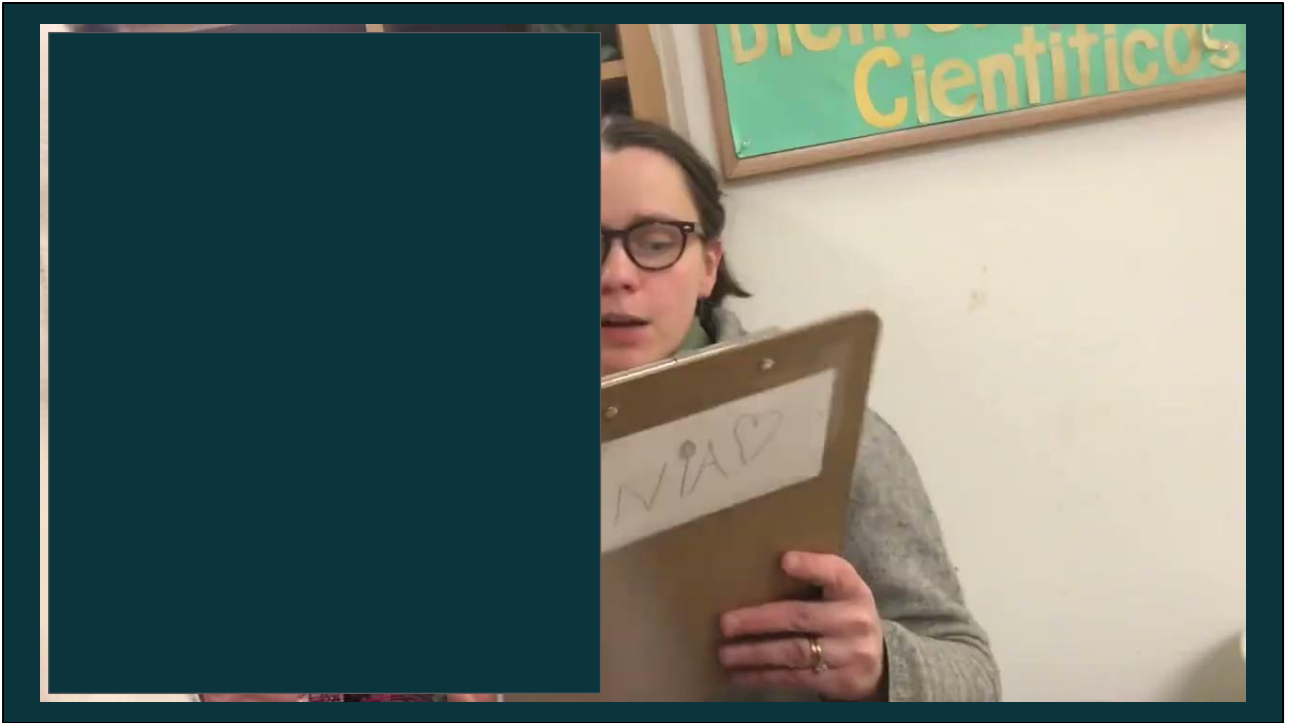
Once again, I will share examples both from my experience in various classrooms, and “experiments” that are theoretical. Each of these are instructive in different ways: the real examples always include some things I wish I had done better, and also reveal the variety in levels of restriction according to the schooling environment. The theoretical examples suffer from not being kid-tested, though, and are missing the voices of students as well as the voice of the physical classroom.

DEFINING CHARACTERISTICS OF SHAPES IN THE 5-6s

Topics considered to be dry or pro forma can be brought to life when they are given to children in a way that foregrounds the child's experience and expertise. Though I can think of one hundred ways I could have better responded in the moment, what we see here is the topic of "defining characteristics of shapes" being *completely humanized* and identified with.



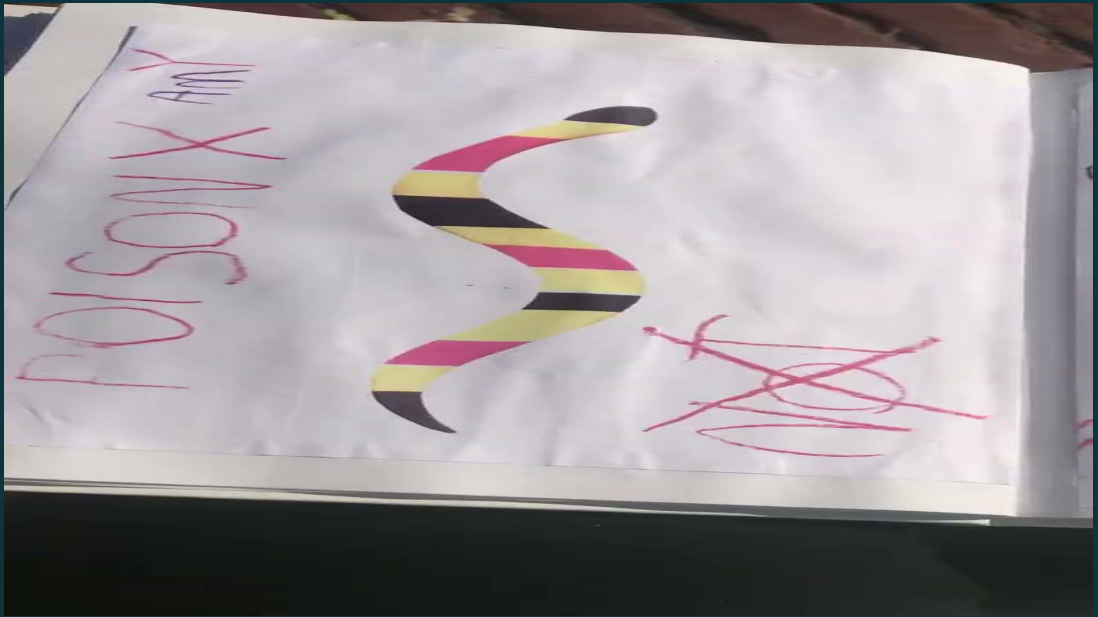
Defining characteristics of shapes, and the question “Do *all people* have parents?”



Shape self-portrait: N's portrait of "how I look today" including the triangles in her braids



A joyful math classroom



A using patterns to represent “poison” vs “pretending to be poison;” also adds in a poisonous ice cream cone

MATH TEXTBOOKS IN THE SECOND GRADE: WHY DOES ACADEMIC RIGOR HAVE TO BE THE OPPOSITE OF FUN?

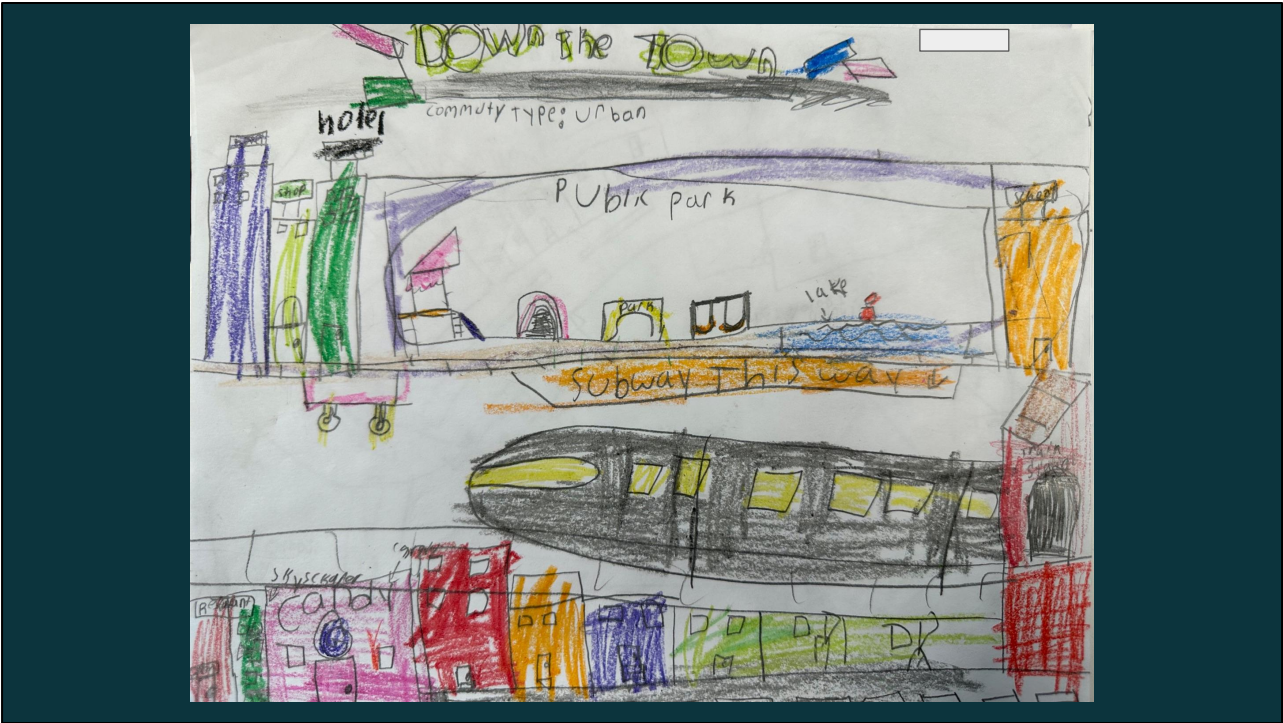
“The books I like to read have a problem and a solution. These just have math problems.”

-V.A., age 7

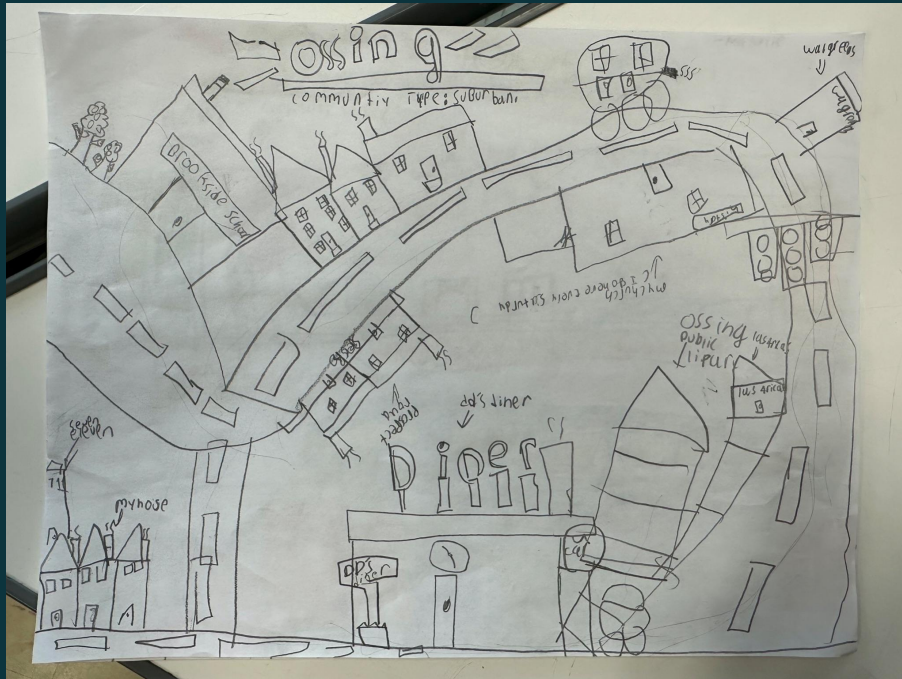
Contrast this with standard math curriculum in a second-grade classroom. I have been trying to understand why Valentina, who has such strong reading comprehension skills, struggles so much when trying to understand instructions or procedural writing, particularly the word problems in math. When I found a way to ask her about it, she responded by saying “The books I like to read have a problem and a solution. These [indicating math textbooks] just have math problems.” Though I had asked the question, I was distracted trying to attend to other classmates who needed help, but Valentina thought this message important enough that she politely interrupted three times before getting the whole sentence out.)

Of course it makes perfect sense that a child who has learned to use all of her many decoding, comprehending, and contextualizing tools to understand text in the books she enjoyed reading, would have a different experience with text that was so completely removed from all context and approachability. When the scenario you’re using to make bar graphs is “Ms. Taylor was measuring six leaves,” what are you supposed to do with that? Why in the world is this person measuring leaves? What do

ANY of these words mean? (Valentina's response to clock math, exam questions asking you to circle AM or PM under the activities: "I don't understand this at all. How am I supposed to know when people play basketball??")



N's map for social studies



Following that activity, N's map of Ossining, done over 2 consecutive indoor recesses

When humans like to do something, they will do it a lot. The more they do it, the better at it they will get. If we want children to not just acquire but MASTER these academic skills, shouldn't we also want them to enjoy doing them? Shouldn't we want them to identify, *to see themselves*, in them?

What if we spent as much energy trying to make curriculum that is fun, as we spend trying to force children to work on curriculum that is tedious or painful for them? Then the question becomes: maybe the *working* is the point, not the mastery or the engagement.

CURRICULUM EXPERIMENT TWO: MATH BEFRIENDS COMMUNITY, DEMOCRACY, AND IDENTITY

“A project’s methods cannot be dichotomized from its content and objectives, as if methods were neutral and equally appropriate for liberation or domination.”

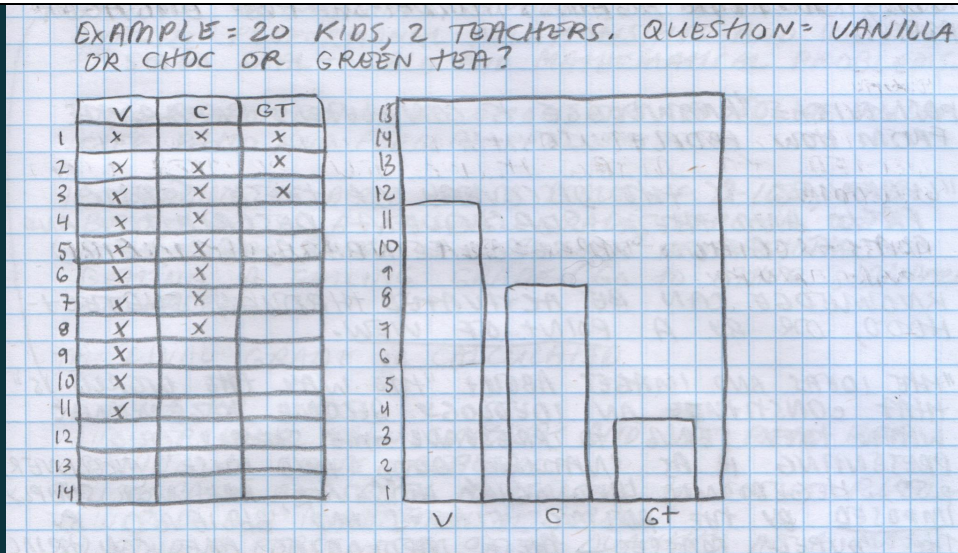
- Paulo Freire, 1970, p. 44

In the following examples, each activity that uses math to teach about democracy is paired with one that employs math to *do democracy* in the classroom.

POLLING AND GERRYMANDERING IN THE SECOND GRADE: MATH ABOUT DEMOCRACY

**“When autonomy and community are combined,
they define a concept more often invoked than
practiced in our society: democracy.”
-Alfie Kohn, 2010**

Mathematics about democracy can give a person tools to navigate through the world with a sense of agency, but in order to complete our mini math praxis, we need to pair this with an effort to give students a lived experience of democratic principles in the classroom. Freire warned that “a project’s methods cannot be dichotomized from its content and objectives, as if methods were neutral and equally appropriate for liberation or domination” (1970, p. 44); we have to be thoughtful about the *ways* that we’re bringing the material to our students, just as we have to be intentional about the content itself. Both need to be working together.



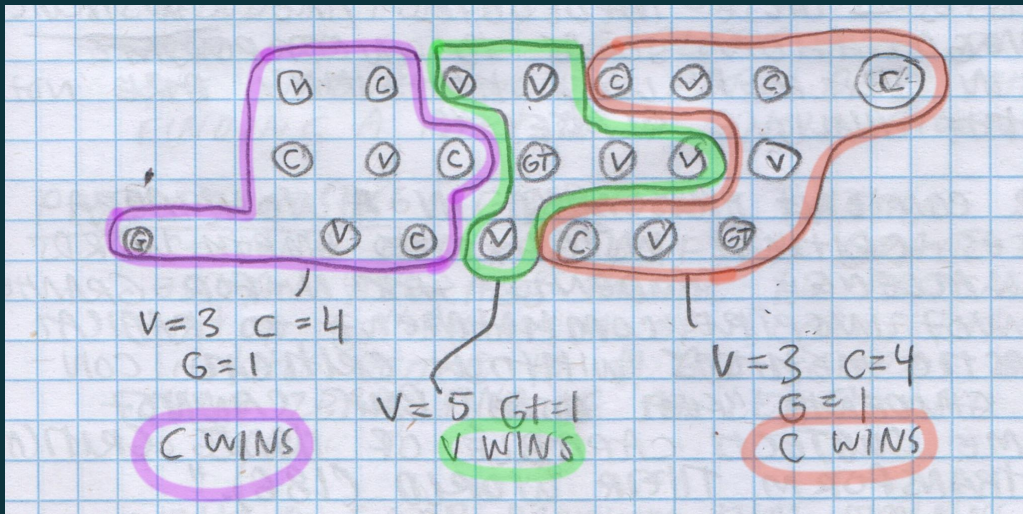
STEP 1: TAKE A POLL

STEP 2: MAKE A GRAPH

The habit of polling and representing data should be built into classroom life, and it should come directly from the interests and urgent cares of the children. Depending on the classroom and the setting, polling subjects could be which playground they walk to at recess, which materials should be out during work time, or methods of resolving conflicts that arise. In any case, topics should be relatable and actionable, and they should be varied enough to avoid what Kohn refers to as “adversarial majoritarianism (2010).”

For this one, the question would be favorite flavor: vanilla, chocolate, or green tea (third party)?

Collect data, represent it visually - second grade math standards



STEP 3: GERRYMANDER SOME DISTRICTS

Use polling data to draw lines to divide students' desks into "districts" which will result in a certain outcome. After acknowledging that vanilla is the clear "winner" of the original poll, divide up the desks so that in two districts each there are 3 votes for vanilla, 4 for chocolate, and 1 for green tea; and in the third district there are 5 votes for vanilla and 1 for green tea.

Students can check to make sure the totals are the same, but will also see that counting by a different method resulted in a completely different winner being declared: since 2 districts went for chocolate and only one for vanilla, everybody has to eat chocolate. They will also see that the person deciding to change the method of counting - the teacher - made this decision without the input of the class. (They might also notice that this same teacher voted for chocolate.)

“Emancipatory content presented in a nonliberatory way reduces critical insights to empty words that cannot challenge students’ taken-for-granted reality and cannot inspire commitment to radical change. Humanistic methods without critical content can make students ‘feel good,’ but cannot help them become subjects capable of using critical knowledge to transform their world.”

-Marilyn Frankenstein

The importance of math praxis once again - not just one at a time, but always both at once.

CONCLUSION:

HOPE IS AN ACTION WORD

“Hope is the understanding that democracy itself is changeable. Different from optimism, hope is the habit that actually impels us to take action. In other words, a habit of hope means we fundamentally believe that our actions can have some effect.” Stemhagen and Henney, 2021, p. 147

As teachers centering the real needs of children, of course it matters to us that they master the necessary skills, the dominant language and literacy and math fluency that will help them to move through the world *as it is*. But we also want to communicate to them that the world as it is is not inevitable: we want them to *know* that they have the means to change it for the better, to inscribe themselves on it in a legible and indelible way. We want them to have the ability to imagine the world *as it could be*. And, in a much simpler but no less important way, we also want them to know that even though something is hard, that doesn't mean that it is not worth doing. Just as John Dewey described democracy as an action word, so too must hope not rest on some remote future where circumstances have magically improved. Hope has to be an action word too. The status quo is maintained purposely, by continual action and active maintenance; if we are hoping to give our students the tools they need to move through the world as capable agents of change, we need to understand that our job is also defined by purposeful action and the confidence that we too are capable agents of change. We have to hope that things can get better; as Stemhagen and Henney write,

describing Stitzlein's five habits of democracy, "Hope is the understanding that democracy itself is changeable. Different from optimism, hope is the habit that actually impels us to take action. In other words, a habit of hope means we fundamentally believe that our actions can have some effect (2021, p. 147).

“This is a great discovery, education is politics! When a teacher discovers that he or she is a politician, too, the teacher has to ask, What kind of politics am I doing in the classroom? That is, in favor of whom am I being a teacher? The teacher works in favor of something and against something. Because of that, he or she will have another great question, How to be consistent in my teaching practice with my political choice? I cannot proclaim my liberating dream and in the next day be authoritarian in my relationship with the students.”

- PAULO FREIRE, 1987

As Paulo Freire’s statement indicates, care on this level is political, as it requires a shift in consideration: In favor of whom am I being a teacher? In the service of what am I teaching? In a time when every aspect of existence seems to be increasingly fractured and connections atomized, our mandate as teachers has to be one of knitting all of these relationships back together, both in a theoretical and a very practical sense. We are not at liberty to pretend to be neutral; thinking that we don’t really need to answer this question means that we are answering in favor of disembodied curriculum and children as data points, and in the service of capitalism, competition, disconnect, and exclusion. Though I begin by acknowledging that it is very difficult to enact your values within a powerful system which is ideologically opposed, I also want to acknowledge the consequences of capitulation, and pledge that I will do all that I am able to teach in favor of the wholeness and humanity of all children, and the wholeness and humanity of myself. I will do all that I am able to teach in the service of agency and community and hope. Our response has to be creative, productive, generative, affirming, and the stakes are very high. When we are

this torn apart, making connections becomes radical.



DEDICATION:
TO AUGUST, TONY, AND TO YOUR LANGUAGE JOY

To end, I would like to leave you all with August and Tony, who have inspired so much of what I have presented here. Watching the two of you in the rear-view mirror during morning carpools, laughing, loving, and playing with language, interjecting your discovery of new homophones, palindromes, and compound words into casual conversation like exclamation points, asking that crucial question “why does hour start with an H?” and *inventing word biographies* three days before I ever read about them in my grad school classes – the two of you have kept me going. This is for you both: if it’s even remotely in my power, I won’t ever let your super rude pee-pooppy absolutely joyful grammar love be snuffed.