Renderings of Loving Kindness:
Dialogic Engagements in the Mathematics Classroom

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Abstract:

I imagine mathematics to be a place of loving kindness and dialogue. I invoke a fraught history of teaching and learning, drenched in contradictory feelings of love, hate, sadness and joy. Though pedagogically rigorous, many days in my classroom have been marked by tension, anxiety, and even cruelty, in the name of producing elegant, beautiful solutions to cleanly explicated problems. Determined to change these dynamics, I embarked on a recent journey with my high school mathematics students to cultivate a mindfulness practice of loving kindness by exploring new ways to engage in dialogue and open up possibilities for self-reflexivity. In this paper, I offer a rhetorical analysis (Felman, 1982) of my pen-and-ink graphical journal entries from past and present, alongside student drawings and reflection cards that were the result of new dialogic approaches in teaching mathematics. Through an emerging loving kindness pedagogy, this work begins to reveal the kinds of defences that fill the playground of psychic life unfolding in the mathematics classroom, as well as possibilities for future learning.

Keywords: curriculum studies; mathematics; secondary education; psychoanalysis; psychic defences; transference; countertransference; mindfulness; loving kindness

Des redditions d'amour bienveillant : Des engagements dialogiques en cours de mathématiques

Résumé :
J'imagine que les mathématiques soit un lieu de l'amour bienveillant et de dialogue. J'invoque une histoire chargée d'enseignement et d'apprentissage qui sont abondés de sentiments contradictoires d'amour, de haine, de tristesse et de joie. Bien que rigoureuse sur le plan pédagogique, de nombreuses journées dans ma salle de classe ont été caractérisées par la tension, l'anxiété, et même la cruauté, au nom de la recherche de solutions élégantes et esthétiques à des problèmes clairement expliqués. Résolue à changer cette dynamique, je me suis récemment lancée dans un projet avec mes élèves de mathématiques du secondaire, dans le but de cultiver une pratique axée dans la pleine conscience de l'amour bienveillant, en explorant de nouvelles façons de dialoguer et d'offrir des possibilités d'auto-réflexivité. Dans cet article, je propose une analyse rhétorique (Felman, 1982) de mes entrées de journal, écrites à la plume, au passé et au présent, ainsi que des dessins d'élèves et des cartes de réflexion, résultant de nouvelles approches dialogiques. A travers une pédagogie de l'amour bienveillant émergent, ce travail commence à révéler aussi bien les types de défenses qui régissent la vie psychique qui se déroule pendant le cours de mathématiques que des possibilités d'un apprentissage futur.

Mots clés : études de curriculum; mathématiques; éducation secondaire; psycho-analyse; défences psychologiques; transfert; contre-transfert; pleine conscience; amour bienveillant

> We shall count as real what we can use to intervene in the world to affect something else, or what the world can use to affect us.
>
> (Hacking, 1983, p. 146)

> Journal Entry—January 2019: *I am standing in my classroom on a spare period, totally crushed. Why would he say I look like a clown? I thought I looked great until he opened his mouth. Maybe he will come back later and have a conversation about it. I want to believe his snide remark is a bad day. Does he think I am the clown teacher? And that my lessons are funny and stupid? My brain won't stop, and my feelings are really hurt. I feel like a 12-year-old child, pouting and angry. How embarrassing.*

It might be strange to begin a paper about loving kindness in the mathematics classroom with a journal entry about an offhanded insult by a colleague. To give some context, I was standing in the hallway in the urban high school in Quebec where I teach grades 9 to 11 when it happened. Ironically, I had been standing there monitoring the kids on a lunch hour, pondering the prompt for this special issue of the *Journal of the Canadian Association of Curriculum Studies* (JCACS). The journal asked writers to complete the sentence: "I imagine mathematics to be a place of loving kindness and . . ." In the fleeting moment where I reeled from my colleague's statement, I suddenly felt vulnerable, trapped in a space I couldn't leave, and self-conscious about my floral-patterned shirt that was the object of derision. It came to me then: the word "dialogue". I rushed back to my classroom to pour my feelings into my teaching journal, a small, dog-eared companion that travels with me to school each day, and in which I reflect, write and draw about my life as a teacher. As I flipped through the pages of past entries, I browsed my other writings and drawings and my mind returned to my feelings in the hallway. I hoped that perhaps my colleague had been joking, but I felt deeply hurt, nonetheless. Because we didn't speak about it afterward, the words hung in the air, unattended. The moment was lost in the noise of students milling about, chatting, slamming lockers outside my classroom door as I jotted down my thoughts. As the possibility for dialogue slipped away, I recall thinking about the words carefully: loving kindness. No doubt, this moment lacked anything close to love, and the idea that as possibilities for reparation and dialogue might be slipping by with each minute began to terrify me.

Then a troubling possibility occurred to me. What if I make my students feel "totally crushed" in ways I do not even know? Have I left them suspended, held-hostage between bells, words not spoken between us that should have been aired? Just as a conversation might have mended the moment between adults, what are the possibilities inherent in opening up dialogue in my classroom? Am I doing enough to change the space from one potentially full of isolation and powerlessness to one where love and kindness prevail?

Prior to finding the word "dialogue" as a potential answer to the prompt, I'd already begun a journey of transformation in my mathematics classroom, embarking on new ways to understand

students' relationships with mathematics. In what follows, I outline a process of self-inspection about my teaching, alongside discussions and reflections with students to understand the dynamics of our shared space. I began this process by going back to one of my earliest journal entries. I was a fifth-year teacher when I wrote it, and the moment changed the way I understood the emotional terrain of teaching, but after the moment in the hallway, I felt I needed to do more.

> Journal Entry—August 2014: *I lay around a lot on the couch thinking. I've always "gotten" mathematics; it comes easily, and I can see and feel the answers coming as the steps unfold. They feel satisfying. But I always return to this one kid, Courtney*[1]*—my exact opposite. I remember when I asked her in front of everyone to provide the simple last step to an algebra equation, "And when you divide three out of eighteen, you get?" Tears. I remember my own horror. Courtney can't even divide!*

I begin to consider what loving kindness as dialogue might mean for my present teaching by reflecting on my past mathematics classrooms. I have noted over the years that the dynamics in mathematics classes are often marked by tension, fear and anxiety in the name of beautiful, elegant solutions. In my early years of teaching, I hoped clean calculations would adorn each student's page following my clearly explained lessons. The students and I didn't talk about their feelings, our relationship, or their struggles, outside the bounds of what to do and not to do on the page. Mathematics is messy, emotional work, and yet whether the students were happy and satisfied with their work, joyful, excited, apathetic, sad, or outright traumatized, I was not aware. I was not attending to the emotional dynamics of learning. However, as the years went on, I did begin to wonder about my students' mathematical lives and whether they matter to the ways we "do" mathematics in the classroom each day. The story of Courtney from a few years ago became the turning point where I knew it *did* matter and I began to change my practice and relationships in my classroom.

On the day Courtney began to cry, I offered her a piece of paper towel from the wall dispenser, asked her if she was OK and kept on teaching. I doubt this made her feel better. I recall asking myself, "How can any student be so frightened of numbers?" Today, I think about Hacking's (1983) words at the beginning of this paper, words that remind me that teaching has become for me about the moments that "intervene"—those which crack open the ways the "world can . . . affect us" (p. 146). Just as simple calculations apparently intervened in Courtney's life—turning it upside down, reducing her to tears—Courtney's mathematical experience has been a constant intervention in my teaching life, a splinter in my mind and heart that remains painful.

I undertook the task of self-reflexively analyzing this old journal entry to understand why it has held so much power over me as a teacher. The splinter is ever-present and drives me to search for ways to understand my different emotions in the story—my frustration, apathy and even disdain towards Courtney. As I began to delve into literature about love and hate in learning, I took note of how psychoanalytic concepts were being used to understand student and teachers' mathematical

[1] All names in this submission have been changed to pseudonyms to protect student identities.

subjectivities (Bibby, 2011; Black, Mendick, & Solomon, 2009; Britzman, 1998) and offered a window into the struggles of the unconscious and how conflicts might emerge in teaching and learning. As Bibby (2010) explains,

> Psychoanalysis suggests that we are all defended subjects, that we unconsciously protect ourselves from ideas and feelings we cannot bear . . . [through] a series of unconscious processes that we use to defend ourselves against ideas and emotions that we find psychically painful, difficult, or otherwise unacceptable. . . . [T]hey are descriptions of ways of being, adopted and developed unconsciously. (p. 23)

Reading this was a revelation. I wondered, what are these feelings and ideas I cannot bear about Courtney and students like her? What defences were at play when she broke down after being asked to perform simple arithmetic? From here, I began a journey into understanding the role of desire, loss, love, hatred and fear in my classroom, beginning with me.

Conceptual Framework: Loving Kindness and Mathematical Subjectivities

Loving kindness is the translation of the Pali word *mettā* found in Vedic literature and is employed in the practice of Buddhism (Buswell & Lopez, 2013). As such, it is focused on cultivating benevolence, good will, love and sympathy. In Buddhism, this is called "*Brahma-vihara* (divine abode) . . . [which is] an immeasurable that leads to a meditative state by being a counter to ill-will. It removes clinging to negative state of mind, by cultivating kindness unto all beings" (Mettā, 2019; Harvey, 2012). There are a number of texts that focus on assigning mettā to individuals' daily meditation practices, often by emphasizing the repetition of key phrases as an "antidote to hatred and aversion" (Hardy, 2019). These meditation practices recommend putting the body at ease while focusing on breathing, thinking about moments of love and kindness, and reciting several key phrases, such as "May I be safe; may I be healthy, may I be happy; may I be at ease; may I be filled with loving kindness; may I be peaceful" (Hardy, 2019; Scott, 2018; Salzberg, 2018). As I began to read about *loving-kindness*, both in its historical context and in currently trending meditation practices designed for Western audiences, I was struck by the emphasis on the language related to cultivating the self, not perfecting it. Mettā for everyday practitioners seems to me to be a journey into self-reflexivity, a decision by its followers to look inward to find love and empathy, and outward at the world to find the good, despite being surrounded by divisive political and social rhetoric in a world filled with terrorism, starvation, climate disasters and other global catastrophes. It is not about arriving at the perfect solution, and thus stands counter to the world of mathematics teaching, where standards and assessment of teachers keep us striving to deliver that ideal lesson after which all of the students will simply "get it". Even the most (dare I say) enlightened teachers, who are aware that teaching is a journey toward relationship-building and meaningful assessment, nevertheless plummet into feelings of self-doubt and self-condemnation when the lesson goes badly.

If looking both inward and outward, and releasing the mind from the clutches of hatred, can be a personal mindfulness practice, I wonder, then, how looking at the role of the unconscious in teaching could be generative for understanding the ways in which we interact with the emotions surrounding mathematics. Given the highly affective space of learning and teaching, it seems urgent

to me to understand the ways I approach mathematics emotionally, alongside students' responses to the way that I teach them. Students' emotions are shaped by their perceptions of mathematics prior to being in my course. As well, on account of my pedagogy, they subsequently represent themselves as learners in ways that are specific to the classroom environment we share. Britzman (1998) reminds us that because our experiences are emotional, education is thus also emotional. The work of education itself, in a Freudian sense, is fraught by uncertainty because it draws upon our beginnings, where our primal encounters with hate, with love and the anxiety of its loss, as infants become the template for our future learning. Britzman (2013) calls this condition a "crisis of dependency" (p. 114). Education is where we often see the return of repeated conflicts in the psyche, combined with historical and cultural forces that shape our identities long before we enter the classroom.

Britzman (2003) asserts that teachers might further investigate the ways that learning and teaching are influenced by their childhood experiences of schooling. She reminds us that, "after all, schooling is so familiar, teachers were once students and of course they were once children. Their history of learning can be unconsciously repeated, now transferred onto the position of teacher" (p. 15). In *The Very Thought of Education: Psychoanalysis and the Impossible Professions*, Britzman (2009) reactivates the concern that teachers who are devoted to conveying knowledge to students might not cultivate a place for reflection about their educational histories or their emotional transferences into teaching. She explains that the "teacher's psychical conflicts—affects conveyed through phantasy, anxieties, and defences against them—provided they can be symbolized, are an enigmatic resource for insight into the nature of teaching and learning" (p. 86). In this paper, I seek to unpack this unconscious history of my own, the psychoanalytic theatre of my teaching. By paying conscious attention to the workings of the unconscious, I wish to better understand the dynamic between teacher and students in the mathematics classroom.

Education has been described psychoanalytically, in Anna Freud's terms, as "all kinds of interference" (Britzman, 1998, p. 1). Britzman enigmatically asserts in *Practice Makes Practice* (2003) that "essentially individuals must interfere with one another because having to learn and having to teach is felt as interference. . . . Paradoxically . . . education is made from this conflict" (p. 8). Describing the act of teaching, Anna Freud (1979) further defines teaching as a process of "learning twice"—first by oneself and then by working with others. Felman (1987) advocates for "self-subversive self-reflection" in which one learns from texts and materials but also re-creates meaning on account of learning about the self in relation to what one has read. These assertions point toward a revision of historical views of teaching as little more than a well-timed rehearsal of ready-made materials. Working with and against a range of competing subjectivities demands that teachers inspect how they interact with students, create new ways and contexts for learning, and understand the transference that occurs (Freud, 1912/1958). I suggest that employing an ethos of loving kindness in the classroom, by recognizing the importance of transference, helps teachers understand students' psychic defences against mathematics; on account of being aware of the transferential dynamics at play, teachers can better understand the ways that students use mathematics to defend against the world.

Methodology: Renderings of Loving Kindness

One of the ways to reveal what transferences and countertransferences emerge in the classroom space, is to understand student and teacher stories. Stories are already an important part of the research that informs the existing literature about mathematical identities (Boylan & Povey, 2009; Mendick & Moreau, 2014). The field takes note of the fact that emotional and psychological forces undoubtedly shape the way teachers and students interact, and it is therefore important to understand what these forces might be. Notably, there is an emerging area of research about mathematical identities in education which indicates that students and teachers alike are influenced by societal perceptions of what it means to be "good" or "bad" at mathematics (e.g., Black, Mendick, & Solomon, 2009). Central to this research are teachers' and students' descriptions of their emotional relationships with mathematics.

As part of generating new kinds of dialogue in my mathematics classroom, I tried a new classroom pedagogy during the 2018-2019 school year, with students in their final year of high school. I asked them to write short vignettes and draw pictures that describe their mathematical identities. These efforts began with a first-day exercise of having students complete the prompt, "I wish my teacher knew . . ." while reflecting on things they like, love and feel challenged by in mathematics. As the year went on, we had open discussions about what they saw as effective and ineffective teaching, what educational relationships they liked to see, and how they viewed mathematics in relation to themselves and their place in the world. Alongside my students, I kept a teacher journal, in which I also kept a combination of sketches and written entries, to document how things were going and to note my observations of students' experiences with this new pedagogical tack. The purpose of this practice in the classroom was to open up spaces where students could depart from the traditional "doing" of mathematics on a daily basis and convey their mathematical stories to the group or to me as a teacher. Some students decided to draw, write or do nothing (preferring to complete mathematics problems in lieu of reflective exercises, which was fine). Without naming it as loving kindness at the time, I had hoped to open up ways for students to have a voice in the everyday classroom. In a sense, my desire was to enact a form of loving kindness by incorporating a self-reflexive practice for myself, and a dialogic practice for students, into a space that is normally reserved for the English Language Arts classroom. In what I would contend amounts to upending the norm in mathematics classrooms (my students had never done this in mathematics before), we were able to begin sharing our feelings and views about learning mathematics, in order to get underneath the provocations that reside in mathematics as a "difficult" subject.

Furthermore, in practicing this form of loving kindness as dialogue, I sought to "entertain the question" Britzman (2009) asks "of what it can mean to think the thought of education as experience, as pedagogy, as affect, as uneven development, as intersubjectivity, and as the basis of the transference and countertransference" (p. 3). The transference includes the teacher's emotional world transferred onto the act of teaching, and the countertransference is what teachers "feel back" from teaching: "how they are (unconsciously) addressed [by] . . . feelings, phantasies, anxieties, defenses, and wishes made from what teaching feels like" (p. 82). To unpack these unconscious forms of

address, I needed to understand my students' stories through their visual and linguistic representations. The representations we use, as teachers and students alike, might be a way of inquiring into "what [we] considered—on a conscious level in which the unconscious nonetheless interferes—the possible meanings of . . . experiences" (Lewkowich, 2015, p. 224). To that end, in the sections that follow, I present a series of responses that emerged from the dialogue in my classroom, and I employ a rhetorical analytic technique (described in the next section), as a means of interpreting them. I begin with my own reading of the Courtney story using self-subversive self-reflection (Felman, 1982), with the hopes of understanding the various dynamics present on that day in order to set the stage for how my classroom might be read in the present, almost five years later.

A Rhetorical Analysis

Hate and Apathy

No doubt, my classroom environment where Courtney began to cry was far from one of loving kindness. Taking the time now to reread this vignette rhetorically offers not only analytic insight, but an application of the methodology to move forward into the present moment. Rhetorical analysis involves understanding *how* authors use words to create a certain effect, rather than merely understanding *what* is being argued. A valuable tool in looking at personal writing, I use rhetorical analysis to look back at my journal entries, searching for patterns and repetitions of language. This method is an analytic "way in" that looks beyond the literal into the world of the unconscious. If Courtney's tears and my hatred of forcing the curriculum onto my students come from deep inside our very beings, how may I attend to questions of where these feelings emerge by reading what I have written about them at the time? Lacan (1979) lends insight into how transference works, arguing that "as soon as the subject who is supposed to know [*le sujet supposé savoir*] exists somewhere . . . there is transference" (p. 232), and that the subject of authority is seen as omnipotent by those being analysed in the traditional therapeutic relationship. In the classroom, the teacher might be thought to occupy this role—to be the subject who knows, or is supposed to know. In my journal entry, I was forced to consider how I might be "a subject who is supposed to know" (Lacan, 1979) mathematics—someone who has, as I write in my journal, "always 'gotten' mathematics" and who feels "horror" that one of my students "can't even divide!" In the moment where this event happened, I felt hatred and apathy towards Courtney.

When I perceived a failure in Courtney's learning, the countertransferential dynamic was writ large. Courtney's history of feeling persecuted by the calculations of mathematics and those who conveyed them (seemingly unfeeling teachers like me) flowed in the form of tears, drowning the room in silence. My internal response of horror that she cried in the face of a simple calculation calls forth my own history of being attached to the performance of mathematics. I was always able, even eager, to give responses publicly. I saw it as a normal part of mathematics to be able to give quick and easy solutions. Bringing my own history of mathematics into the room meant there was a lack of understanding between Courtney and me. I relished the competitive environment, the beautiful graphs, and the clean solutions that I explicated better than my peers. And so, as I stood there, I could not fathom why anybody would cry, and I internalized Courtney's projection of hatred which

she imposed upon mathematics but which I reciprocated as quiet hatred towards Courtney herself. The coarse paper towel and silence tells a painful story for us both. Cut from the cloth of high expectations that I projected onto the classroom, I was not able to understand how someone could not handle the most basic operatives of this competitive space, whose very foundation was the ability to carry out basic computations. My own ignorance about the process of learning rendered me ignorant of the learners themselves. I looked at the class as a homogenous group of sixteen-year olds, not a rich assortment of individual learners with different emotions and learning styles.

Even though I have grown as a teacher since that day, some of these feelings of hatred, apathy and disdain persist in my current teaching—nearly five years later, in a different classroom and different school. After a particularly hard day in my classroom in November 2018, I returned home to draw the following self-portrait (Figure 1):

Figure 1

The caption I wrote alongside the image reads, "I yelled at the kids today. They don't submit their work—not late—not ever! Not after being given class time. Why?" Feeling trapped by the students' seeming unwillingness to *do* the work that follows a lesson, I become angry—at them and in turn, towards myself. In an effort to understand this frequent return to feelings of self-loathing, I try to bear in mind the words of Bibby (2009) who reminds me that

> we need to acknowledge the ways in which education is about the unknown and the inchoate: the way it is about what learners may or may not know and understand . . . . Education [is seen as] wholly and commonsensically 'a good thing' . . . idealisations of education defend against the terror of the unknown. (p. 124)

I notice that numbers and mathematical processes hold an ambivalent place for me as something which is known and clear to me as a student of mathematics but frustrating as a teacher. In the self-portrait of Figure 1, I feel guilty and jailed by the task of teaching and by my inability to penetrate the learning space occupied by students; I often feel as though there is a wall between us. Worse, I cannot seem to draw out the right answers (or any answers!) from my students following a lesson. In the two sketches from December 2018 that follow (Figures 2 and 3), I note that my feelings of hate are not directed *toward* my students, but instead emerge *on behalf* of them.

Figure 2

Figure 3

A recurrent theme in my journal is that I often perceive students to be looking at me with terror. This is painful and guilt-inducing because I think of myself as unintentionally transforming a good relationship (my childhood with mathematics) into a bad one (my teaching of children who aren't like me). As a matter of transference, my own lifelong competence with numbers permeates the teaching space, and it is comforting to think of my rapport with the students as positive even though their relationship with mathematics might be strained. I notice it is the mathematics itself—the open textbook with a death-ghoul and the incessant word, "equation"—that is threatening or oppressive. But my journal entries deflect the possibility that my students don't like *me*. Whether true or not, the way that I journal might be an emotionally gratifying justification for my own mathematical identity, conveniently reinforced by students' written and spoken messages where they typically blame the equations or themselves for not understanding the concepts, but only sometimes my pedagogy.

Sadness and Hope

While I draw pictures that one might associate with the dynamic of hate, my students' negative renderings are most often sad rather than angry. Given the opportunity to open up about their mathematical histories, some of the most telling anecdotes come from a series of cards I use in an activity on the first day of school each year. Inspired by Schwartz's (2016) book entitled *I Wish My*

Teacher Knew, I have asked students in all of my classes to answer three simple questions: "What is at least one thing you like about mathematics? What challenges do you face in mathematics? What do you wish your teacher knew about you?" In a remedial class (tenth grade students who had not passed for at least two years), I found the responses[2] to the third question most telling. These include revelations such as the following:

- *I wish my teacher knew I am not good at math and have not been doing well since grade 7 and am trying to do better.*
- *I wish my teacher knew that my tutors keep telling me that I have the ability to do math but I don't believe them.*
- *I wish my teacher knew I do struggle with math but I always try my best.*
- *I wish my teacher knew that I have an attention disorder. I have a bit of an organisation problem that I've been working on for a few years but I'm getting better.*

These responses, and the many more like them, feel sad, at first, because the students all begin with a negative statement about themselves. Interestingly, in all but one response, they then transition to phrases of hope—the wishes to "do better". I am taken back to Bibby's (2009) reminder that the perceived need for organization and simplicity in learning is most often tied to fantasies of mastery, and that, instead, "if we could manage to bear not to know, to tolerate the emptiness and loneliness of not knowing, then we could start to learn differently" (p. 124). In reading the cards, it is clear that the students appeal to me as someone who stands in for the idealisation of education, as the subject presumed to know, in the Lacanian sense, and who might offer clear methods so that their efforts might pay off. Ironically, but sadly, this group of struggling students has had to bear the emptiness of not-knowing though much of their mathematical lives. They have hope that they might enter the world of knowing if only they "do better" and try hard enough. They imagine themselves as strugglers, as those who do not hold mathematical knowledge, and so they offer me their hearts through the promise of trying. To me, it seems they offer the only thing they have, the fantasy that effort is an antidote to failing.

In response to the student cards, we began the journey of dialogue in our classroom so we could reflect together about how we learn. We nurtured spaces of mutuality—conversations, discussions and other renderings of feeling—alongside the calculations we faced and solved together. Rather than isolate one another through tests—a form of assessment that I see as the ultimate fantasy of mastery through its silent competitiveness—we began to attend to each other's emotions together. In an affront to didactic instruction, we began to "learn differently"—to reflect upon each other's work, generate ideas together, and set aside correct answers as the ultimate goal of doing mathematics, developing a process of understanding together and checking in on each other along the way. My teacher journal reflects some of the hope I had for my students in this class, particularly in the image that follows (Figure 4).

[2] All students here have provided a signed consent for publication with the school for the use of their work, images and personal photographs, as represented in educational publications, websites and social media. In representing my classroom pedagogy here, I have kept student responses sufficiently anonymous to avoid identification of any individuals.

Figure 4

With another group of "applied math" students, I notice repetitions of words and images of sadness. In the class' Instagram page, students' renderings often include images of confusion and sadness together, as seen in Figures 5 and 6, drawn by the same student.

Figure 5

Figure 6

The drawings were produced over two classes devoted to self-reflexively analysing mathematical identities. In a class with my team-teaching colleague, the students were offered the

opportunity to use markers, coloured pencils and pens to draw or write narratives about their mathematical lives and journeys since elementary school. Many of the sketches included sad faces or question marks indicating confusion. They described the pictures with language such as "I don't get it but I passed and I'll graduate;" or "I like math but it is difficult ☹." I note that sad faces do not always mean total hatred towards the subject or the teacher. As students approached graduation in June, many of their reflection cards also included pedagogical critiques alongside personal declarations about their perceived mathematical abilities and ways of learning. Taking a chance to critique the teacher constructively shows me that loving kindness might be working: none of the students were unnecessarily negative, often speaking positively and kindly about peers and the teacher, and the feedback most often suggested new possibilities that might improve learning for everybody. I saw this in responses such as the following:

- *I like when we get different coloured cards and we get to choose one question at a time because full worksheets are overwhelming.*
- *I don't like being told to do stations or worksheets. When we choose what [mathematical] activity we do, we're less resistant to do it.*
- *I would rather you explain new concepts on the chalkboard instead of using the smartboard. When you do it using tech, it's a lot easier for people to get distracted; when you print the notes too.*

These students, only two years older than the students promising me to "do better" in the first set of cards, seem much more independent in their opinions and critiques. They have concrete ideas about their learning styles and are quick to offer suggestions about what they can do to optimize their relationship with mathematics, including changing the space (turning the lights off, playing music or keeping the room silent) and the pedagogy (more visual and kinesthetic methods, shorter assessments, collaborative work).

In thinking through the psychoanalytic theatre of learning to understand this developmental change, I am brought back to the fundamentals of object-relations theory, particularly that of Winnicott (1958, 1969), whose ideas are developed from those of Freud. In infant development, the child has two major life forces: aggression and eroticism, both tied to the body and distinguishing it from the world (a boundary of the self and the not-self). In the early relationship with the mother, the infant has an internalized sense of "being *thought about* by another . . . [resulting] in the conviction that we are never truly alone" (Frosh, 2012, p. 135). This establishes an initial basis of trust, and the world nurtures the child in its self of wholeness. However, since the mother is the site of both the good and bad, in the denial and provision of things that satisfy the infant, the mother is unreliable. The child begins to experience limits to the wholeness of self in relation to this unreliable mother. This becomes the basis for Winnicott's concept of "good enough" mothering and the emergence of the baby as a separate self.

Just as the infant is now able to express ambivalence towards the mother, I now look at the students' responses and how they fit into a potential framework of the "good enough" teacher. By the eleventh grade, students are able to acknowledge their feelings of ambivalence towards their

teacher—who simultaneously nurtures feelings of gratification, reliability and validation alongside denials of those feelings, in the form of learning conditions they don't quite like. Instead of anxiously striving to replace feelings of loss (as in the infantile state), or what Britzman (2003) named the crisis of dependency, I believe that students in a space of loving kindness may engage in dialogue about the importance of their mathematical relationships. In the words of one student, "At the start of the year it was bumpy, but we got past the bumpy part and to the part where we can understand each other." Instead of turning to the teacher as a "subject who knows" unequivocally, older students construct new symbolizations for both the mathematics and its teacher, while reconciling the limits to their wholeness of being—that the experience of love, hate, failure and success is both interior and exterior to their mathematical subjectivities.

Reparation and Introjection

For many students, mathematics poses few problems. When asked to render their feelings in any style they wished, students produced several kinds of images, some of which included pictures of adoration that were extremely literal. The colourful drawing of Figure 7, for example, is complete with heart-shaped eyes and a plug for "academic" level mathematics (called the "Scientific Option" in Quebec) with the caption "Grade10ScienceMath4Ever". Taken at face value, this student seems to unproblematically depict the world of mathematics with a garden scene and a light bulb—mathematics as a kind of bucolic illumination. The image implies that she gains sense of satisfaction and renewal when doing the problems in front of her.

Figure 7

For other students, their comfort with mathematics was demonstrated more subtly, and I was particularly struck by two pictures. Figure 8 is a highly detailed image by a student coded as having a

learning disability. While his spelling is affected, he excels by listening and watching lessons. He is able to understand and integrate mathematical and scientific concepts easily and has strong convictions about learning, as seen in the several phrases adorning his drawing. Figure 9 is an artistic representation by a quiet, highly performing student who prefers traditional methods of learning and silent work spaces. Inside the cogs turning in the girl's mind, you can read the phrases: "No smartboard"; "Yes old school"; "Ask"; and "Only use chalk by hand". If given the opportunity, this student will articulate her desire for highly constructed work environments and pedagogy, even if the assignment allows for creativity of expression and choice (such as the mathematical identities exercise itself).

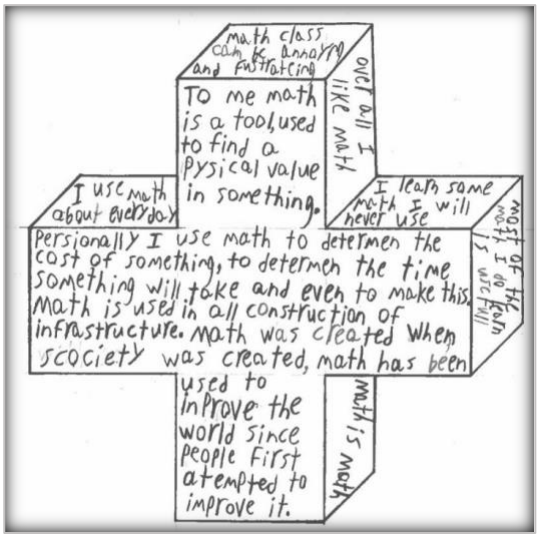

Figure 8

Figure 9

If I consider the trio of images, I am first drawn in by the overt transferences afforded by the space of loving kindness as dialogue. In the colourful picture of Figure 7, the student makes clear her adoration of the course prior to the one she is enrolled in, perhaps indicating that she is not overly satisfied with her present course or its lessons. This drawing opens up the possibilities for further dialogue, beginning with asking why she chose to draw a picture about a class she is no longer taking. In Figure 8, the student decorates the perimeter of his solid shape with several statements that have implications for the teacher's instruction: "I learn some math I will never use; math class can be annoying and frustrating; most of the math I do learn is useful". In this student's case, he explores utilitarian feelings of usefulness and applicability in relation to being taught the subject, and it is clear that, for him, the rationale for learning particular concepts is not always made clear. The third image gives direct instruction to the teacher in the form of pedagogical advice. I note that for this quiet student who might not always speak her mind publicly, her picture likewise depicts a student thinking about but not declaring her beliefs about preferring traditional "chalk and talk" methods.

What considerations might be made for each of these pictures beyond their countertransferential potential in revising pedagogic practices? In rhetorically analysing the images, I recall an important distinction between fantasy and its mental expression, in discussions of the

unconscious. As described by Nimier (1993) in reference to defence mechanisms seen in mathematics learning, "Phantasy can be taken as the mental expression of instincts, but also as a means of escape—an escape from confronting external reality or frustrated reality within. In this sense, it becomes a defence" (p. 30). Not all defences are negative, and in fact "mathematics, then, through the phantasies it calls forth, can be either that which you can defend yourself against, or—on the other hand—that which participates in a defence against anxiety" (p. 30).

Easily spotted in my classroom are defences *against* mathematics, statements such as "this is useless" or "I feel like I am drowning"—the latter a suggestion of not being able to breathe or being submerged. Less evident are instances in which mathematics is used as a defence against other anxieties. These three images offer us a glimpse into such positive defences, first through a mechanism Nimier (1993) names *reparation*—quite simply "a feeling that you are creating something when you do mathematics" (p. 32). Let us consider the words written on the drawing in Figure 8, for which the spelling has been conventionalized:

- *To me math is a tool to find physical value in something. Personally, I use math to determine the cost of something, to determine the time something will take and even to make this [picture]. Math is used in all construction of infrastructure. Math was created when society was created; math has been used to improve the world since people first attempted to improve it.*

The feeling that mathematics is constructive is the opposite of a feeling that mathematics risks personal destruction (as in a feeling of drowning in numbers, for example) and this constructive feeling might be the defence that allows "restoration of the good object" (Nimier, 1993, p. 32). That is, with a reparative defence, the student may rely on mathematics as indestructible, inherently good and productive, thereby transferring these positive qualities onto the self. Mathematics has stayed the test of time; it does not risk destruction. To that end, it might fill a void left by ambivalence towards the "good enough teacher" who cannot provide wholeness of being in the same way that a monolithic field provides fulfilment and stability so long as one attends to the equations.

In the case of the last image, I consider another defence which allows possibilities for self-preservation, that of *introjection*. In this case, mathematics "set[s] up a certain stability in the personality, the disciplining of the mind, the acquisition of sound reasoning, [which] help to establish a balanced character and a strong personality" (Nimier, 1993, p. 32). For the meticulous student who wishes to do away with the technological trappings of teaching in favour of being given handwritten lectures in chalk, there appears to be a strong desire to remove any distractions that hinder meaning in learning. For this student, perhaps her desire to return to the most fundamental ways of instruction are a way of using mathematics to defend against feeling lost or displaced in the world. If mathematics is a way to eliminate redundancies, clarify language and structure personality through signs which have "a sort of absolute necessity governed by rules which admit no exception" (Nimier, 1993, p. 32), perhaps the student here introjects these ideas onto her own personality. Mathematics serves as a way of strengthening character, giving the self order and feelings of comfort, by

displacing feelings of ambiguity and equivocation—so long as it is also taught without those perceived weaknesses of character.

Conclusion

> When I believe conversations should be life-giving, I go into conversations expecting that my conversation partners and I will leave conversations feeling more alive for having experienced them. People usually feel better when they engage in conversations about topics that matter, and when their ideas are heard and acted upon.
>
> (Knight, 2016, p. 37)

On the way home from work one day during this school year, I thought about where I am right now; if my students can ask me about my work and feelings, and I can ask about theirs, perhaps I have gained "conversation partners" in learning. Far from losing my power over students (which is not a fantasy I hold, in any case), I have gained a classroom richly attuned to an emergent pedagogy of loving kindness. The practices are not perfect, but to this end, I can hope that they embody some of the fundamental concepts of mettā—especially the mindfulness associated with continuously cultivating and revising the self. Perhaps by suggesting new forms of dialogue with the students, what Knight (2016) calls "life-giving" conversations about "topics that matter", a new way of "doing math" emerged whereby we, students and teachers alike, were able to generate knowledge in critical ways. Understanding the dynamics of the unconscious is urgent work because feelings of love, anxiety, sadness and even hate are writ large in the learning and teaching space. By reading my renderings alongside those of the students, I was struck by the dire need to pay attention to my transferences more closely. And in trying to be more attentive to the transferential dynamics present within the psychoanalytic theatre of the classroom, I was able to improve upon existing self-reflexive practices by recognizing that my analytic process was on the one hand, strikingly interior as I analysed my journal entries, but then decidedly outward as I engaged with students and their stories and drawings. To journal about my day is one part of teaching; however, to unpack the anxieties and defences that underpin my actions illuminates how important it is to be attentive to the ways our held-beliefs, histories, traumas and joys all play out in the lives of others. As I now enter my classroom with an emerging loving kindness pedagogy grounded in love and empathy, I can only hope to cultivate a set of practices alongside my students as we examine, discuss, revise and build a new kind of mathematics together.

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