Living Contradictions: Negotiating Practices as Mathematics Teacher Educators

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In this talk I will reflect on and share living contradictions shaping our practice as mathematics teacher educators. These reflections have resulted from ongoing collaboration with colleagues as we engage in self-studies of our practices. Living contradictions stem from the discrepancies we identify between our beliefs and our practices, our identities as learners and our positioning as experts, holding visions for teaching and becoming aware of the vision of others, and our socio-cultural realities and the societal demands of schooling. Negotiations occur as we understand how our identities as teachers, scholars, and moral and social human beings are reflected in our practices.

Introduction

(Play video-clip : 2.5 minutes)

Please turn to your neighbor and process what you have just seen. Your response might be purely emotional, it might be curiosity, or you may have generated some thoughts and ideas.

If you are stuck, you might want to consider the question:

> Given the world today… what are our dreams for our children?

It will be difficult to hear from each of you and let you share your thoughts, so I would like to tell you about my thoughts as I consider these images….

I hope that as you watched and listened you saw a world in deep trouble!

I hope that you saw children growing up in a world with a bleak future. Millions of children and adults distraught because of poverty, hunger, homelessness, lack of clean water, living amidst a state of war, hatred, bigotry and racism.

In contrast, we also have a world of major technological development, space travel, access to the moon, modern architecture, we can overcome serious physical disabilities, all evidence of a world of very smart and creative problem solvers in so many ways. Yet we can't seem to find a way to collaborate locally or globally in order to resolve the problems of the world or of our local communities and create a world in which all individuals live a life with dignity.

All in all, we live in a world of tremendous contradictions! Contradictions are the topic of my talk! I will use the contradictions in the world as leverage for us to think about the contradictions in our practice, particularly in the decisions and choices we make daily as mathematics teacher educators.

Living contradictions

Recently, my colleagues and I have focused our research on ourselves and our practices, in order to address the question: "How do I improve my practice?". Many of you may recognize this question as being at the heart of the work of Jack Whitehead, as he proposes that addressing this question leads to what he calls a living educational theory. In his work Whitehead calls for academics to "make a claim to know their own development and subject it to public criticism." As key to being able to address our inquiry question, we find ourselves having to come to grips with our values and how they live in our practices. Inevitably, this reflection has led us to acknowledging living contradictions, specifically when our values are negated in our practice.

In describing living educational theories, Whitehead makes the following claim:

"It is living because, as people engage in understanding it, they learn more and their theory changes as they understand more. Further, because they are living what they learn, new knowledge emerges." (Hamilton and Pinnegar, 1995 – quoted in Whitehead, 2007).

This same dual meaning of "living" in our coming to know our living contradictions has come to bear on our work. We have appropriated this concept in our understanding of contradictions that live within our practice, and contradictions that are alive in that as we come to know them they change and take on knew life and new meaning.

"I" – who am I, and from where do I speak to you?

As is required in inquiry that is grounded in the tenets of "self-study of teaching", I will present myself to you, so that you can judge my comments with an understanding of the values which ground my practice, and these same values will help you understand the living contradictions in my practices as a mathematics teacher educator. Some of my living contradictions may resonate with your own work as a mathematics teacher educator.

I will start my story with reflections of my preparation to be a mathematics teacher. As many of you know, my father was a math teacher, as was my grandfather. So, being a mathematics teacher seemed natural to me and conversations about teaching were part of my life as far back as I can remember. In my professional development to become a teacher, I began to read the first essays about teaching and learning that I would encounter in my professional life. Having been prepared as a teacher in Brazil, in the late 70s, the first educational text that I read was *Pedagogy of the Oppressed*, by Paulo Freire. The book was written in 1967-1968 and first published in English in 1970 and only published in Portuguese in 1975. When I read it, the book had only been published a short time and I was too young to really understand the importance of the text and how profound was the message. But several ideas from the text stuck with me and nagged me throughout my professional life. Between the seeds that were planted by my readings and from my "professional" conversations with my dad, I began to grow as I confronted the realities of schools and teaching. It was only recently that I came to know of the concept of "living contradictions" as described by Whitehead and that I came to realize just how the teachings of my father, Freire, and Whitehead would come together to explain that "nagging" feeling that I have had as I evolve as a scholar and as a human being in today's world. Over the

years, I have come to know the work of many other scholars who resonate with these authors, and who help me develop a more refined understanding of the complexities of the practices of a mathematics teacher educator. The list of authors who shape my professional soul is too long to include here, but I will list a few who have been particularly inspiring to me and that I have specifically drawn on in preparing for this talk: Nel Noddings' work has added a perspective that allows me to better understand my relationship of care towards others in the teaching and learning process and language to help me articulate my relationships with others in my work as a teacher and as a scholar. Rochelle Gutierrez has helped me to understand the political dimensions of my professional life as a mathematics teacher educator and my responsibility to develop my political voice and to have the courage to use it. During our collaboration Rochelle introduced me to many authors, both well established and many very new, who share many of the concerns that I have and who articulate so clearly their political voices in the scholarship of mathematics education. Shelly Harkness has helped me better understand the role of trust in the teaching and learning process, with her use of Peter Elbow's frameworks regarding the believing/doubting game that we undertake in working with learners, I have found ways of describing several dimensions of my practice. And of course, my collaborators are the most responsible for pushing me to articulate my thoughts and deepen the meanings we make of our practices as we co-construct our knowledge of the teaching and learning process. I feel very fortunate to have worked with so many wonderful people over the years who have shaped who I am, what I value, and how I live by those values. The ideas I speak of today reflect the co-construction that has evolved over the years from my collaboration with many colleagues and students.

What troubles me….what is the big picture?

The children in schools today will be left with the mess we have created and let spiral out of control. It will be their responsibility to create a better world for themselves and for future generations, something we have failed to do.

In order to achieve this lofty goal that our generation has failed to achieve, children will have to be able to work together to creatively solve serious problems falling in the realm of the social, but also economic, and regarding the preservation of the world's natural resources. So we must ask ourselves. …

Are we developing human beings who achieve their full potential and as a result are the creative problem solvers that we have failed to be? Our goal should be to help create a generation that is way better than we are, a generation of people who can reinvent themselves, rather than creating replicas of ourselves.

We are limited in our thinking. Here is a very small and simple example of how we inadvertently curtail our goals for education and in the process become oppressive in schools. We tend to be very critical of the digital generation… texting at the dinner table, interacting electronically with a friend who is two chairs away, texting during a class, a concert or a play, yet these acts (unfamiliar and uncomfortable to us) are the acts of a generation who is striving to reinvent itself in a new, more electronically driven, world. We don't like it, so we oppress the

young prohibiting their use of electronic means of communication in traditional places like schools. We don't know how to embrace the new and envision new possibilities for traditional spaces. Hence we alienate and disenfranchise the children in our schools. This is just a small example of the imbalance in our use of power to maintain an ***old world order*** in schools.

So, let's talk about contradictions between what we value and our practices!

Living Contradictions: Preparing Mathematics Teachers in light of the Social-cultural Realities of Schools

The social-cultural realities and the societal demands of schooling – lead to my most critical reflections of my practice as a mathematics teacher educator. I find many of my practices complicit with the oppression of learners and many of those less privileged in our global society. I constantly have to remind myself that the goal of education is to help each child and each human being achieve his or her human potential. And for the good of the global world order these individuals will need to learn to collaborate, with each contributing his individual talents and strengths, in order to solve the immense problems that we (our generation) have failed to solve. The solutions to the problems of inequity and injustices in our world require extremely creative problem solving – thinking out of the box in order to imagine new possibilities for how people in the world relate to each other. This creative problem solving needs to be grounded in values, morals, ethics, and particularly, solidarity. Furthermore, this creative problem solving requires confidence, courage, and a desire to act!

What is creative problem solving and where do we teach that?

Let's unpack this a bit and first ask ourselves…

Well what is creativity? There are thousands of different definitions of creativity, which some may say makes it an elusive concept or thing to work toward. For the purposes of my argument, Pope (2005) gives us a place to start with the following definition … "the capacity to make, do or become something fresh and valuable with respect to others as well as ourselves." According to Steers (20…): "it is a human attribute; most people regularly solve problems- and just as importantly pose problems that need to be solved—of all kinds in their daily lives with some degree of creativity." Creativity, without the grounding in values, morals, ethics, solidarily and particularly responsibility can be problematic. Again Steer: "While human creativity may be directed to sustainable development, preventing disease, famine, and poverty, it may equally be directed at designing weapons of mass destruction, plotting crimes against humanity, exploiting the vulnerable or encouraging the profligate use of scarce natural resources for commercial gain."

Some may argue that values, ethics, morals and solidarity are taught at home and is not the business of schools. I disagree… It isn't okay to teach love and respect at home and live in a classroom of racism and intolerance in school. It isn't okay to learn that you can be whatever you want to be at home, but learn in school that you will never achieve your dreams since all systems are in place for you to never leave the lower tracks of schooling—for your dreams and aspirations to be silenced and crushed. The alignment of a child's experiences to ensure that they

will reach their full potential has to be in place in all aspects of our society – including the experiences in school.

In the math classroom we are neither dealing with creative problem solving nor values. Instead we are focused on delivering a national curriculum – the same curriculum that has been in place for almost 200 years. While we've tinkered with the curriculum for over 200 years, we have been unable to change to curriculum as the needs of society change. Every time I think of a child's lived experience in schools as spending the first 8 years of their lives learning to do all the things that a $1 calculator can do, I cringe. Is that really the value of their education?

When I teach my future teachers about the nature of numbers, how to add fractions, how to use manipulatives to help children understand mathematics, I realize there is a huge tension in my being – when I ask myself, how will these ideas prepare children to be the socially responsible and creative problem solvers they need to be? More importantly, how am I preparing future teachers to be the socially responsible and the courageous creative problem solvers they need to be?

I invite you to consider Rochelle Gutierrez's notion of creative insubordination! Future teachers need to be confident and have the courage to take risks that are innovative, imaginative, and inventive with visions of new possibilities. In order to do this they need a support group that will support their courage to pursue their creative ideas in the face of considerable opposition. Teachers have to be agents of change if we are to help all children fully achieve their human potential.

We are part of an enterprise that prepares teachers to conform and follow rules without considering their implications for the well-being of children. Schooling is oppressing teachers and students alike. We prepare teachers who have no voice and uncritically follow rules without regard to whether they are good or will lead to the good of children. We prepare educational leaders to advocate for policies and documents, rather than to advocate for their teachers and the children in their systems. We expect teachers to blindly follow policies without concern for the impact of their acts of teaching on the children nor concern for the impact of their teaching for the bigger picture of contributing to a generation inspired to work toward a new world order.

For the most part, we allow future teachers to hold on to several myths about teaching and learning. These are myths held by society – pushed by policy makers-- regarding societies' expectations of schools. In our roles as Mathematics Teacher Educators we need to find ways to help teachers challenge these myths and understand the implications of holding on to them.

Myth #1: Education is schooling!

Our schools have drifted so far from what is valued in education, that we seem to have limited our view of what it means to be educated. Today in our society it means that we were schooled. This is not true in so many societies that have preserved the wisdom of education being much more than schooling. In my recent work with scholars studying views of education in indigenous groups, I have come to understand the school that we impose on all people as the place where/how children learn the ways of the "white people" and education what they learn in the

community, from the elders, from their relationships with others, from their participation in their social group and community.

There are many things that we spend inordinate amounts of time teaching and testing that are so engrained in our social life, that those ideas might be better learnt through life itself. Extensive research in situated cognition has shown that you don't grow up without inevitably learning/ knowing how to count money, how to tell time (including the ever elusive school problems of elapsed time), and how to do basic operations. Even those who never go to school learn how to be efficient and precise in the use of their invented algorithms. Participation in the world seems to have better results than schools.

Myth #2: Teaching results in learning.

It seems to me that a better sentence would be – interest, motivation, intrigue might result in learning. The boy who tamed the wind is an interesting example of the creative problem solving needed to solve the problem of lack of energy in his village.
http://www.ted.com/talks/william_kamkwamba_how_i_harnessed_the_wind.html

We seem to have lost sight of the relationship between teaching and learning and transformed that relationship into a simplistic cause and effect. In spite of all the evidence to the contrary!

Myth #3: Kids will learn what we determine they should learn.

This myth also implies that all children are equal, they learn alike, in the same progression and with the same methods and sequences, hence let's teach them all the same thing. And let's have the same goals for all of them, to prepare them for college. They will learn what we determine they should learn.

In fact, what do kids learn in school?

They learn about themselves, who they are, who they want to be, but most importantly, who they can or cannot be! They learn their place in society, by learning their place in the social network of the classroom, they are learning much more about their future place in society. They learn how to live by the norms of others. They learn how to keep silent in facing injustices, or watching others being mistreated. They learn that their voice is not to be heard or valued. They learn that someone, who doesn't know them, nor their dreams and aspirations, has established measures of excellence by which they need to perform. They learn to equate their value or worth to their levels of performance on standardized tests. They learn that rules are to be followed and not negotiated. They learn a very "contrived" form of democracy. They learn to view themselves and their learning as portrayed by how teachers view them. They learn to think about themselves through the eyes of others. They learn about themselves by becoming aware of their relationship to others. They experience oppression, bullying, boredom, repetition, memorization, procedures, rules. They learn to ignore personal pain and victimization and pretend that all is well, even when they feel tremendous emotional and physical pain or see others in pain.

Myth #4: Children's positive self-image should be tied up with their success and love of mathematics.

With regard to this point, I agree with Nel Noddings, I do not need to convince every child to love mathematics, but I need to help them understand and articulate why they love it, or do not love it. According to Harkness, I should proceed with students with trust and believing in them and in their perspective, rather than doubting them. This requires that I proceed with students using hermeneutic listening, with the possibility of changing my personal perspective as I come to better understand the perspective of others.

Let's take a look at some of Noddings' (1984) writing:

A student "tells me that he hates mathematics. *Aha,* I think. *Here is the problem. I must help this poor boy to love mathematics, and then he will do better at it*. What am I doing when I proceed in this way? I am not trying to grasp the reality of the other as a possibility for myself. I have not even asked: *How would it feel to hate mathematics?* Instead, I project my own reality onto the student and say, *You will be just fine if only you learn to love mathematics*. […] Bringing him to "love mathematics" is seen as a noble aim. And so it is, if it is held out to him as a possibility that he glimpses by observing me and others; but then I shall not be disappointed in him, or in myself, if he remains indifferent to mathematics. It is a possibility that may not be actualized. What matters to me, if I care, is that he find some reason, acceptable in his inner self, for learning the mathematics required of him or that he reject it boldly and honestly. How would it feel to hate mathematics? What reasons could I find for learning it? When I think this way, I refuse to cast about for rewards that might pull him along. He must find his rewards. I do not begin with dazzling performances designed to intrigue him or to change his attitude. I begin, as nearly as I can, with the view from his eyes: *Mathematics is bleak, jumbled, scary, boring, boring,boring … What in the world could induce me to engage in it?* From that point on, we struggle together with it."

Living Contradictions: Holding visions of good teaching and honoring the vision of others

In the 1990s I worked in Indianapolis, at IUPUI, in a teacher education program that had a theoretical framework, where the goal was to prepare teachers as agents of change. Our mission was to prepare teachers for the urban setting. I was one of only two math educators and we were challenged to create experiences for our students that fit the mission of our program that, in fact, helped them see their role as agents of change. Yet some of our students would tell us that their goal in life was to go back to the schools where they grew up to teach. Even if that school was in the rich suburbs of an urban area. At the time, I didn't understand what was going on with these students, my colleagues and I felt that these students were "fighting us" and "resisting" what we were trying to teach. We would say things to them about how they might find themselves without choices and how they might end up in a school that attended to children in poverty, or other such arguments to convince them that our goals for them were the right ones. We believed that we knew better than they could ever know what was good for them. I was not listening to them! I was not honoring their voices. Instead, I was oppressing them myself, with a program that did not fit their needs and expectations.

In my own teaching I was focused on helping teachers learn to listen to their students and honor their voices. I wanted teachers to be in awe of their children, all of them! I had evidence and shared that research with them, that the children, in an environment where their voices are valued

and honored, would rise to the challenge and create mathematical solutions to problems, beyond their expectations. I was trying to convince them that the teachers would always be surprised by what the children would do. I modeled this with my students and it held true. In mathematical environments, the future teachers too were creative. By listening to their solutions there was always a realm of possibilities for us to explore. I knew how to give reason to the students by listening to their mathematical voices and hoped that they would learn to listen to their students' mathematical voices and to give reason to them too.

Yet, I was unable to hear my students and understand who they were, and what type of teacher they were hoping to become. They had already built an image of the good teacher and my image did not match theirs. In fact, it was so foreign, that they could not find a way to consider an alternative to their view of "good teaching." Their realm of possibilities did not change after having been in my class, nor in our program.

Our work in teacher education had little impact on our students' constructions of what it means to be a good teacher, particularly in mathematics. So, this is where I am now. I have finally understood that it is not working to try to create clones of myself as a teacher, or even better enactments of what I believe to be good teaching.

Recently, in the context of several different self-studies of teaching, my colleagues and I, have begun to consider our students (in our work with pre-service and in-service teachers) as viable teachers, since they are human-beings with a well established vision of good teaching, which often differs from our own. We have begun to explore each individual's personal/professional project of becoming the best teacher they can envision at this time in their professional development. We must honor their existing teacher-selves and work with them to grow while envisioning what could be a richer/more robust understanding of the "better" self, with new and varied creative possibilities for what it means to be a good teacher, both for myself and for them. I don't want them to challenge their view of good teaching alone, without me also engaging in the challenge of my own views of good teaching. I have been trying, with the support of authors like Harkness, to engage in the believing game (as opposed to the doubting game), when I interact with teachers and future teachers. Some of you have read my work on hermeneutic listening, and the believing game, resonates with that posture of listening to learners in a way that leads to the co-construction of meaning, and in this case, the co-construction of our individual professional projects of becoming better teachers.

Living contradictions: What counts as success?

It is troubling that we are expected to accept and succumb to one view of success … a view that leaves little room for acknowledging success as creative innovations and change! In general that one view has defined success as exclusively measureable by the test scores of children, and even more absurdly by the test scores of teachers on some incredibly limiting criteria of what counts as evidence of good teaching. In light of what I consider important goals of education and what I value for education, the mediocrity of these measures of success only compound the reasons why we can't seem to come close to meeting the needs of children in the world today.

Our assessments of both children and teachers are judgments of individual abilities and achievements, yet the problems that we face today will only be solved through the creative collaboration among problem solvers with all different talents and strengths. Do we really believe that by defining and measuring individual success we will be able to achieve the creative collaborative problem solving needs of society?

In my own work, I am trying to re-conceptualize success. What does success mean to me, given my beliefs and values? As I attempt to articulate a more robust and more ethical understanding of success, I land in contradictions between the accepted notion of success in the mathematics education community and my emerging alternative views of what counts as success. I am striving for a definition of success which honors individual strengths and talents, as well as personal goals, respecting one's identity, humanity and dignity while at the same time celebrating collaborative creative problem solving and concern for the truly important problems of our society. I am fighting to redefine something that is so deeply engrained in the world of education and has been put there by individuals who believe their power is unquestionable. They may not know my students, yet they speak with authority of what is best for those students.

By equating human worth to performance in school, measured by achievement on standardized tests of knowledge, we encourage practices that promote discrimination, privilege, and hierarchy… and with these culturally and socially approved forms of discrimination (rules by which we judge the worth of humans) we support the notion and teach children that some people are better than others. Those who fail to achieve do so because of personal flaws, rather than flaws in the system.

Our teachers and our children do not need to be "fixed", they do not need to be evaluated so that we can determine what is broken about them. They need to be heard, to be respected, respect that is demonstrated by listening to their interests, their aspirations, their dreams, their choices… their questions! Their curiosities! That which intrigues them, that which troubles them, that which frightens them! That which hurts them, that which silences them, that which damages their soul, that which shapes their views of themselves.

Living contradictions: Scholarship of teacher education

What else constitutes our practices?

Writing for publication –

Reviewing and judging the work of others–

Applying for grants and funding –

The list goes on and on. I will limit my comments here to just a few points.

In all of our work we are expected to position ourselves as knowledgeable experts. Our knowledge and expertise is judged by the quality of what we write as it relates to the truth as established by the community of mathematics educators. Writing from a position of doubt, of questions, of concerns, and of dissonance is not acceptable. In our publications we are strong armed into situating our work within the acceptable tenets of the CCSSM. In our grant work we

are forced to include the omnipresent truths of the same overarching documents and policies -- CCSSM.

My colleagues and I have been pressured by NCTM journals to put CCSSM into our publications, to show where the ideas that we were discussing fit into CCSSM, otherwise we couldn't get our articles published. We had been pressured by the Ohio Department of Education to sprinkle CCSSM all over our grant proposals, to assure that we were building content-focused professional development around CCSSM, otherwise we wouldn't be funded. We were required to use measures of content knowledge of teachers in our grants to assure success. We were required to tie student achievement scores with the work of our collaborators, i.e. teachers in our partner school districts in order to prove the worth of our work together. I was so caught up in the pressures of our work, that I was unable to see my own professional oppression and the oppression of others with whom we work. These requirements defied what we believe and value, they undermined the creative collaborative problem solving relationship we were striving to build, and they undermined our efforts to defy the power structures of university experts providing professional development to enhance teachers' practices.

In our reviews we are expected to judge the work of our colleages according to positivist criteria sometimes disguised in language that would be deemed more acceptable to those working in other paradigms. Here too, a discussion of what counts as success seems relevant.

What is good research? Well that certainly opens a can of worms and I know we don't agree as a community. Yet, we are expected to judge each others' work with some unnatural and arbitrary evaluative criteria. We don't seem to remember that what we need today is work that will push the limits of our creativity… work that has "catalytic validity" (Patty Lather's term) that I like to use to think of work that can lead us to think differently about the multiple dimensions of teaching and learning. Work that points to possibilities, rather than conforming to the limitations of theoretical frameworks and corresponding methodologies. Work that honors the complexity of the education process, the complexity of the individuals involved in the process, and the complexity of their relationships. It is alarming that we are expected to doubt what we read, as opposed to engaging in acts of trust that would allow us to believe and thus interact and dialogue with ideas.

We (members of this community) compose the external review panels for promotion and tenure, the editorial panels of journals, the boards of our associations, the panels of reviewers for NSF and other funding agencies, and we too find ourselves supporting positions that are "politically safe." We fear losing (or never gaining access to) federal and state funds. We fear retaliation of NCATE, TEPAK, EdTPA, or whatever other agency is currently under the auspices of Pearson's influence, if our pre-service teachers don't perform as required. We fear what might happen if we choose to publish in journals that honor and respect our voices. We do what it takes to get our projects approved by the Institutional Review Boards at our institutions, even when their rules are mostly appropriate for positivist research where our teachers (whom we view as colleagues and collaborators) are instead labeled as research subjects. We fear so much these days, that we too are oppressed by our own inactions in our practice. We prepare our own students to accept, succumb to, and pass arbitrary measures of "good teaching." Slowly, over

time, our professional courage has eroded. We no longer do what we deeply believe is right, but instead we force our actions to conform to what is expected of us.

Hope and Hopelessness

Upon returning to the States, soon in the first week back, I attended a meeting with teachers who reached out to me for help. They invited me to attend a meeting in order to help them make sense of and plan for the implementation of the CCSSM. They needed to make sure that the students would do well on the standardized tests that are an unknown to them at this point. They needed reassurances that what they were doing with their students was aligned with the standards and that they weren't leaving anything out. They needed help.

What I heard revealed a sense of defeat, of hopelessness, of fear. When did teaching become about fear? When did teachers lose their sense of efficacy? When did teachers lose their sense of professionalism?

I was saddened to hear these amazing professionals feeling hopeless and fearful! Here I was in a role of professional development provider…. And instead I found that what I needed to do, was therapy, to build up their self confidence, to reignite their sense of efficacy, to re energize their sense of professionalism.

I had been so involved with everything that had been going on in our schools and our districts and our actions that I failed to react to what I saw as to how the professional lives of teachers had changed. How hope, efficacy, enthusiasm, professionalism had eroded. I too had subconsciously bought into the clichés of the current politics of mathematics education. I listened to the language of standardized practices, and wasn't hearing the ideology of control and oppression, since standardization was hiding behind a rhetoric of equity and social justice… math for all, preparation for college, if you don't buy into this you are denying that all children should be prepared for college, you are the bad guy. Why have we been silenced to such a point that we have allowed ourselves to become part of this oppressive instrument of control? Why have we allowed ourselves to partake in the uncritical implementation of policies and demands?

So I turned back to Paulo Freire's Pedagogy of Hope and considered the consequences of hopelessness.

"Hopelessness and despair are both the consequence and the cause of inaction or immobilism." (pg. 3 – pedagogy of hope)

I have found that I have succumbed to the pressures. I have been "done to". I have been an agent of "doing to others" by helping them succumb to the pressures. By succumbing to the pressures (editors and granting institutions, NCATE and others pushing for CCSSM) I have become an agent of oppression myself. I have become complicit with something that I now see as leading to the erosion of the teacher's identity and their sense of self. Not to mention, the trivialization of the curriculum. A colleague recently said to me that you can't deny that CCSSM is just pushing for good rigorous mathematics. I have to say that I disagree because I don't believe it is the correct mathematics that we need to be developing with children. I don't believe that this

particular mathematics is what we need in order to empower the children to better understand the world and imagine the possibilities for a better world.

Progress and change comes from breaking rules, rather than following them blindly. New genres of art, music, literature and architecture emerge when artists, musicians, authors and architects break rules as they envision new possibilities. New developments in science and technology happen when scientists choose to break the rules as they envision new possibilities. New mathematics occurs when mathematicians choose to break rules, breakthroughs in medicine, in pharmacology, in research methodologies, occur when humans take risks and break existing rules always in a quest to enact their visions of new possibilities. Little change occurs in education since most of us play by all the rules, act in compliance with policies… be they NCATE, district policies, national standards, EdTPA, whatever the reasons may be, rules drive the work we do in schools even when those rules create major discrepancies with our values and beliefs, and our moral compass.

In closing…(Still Freire…)

"The teaching profession has lost its dignity in losing the respect for teachers and learners. It is our responsibility to act to regain that dignity and respect."

This brings me to my final thoughts for the evening.

Mathematics education has been remiss by attending exclusively to the goal of improving students' scores on standardized tests rather than engaging in the reflections needed for realizing the goal of achieving education that prepares humans to partake in creating a better world.

A society with equity and justice begins in classrooms. Classrooms today mirror the ills of society at large, with oppression of students, power relations that segregate students, evaluation procedures that add to the anguish of students and further differentiate those who will lead and those who will be oppressed.

Teacher education and leadership preparation that changes the social order in classrooms and prepares teachers in the ethics of diversity is a first step. Building classrooms where the social order is one of respect, solidarity, and collaboration will go a long way towards the education of children who can envision these human relations in the world around them.

So what are our next steps… as Mathematics Teacher educators?

That Mathematics Teacher Educators explore our **living contradictions** and creatively collaborate towards the preparation of teachers and leaders who are willing to take risks and who strive to create educational environments that foster and nurture the development of every child as a thriving, viable, creative, responsible, moral, confident, collaborative, loving and caring human-being.

And thus as a community… we may have the courage and support each other to begin to enact a practice of mathematics teacher education that supports an educational system that leads us toward providing for our children an education that will empower them to creatively and

collaboratively achieve Basic Human Rights (UNESCO's) for all citizens in the world. A world in which:

"No person should go hungry, lack shelter or clean water and sanitation, face social and economic exclusion or live without access to basic health services and education. These are human rights, and form the foundations for a decent life."

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