



Strategies for Creative Insubordination in Mathematics Teaching

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Abstract

Mathematics teaching requires political agility on the part of teachers who must negotiate their contexts in order to advocate for their students. Yet, most teachers of mathematics are not prepared for this work. This article presents a set of strategies that teachers can use in their everyday interactions with administrators, colleagues, parents, and students when political scenarios arise related to mathematics teaching and learning.

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Teaching involves making complex, everyday, in-the-moment decisions that have clear impacts on students, colleagues, and even teachers themselves (Schoenfeld, 1999). Whether or not to call on a student during class; how many points to give on a test problem; to what extent students are allowed to work in groups; or whether to offer time afterschool to help students who are not performing well in class all have consequences for students and teachers alike.

However, most teachers do not see their everyday decisions as *political acts*; instead, they develop the view that teaching is only political when introduced to concepts like “social justice mathematics teaching” or “culturally relevant mathematics teaching” (Aguirre, 2009; Gutiérrez, 2015a; Bartell, 2013; de Freitas, 2012; Gutstein, 2006; Leonard et al., 2009). While we strive to make a positive impact on all of our students, schooling contexts can change that. High stakes education, Response to Intervention initiatives, Race to the Top campaigns, and the latest packaged reforms can keep us from acting on what is in the best interest of our students and their learning.

Given the current state of high stakes education, those of us who want to advocate for our students may feel we have few options other than to bend the rules or be quietly subversive behind closed doors. Rather than reinventing the wheel, we can learn from teachers

who have successfully negotiated the politics in their work settings to advocate for their students to learn creative and meaningful mathematics and to develop more robust mathematical identities. With funding from the National Science Foundation, I have worked with teachers over the past 6 years to develop their political knowledge and their propensity to take risks on behalf of students (Gutiérrez, 2013a). These teachers, many working in the inner city and teaching students who are Black¹, Latin@², historically looted³ and/or emergent bilinguals⁴, have learned to use an internal standard to measure their professionalism. That is, rather than look to external entities such as their students’ scores on state tests, their own performance score on district mandated teacher evaluations, the number of district sanctioned professional development units, or “badges” given out by the Pearson Group for promoting the Common Core State Standards (National Governors Association, 2010), they look to the mirror and ask themselves if they are doing what they set out to do in teaching, something I call *The Mirror Test*. Guided by their ethics, these teachers have learned to be creative in the ways they talk and act with others in their work environments so that they are successful in advocating for youth and not simply dismissed.

Researchers studying school principals who resist bureaucratic policies and directives to protect

¹ I use the term Black to highlight the fact that many such students living in the US have ancestry in the Caribbean, South America, and Asia, among other places. Black students who attend schools and live in the US are racialized in similar ways, regardless of country of origin.

² I use the @ sign to indicate an intermingling of the “a” and “o” ending (Latina and Latino) partly to decenter the idea of a gender binary and to work against the patriarchal nature of the Spanish language where it is customary for groups of males (Latinos) and females (Latinas) to be written in the form that denotes only males (Latinos). The term is a sign of solidarity with individuals who identify as

lesbian, gay, bisexual, transgender, questioning, and queer (LGBTQ). I use Latin@ instead of Latinx to privilege the oral language where Latin@ can be read as a diphthong, a gliding vowel.

³ I use the term “historically looted” instead of “low income” to highlight the ongoing domination these students face and the benefits dominant members of society reap as a result.

⁴ I use “emergent bilingual” instead of “English learner” both to decenter the idea that English should be the standard by which we measure students and to highlight that such students already have facility in at least one or more languages.

teachers have labeled this work Creative Insubordination (Crowson & Morris, 1985), a term that derives from activist circles in the 1980s where I first heard it. This article extends the early research on Creative Insubordination that focused on principals by connecting it with teachers and showing its usefulness in secondary mathematics (Gutiérrez, 2013a, b, 2015a, b; Gutiérrez et al., 2013; Gutiérrez & Gregson, 2013). With respect to mathematics teaching, Creative Insubordination includes the following acts: decentering the achievement gap; questioning the forms of mathematics presented in school; highlighting the humanity and uncertainty of mathematics; positioning students as authors of mathematics; and challenging deficit narratives about students of color.

Rather than blindly following district mandates or implicit policies, the teachers with whom we have worked hold themselves to a higher ethical standard for making their classrooms humane and meaningful for students. After studying their risk-taking (Gutiérrez, 2015d) and success, I categorized their effective practices into the following six strategies: Press for Explanation, Counter with Evidence, Use the Master's Tools, Seek Allies, Turn a Rational Issue into a Moral One, and Fly Under the Radar. I provide a brief description of each strategy and then highlight a few through further description and an example.

Strategies for Creative Insubordination

What follows are strategies for addressing political situations we face as mathematics teachers. I define political as any act that involves power dynamics, where one person uses their authority (real or perceived) to pressure others to conform to a particular norm. Everyday we use our authority to get students to conform to particular norms of classroom culture. Schools require us to start/stop our classes at a particular time. We assign homework and/or classwork that must be done in a particular amount of time. Many of these situations may already align with how we believe mathematics teaching and learning should occur. So, we do not think of them as political, though they are. However, when our work setting obstructs our goals and departs from the reasons we went into teaching in the first place, this causes tension and requires us to reflect on whether or not to take a risk in order to advocate for ourselves or for our students.

Not every political situation in mathematics teaching is a major confrontation. In fact, most are everyday events and comments, sometimes not even made to us directly. These comments can be so subtle and so much a part of what is considered “normal” conversation or practice, that they go unnoticed. These everyday events include: a derogatory comment about a student from a colleague or superior; a new policy that waters down the curriculum or undermines our previous success with students; a departmental structure that assigns the least experienced teachers to the most difficult classes; a nation-wide focus on standardized testing; or a comment made by one student to another that perpetuates the myth that some people are good at mathematics and others are not. Choosing an appropriate strategy requires we first recognize the kind of issue at stake (i.e., What power dynamics are operating? How does this issue relate to student learning and social justice?) and then consider the speaker(s), our relationship with them, and the context in which we find ourselves. These strategies are not a list of procedures to follow but rather examples of things that have worked for other teachers so as to inspire all of us. The strategies also are not meant to be distinct in the sense that only one is used at a time. In fact, combining two or more strategies can magnify their effects. Let us consider the strategies.

Press for Explanation

Whenever we are presented with a political situation, we may decide not to respond immediately and might simply press for explanation. For example, we may be surprised to hear a colleague undervalue a culturally relevant curriculum by stating, “Why do we have Black history month, anyhow?” Rather than attacking the speaker, Press for Explanation suggests we allow others to talk. We are essentially buying time. This strategy allows us to put the pressure on others to keep defending their points while we develop our counter-arguments. A couple of easy phrases to help buy time are: “Say more” or “I’m not sure I fully understand. Can you give me an example?” “Say more” is a great phrase because it does not indicate whether or not you agree with a statement; it invites further discussion without automatic defensiveness.

Counter with Evidence

When confronted with a representation of students or mathematics that seems harmful, a teacher might offer a different point of view. For example, we might be told by a superior, “These kids can’t handle a more rigorous curriculum.” We could ask ourselves: What evidence do I have that suggests a counter-narrative or opposing perspective? Do I have examples of students’ work (e.g. assessments; classwork; homework) or instructional strategies I use in my classroom others say will never work (e.g. questioning strategies that elicit and build on student thinking)? When sharing these samples with others, it is important to highlight how they are not unique. Thus preventing them from being placed into “that’s an exception” box. Rather than emphasizing how we are successful when others are not, it is generally more effective to focus on the contexts that allow students to prosper. In this way, we keep colleagues from feeling like we are making judgments about them personally.

Use the Master’s Tools

Often, we are subjected to specific policies or constructs that confine us to doing things in ways that maintain the status quo of systemic power and privilege. These may be looked upon as the master’s tools, the ways we are controlled (Lorde, 1984). However, we can flip this around and use these tools in ways they were not intended but that work to our advantage. We simply need to find ways to align written or oral statements of those in power with our goals. For example, if we are required to do “test prep” and we don’t believe in taking away teaching time to do so, we might give students the answers first. Then have them work in groups to discuss how an individual could have gotten the “wrong” answers. This moves away from pressure to get the right answer; allows students to see how someone could have gotten both the correct answer (which emphasizes reasoning) and an incorrect answer (which encourages empathy for having assumed different mathematical assumptions); and shows how test companies intentionally create answers that are attractive distractors, helping students see that

standardized tests aren’t always the best measure of what one knows.

With Use the Master’s Tools, we find ways to do what is in the best interest of our students and justify it with language that is valued in our schools or in professional documents. We can ask ourselves, can my work be seen as related to my “School Improvement Plan” or “Response to Intervention?” “Can I tie my work to the Common Core State Standards that asks teachers to develop a “Productive Disposition” in our students (Kilpatrick et al., 2001)?” This habitual inclination to see mathematics as sensible, useful, and worthwhile coupled with a belief in one’s own efficacy relates more closely with “identity,” as opposed to just looking to provide students with more “access” or “achievement” on four equity dimensions⁵ I have elaborated on elsewhere (Gutiérrez, 2009). The overall focus is on recognizing that while the master’s tools will never dismantle the master’s house (Lorde, 1984), they can work to our advantage in the short term.

Seek Allies

This strategy suggests we find individuals who are more adept at certain practices than we are; people who know how to navigate our working context well; those who have been in our building longer than we have and who, for reasons such as lived experiences or sustained commitment, have gained the trust of students or administrators; and ask for their advice. It’s much easier for us to convince others of something if we have a critical mass of people to echo our views. Often times, we only need 1-2 other people to accomplish something. For example, we can rely on our colleagues to restate our points/concerns during faculty meetings so that the burden does not fall completely on our shoulders. This is especially important for newer teachers. If planning to rely on others in a meeting, it is helpful to have a “pre-meeting” to decide who will say what and to anticipate the kinds of opposition that can arise.

Turn a Rational Issue into a Moral One

This strategy asks us to turn the conversation into one that highlights our moral character and that of those

⁵ The four dimensions of equity are: Access, Achievement, Identity, and Power.

around us. This is useful when logic doesn't work and when all of our arguments, data, and reasons to consider a different option fall on deaf ears. It also works well in public settings because nobody wants to look bad on a moral issue. The focus is on convincing people to "do the right thing," an effective strategy that activists have used for decades. Some language to consider is, "Regardless of what the data suggest or what has been done in the past, is this what we want to *stand* for (or be remembered by) as a department/team /school/teachers?" The inverse of this strategy is to use privilege, instead of morals, turning the conversation into one that puts our colleagues in a position of power. This strategy appeals to those who care less about ethics and are more ego-driven. Helpful language includes, "That's what we're being *told* to do, but *leaders* are not rule followers."

Fly Under the Radar

Sometimes the aforementioned strategies just do not apply to our situation. The risk is too high or the likelihood of even being noticed for challenging the status quo is minimal. In that case, we might decide to just do what is in the best interest of students and not let others know until we have a track record of success. This strategy is useful for having our students work in groups when no one in our department does; trying out a new homework policy in a class; instituting a creative hands-on mathematics activity that uses the body or otherwise challenges the notion that doing mathematics only requires a brain and technology (e.g., paper and pencil; computer); doing a monthly social justice mathematics activity; or having student leadership teams that inform our teaching. The motto to this strategy is *Ask for forgiveness, not permission*. The key is to eventually share what we have been doing once we can document its success.

Creative Insubordination in Practice

Let's take those strategies and apply them to a political situation that a mathematics teacher faced. Mr. Ramirez' high school had been successful with their predominantly Latin@ student population, many of which had Spanish as the language they spoke at home. Mr. Ramirez and his colleagues were convinced that part of their success was due to using the Interactive Mathematics Program (IMP)

curriculum (Alper et al., 1997). Their students had learned to work well in groups; they were communicating their mathematical ideas in Spanish and English; and were comfortable coming to the board to explain their work and to justify why it made sense. Yet, the school district decided to stop using IMP, preferring a curriculum that, in their eyes, better prepared students for standardized tests by focusing on basic skills and ample amounts of practice problems. Instead of just accepting this new policy, Mr. Ramirez and several of his colleagues decided to stand up to administrators. They met regularly to decide how best to respond in a professional manner. Seeing that their district highly valued the idea of "data-driven decision making," they offered to be the "control case" for the district. That is, while other schools stopped using IMP, they would continue to use it and the district could compare their students' results with the results of other schools that moved to a basic skills curriculum. Beyond the typical test scores collected by the school, the mathematics department also collected data on how their students were doing in their courses to show that widespread student engagement and the ability to work with others to explain their answers were outcomes of their teaching.

This approach begins with Seek Allies but then focuses deeply on Use the Master's Tools and a bit of Counter with Evidence. By meeting together to brainstorm how they would approach their situation and using language and practices that were valued by the district ("data driven decision making" and "control case"), they positioned themselves not in opposition, but in alignment with the overall goals of administrators. In this respect, they kept from being easily dismissed. Although IMP was eventually eliminated from their school, the strategy of Use the Master's Tools bought them a few more years of using the curriculum they wanted. During that time, they also recruited some newer teachers into the school who wanted to teach with IMP. These newer teachers shared the department's commitment to students; their work today reflects many of the principles they feel supported students—getting them to work with each other, valuing students' home language, focusing on conceptual not just procedural understanding, and having students present their work to the class. So, while Mr. Ramirez and his colleagues lost the battle over the specific curriculum used, they won another important battle: increasing the amount

of teachers in their department who were committed to advancing historically marginalized students in mathematics. Seeking Allies and Using the Master's Tools aided their long-term vision to reclaim mathematics teaching in ways that were consistent with their shared belief that learning could not be captured by test scores alone.

What Keeps Teachers from Using Creative Insubordination?

If these practices of Creative Insubordination are so useful, why aren't more teachers using them? The answer is complex. On the one hand, many teachers, especially newer ones, fear retribution. For them, the insubordination part sounds like grounds for being fired. Insubordination of any kind may not align with the implicit message of what it means to be a professional given in many teacher education programs (Gutiérrez, 2015a). Rather than developing a critical eye on new initiatives, professional development often unwittingly exposes teachers to what I call Weapons of Mass Distraction [e.g., understanding and employing the Common Core State Standards, developing in students a "growth mindset" (Dweck, 2006) or "grit" (Duckworth, 2016), closing the achievement gap, or using more technology in the classroom]. While these reforms are worthwhile goals, they can distract teachers from being able to recognize the structural or systemic problems that lie at the heart of meaningful learning. In order to be professionals, teachers need to understand the strengths and limitations of new initiatives. In this respect, teachers may be underprepared to do Creative Insubordination because they lack the tools or opportunities to carry out critical analyses. They might not understand how a focus on "grit" or "growth mindset" is highly cognitive, places the burden of change on the individual, and fails to interrogate institutional structures/practices that disadvantage students of color in schools (Ferlazzo, 2015; Kohn, 2015). Moreover, some teachers may feel they do not know how to talk about important issues that arise in political situations (e.g., racism, classism, politics of language, history of mathematics). Learning the kind of language practices that encourage dialogue and joint problem solving rather than conflict or defensiveness is important in this endeavor. See for example, Gutiérrez (2014) for a more extensive discussion of the types of phrases and language

strategies that are useful in Creative Insubordination. And, finally, some teachers may view these practices to be the work of assertive, charismatic, or more veteran teachers. Yet, teachers with very different personalities and even pre-service teachers have successfully used these strategies (Gregson & Bradley-Harris, 2015; Gutierrez, 2013a, b; 2015c). Some teachers may feel this kind of work seems too battle-oriented or the work of "trouble makers." However, with public education, teacher education, and teachers all under attack, strategies for Creative Insubordination are often necessary to reclaim the profession. Moreover, these strategies are only a small list of the kinds of things teachers can do. All of us need to find ways of owning this work and putting our own mark on it.

Learning about these strategies might make us want to start a dialogue with members of our math department, team, or group of like-minded teachers across our district or city. Here's one activity to try on a regular basis to help rehearse for the political nature of mathematics teaching. It is called, "In My Shoes" (Gutiérrez, Gerardo, & Vargas, in preparation). In it, one teacher presents a scenario they have faced and others respond with questions and eventually what they might do if they had been in the presenter's shoes. In the beginning, the presenter simply states the scenario they faced without giving details about what, if anything, they did in the situation. If the presenter is still able to influence the outcomes of the event, then it would be good to have the presenter practice saying/doing what they would like. This might be the case for a controversial policy that will be discussed at an upcoming meeting or a disturbing comment that was made by a student or colleague. If the scenario is one where the window of action has already passed or where the individual was happy with how she responded, we might have another individual in the group take on the role of the teacher during role play. Others in the group can then serve as devil's advocates by responding in ways that do not simply go along with the teacher's suggestions. In these situations, others in the group should practice trying to come up with ways to stump the teacher. For example, if one of us has faced a colleague who has deficit views about particular kinds of students, we might practice using Counter with Evidence or Press for Explanation while others in the group might try to continue to show how those examples are simply exception cases. With role plays we get the chance to

practice saying what we think we would do. In my interactions with teachers, it can be easy to offer advice or summarize what we might do in a given situation. But, having the words come out of our mouths and feeling how nervous we are or how much we did not anticipate the kind of response we are receiving is completely different. Creative Insubordination requires that we think like a chess player. That is, we cannot just think of our first move; we need to be thinking of all of the successive moves. “If I do/say this, what are they likely to do/say in response? And then, what is my next move?” Role plays and discussions with like-minded individuals can go a long way towards helping us anticipate the kinds of stumbling blocks we might hit and can further engrain our resolve to say/do something about the situation, either this time or the next.

Lessons Learned

In choosing to use Creative Insubordination, we are refusing the status quo when it is not in the best interest of our students. This means questioning some of the typical norms in mathematics teaching and learning. An important step in this work is first deconstructing what is going on around us, making the “normal” seem abnormal. For example, do we notice that the students in our calculus classes do not represent the demographics of our school? Only then can we imagine and plan for a different possible future where that representation is present.

Teaching mathematics involves negotiating one’s practice with colleagues, parents, administrators, students, and at times, community members. Choosing to refuse the status quo is an important option for maintaining our sense of morals, especially given the fact that we will never please all of the aforementioned constituents at the same time. Having political clarity on why we are doing the things we do is important (Beauboeuf-Lafontant, 1999).

I have learned a number of things in helping mathematics teachers develop their Creative Insubordination practices in our current context of high stakes education. First, political knowledge for teaching, including understanding that all decisions are political acts, is as critical as other forms of knowledge that are normally touted as important for teachers to develop (e.g., Pedagogical Content

Knowledge, Mathematical Knowledge for Teaching). Second, Creative Insubordination recognizes that teaching involves training for a marathon, not a sprint. That is, the work of teaching and its effects on students must be developed over time and measured over years, not days. So, focusing on only one or a few things and doing them well is more likely to keep us attentive to the needs of our particular students and our working context and also keep us from burning out on teaching.

For many of the teachers I have worked with, acts of Creative Insubordination are critical for advocating for marginalized students such as emergent bilinguals, students who are Latin@, Black, American Indian, or historically looted because the system is not set up to protect them. However, Creative Insubordination is applicable to all students and is best done as a collaborative and intergenerational approach. That is, when teachers come together in powerful collectives; we can share the workload; buffer each other from attack; inform others of our experiences so individual teachers do not need to reinvent the wheel; and serve as a support network and a reminder for the kind of ethical work that is important in our profession. In considering the kinds of risks this work requires and the rationales that effective teachers use to support such risk taking, they seem to be following the saying, “We act ourselves into new ways of thinking, not the reverse.” That is, much of this work requires deconstruction (unpacking the micro and macro issues that may be hidden in dominant practices) and deep reflection (knowing which principles we stand for). But more importantly, Creative Insubordination requires action on the part of teachers. Our actions, often leaps of faith, can lead to changes in how we think about a given situation in teaching. Luckily, learning how to advocate for our students can help us better advocate for ourselves (e.g., the right to have teacher collaboratives or common planning time). As teachers, we need to continue to look ourselves in the mirror each day and ask, “Am I doing what I said I would do in education when I entered this profession? And, if not, what am I planning to do about that?”

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