In recent decades, a committed group of English studies scholars has participated actively in public debates about education, particularly in relation to the ongoing standardization movement. Among the more notable of these efforts is the *Framework for Success in Postsecondary Writing*, the result of a collaboration between members of the Council of Writing Program Administrators, National Council of Teachers of English, and National Writing Project. With its emphasis on *habits of mind* that are “essential for success in college writing,” the *Framework* seeks to impart disciplinary expertise on the question of what constitutes “college readiness” while simultaneously encouraging relationships between college writing programs, English departments, and K–12 language arts departments.\(^1\) Granted, the *Framework* is not without its critics, as was made clear in a July 2012 *College English* symposium (Hansen; McComiskey; Summerfield and Anderson). But, as Linda Adler-Kassner argued in her plenary address for the 2012 Writing Program Administrators’ (WPA) Conference, scholars are much better off articulating to a broad public what they *want* to see happen in education rather than merely expressing dissatisfaction to disciplinary colleagues about what they *do not* want to see (“The Company(ies)”\(^2\)).

The exigence of this struggle is enormous. Too often, decisions about pedagogy and assessment override the voices of teachers and scholars in favor of other agendas amid the nation’s growing education-industrial complex. In regard to the Common Core State Standards, for example, Doug Hesse contends that the “overall view of writing is out of sync in vital ways not only with professional writing teacher views but also the expansive literate practices currently in play.” Hesse fears that “one

---

**Paul Feigenbaum**, NCTE member since 2006, is assistant professor in the English department at Florida International University, where he teaches rhetoric and composition with a focus on community literacy and public writing. His essays have appeared in *Reflections*, *Community Literacy Journal*, and *Composition Forum*. His first book, *Collaborative Imagination: Earning Activism through Literacy Education*, was published by Southern Illinois University Press (2015).
result will be to widen the gap between writing in school and ‘writing in life,’ in ways that will make many students even more cynical about academic writing” (13). Beyond writing, the standardization movement has broad social justice implications, in that the harmful effects of high-stakes testing have been disproportionately felt by low-income students of color. Pauline Lipman likens this “regime of inspection, testing, probation, and student retention” to a system of “colonial governance” that assumes poor and minority communities are incapable of collective agency and self-determination (58).

In light of these concerns, I seek to consider here how English studies teachers and scholars can fight for the pedagogies they want in partnership with like-minded colleagues in mathematics. After all, mathematics is perhaps the only discipline in American higher education other than rhetoric and composition that people outside the field consistently frame as a service discipline. Further, though it is commonly assumed that fields associated with English and mathematics have little in common, there are several important areas of intersection. As Joanna Wolfe explains in her essay “Rhetorical Numbers: A Case for Quantitative Writing in the Composition Classroom,”

[r]hetoric and composition, literacy studies, and quantitative literacy [. . .] have all embraced the influential ideals of John Dewey, who persuasively argued that civic participation in a democratic society requires a liberating literacy that prepares citizens to think for themselves. They all emphasize communication and reasoning, not as they occur in isolated academic settings but in complex, real-world contexts where individuals must reason through a sea of often contradictory information in order to come to an informed opinion. (454)

Though she does not address these harmonies from an explicitly social justice perspective, Wolfe does emphasize a civic connectedness across disciplines. She also perceives numerous opportunities for interdisciplinary reciprocity, noting that “[q]uantitative argument (including statistics, charts, and numbers) is saturated with rhetoric. We need to move beyond epistemologies that limit rhetoric to something one does with words and extend our rhetorical principles to numerical arguments and their visual representations” (456). Accordingly, she urges a “rhetorical education that examines how numbers are used and invented in the service of argument at public, professional, and personal levels” (455). One can similarly imagine math teachers employing rhetorical concepts to help students understand and use numbers effectively and, one hopes, ethically, as a way to engage audiences through quantitative reasoning.4

More precisely, I propose finding common cause with the Algebra Project (AP), a nonprofit organization whose mission is to use mathematics as an organizing tool to ensure quality public school education for every child in America. We believe that every child has a right to a quality education to
succeed in this technology-based society and to exercise full citizenship. We achieve this by using best educational research and practices, and building coalitions to create systemic changes. (“Who We Are”)

Founded by civil rights leader Robert Moses, who first established his community organizing credentials with the Student Nonviolent Coordinating Committee (SNCC) in the early 1960s, the AP exemplifies an African American tradition of empowering the people most affected by social injustice to make systemic demands for progressive change. As Charles Payne explains of this tradition, “Over the longer haul, concessions from the power structure are ephemeral. If ordinary people aren’t capable of standing up for their own interests, whatever concessions are won today can be withdrawn tomorrow” (“Give Light” 57). Accordingly, the AP prepares young people—that is, those who face the most direct, and most damaging, repercussions of standardization—to stand up for their own interests in the fight for quality education.

To be sure, as education scholar and AP supporter Theresa Perry points out, there is not necessarily universal “agreement of what constitutes quality education” (xi), even among progressives. However, I believe Anne Bernard’s interpretation of the term for UNICEF represents a good starting point.

In all aspects of the school and its surrounding education community, the rights of the whole child, and all children, to survival, protection, development and participation are at the centre. This means that the focus is on learning which strengthens the capacities of children to act progressively on their own behalf through the acquisition of relevant knowledge, useful skills and appropriate attitudes; and which creates for children, and helps them create for themselves and others, places of safety, security and healthy interaction. (qtd. in UNICEF 4)

Rather than emphasizing personal achievement and skill enhancement in isolation from civic engagement, as is typical of mainstream educational discourse, this definition frames individual goals and the communal welfare as complementary pursuits. It also suggests an education system that holistically interweaves academic, recreational, artistic, and civic domains to nurture the physical and mental well-being of each student rather than extracting a few basic skills—notably reading, writing, and math—and discounting the many other textures of human makeup and endeavor. Crucially, calls for pedagogies that support students’ deep and collaborative engagement with writing praxis, that cultivate holistic and generative forms of assessment, and that nurture the Framework’s habits of mind, fall squarely within this understanding of quality education.

Even if we can reach consensus about what quality education means, making it available to all young people still might seem like a pie-in-the-sky goal. But in practice, this fight is best understood as localized, on-the-ground struggles for specific pedagogical approaches and structural changes. Examples include abolishing tracking systems that push low-income students of color into the school-to-prison pipeline
and implementing curricula to prepare everyone for college success (so students can choose themselves what to do after high school rather than having the system choose for them); abolishing passive, rigid, drill-based teaching methods that are habitually inflicted on students from this same demographic and establishing flexible, inquiry-based praxes that invite student ownership of their learning; and equalizing funding between inner-city schools and their suburban counterparts. These are the kinds of local fights for quality education that the AP has waged in various communities for more than three decades.

Therefore, in promoting an interdisciplinary communion of interests and strategies, I exhort progressive English studies teachers to seek out allies in mathematics and to develop hybrid rhetorical-mathematical (or mathematical-rhetorical) curricula, as well as active-learning pedagogies for carrying out and assessing these curricula. As positive steps in this direction, I propose establishing local Rhetoric Project (RP) sites that use rhetoric in ways roughly similar to how the AP uses mathematics. Wherever possible, I further advocate collaborating directly with local AP branches and partner schools in order to cultivate students’ communalist agency and to enhance earlier organizing methods for contemporary contexts. In the following section, I contextualize this call for disciplinary convergence amid our culture’s systemic and widening gaps in access to literacy resources, which, in combination with the imbalanced implementation of high-stakes testing, compound historic obstacles to quality education among low-income students of color. I next explore the AP’s efforts to fight these trends by employing mathematics as a tool for social justice, and then I consider various ways in which mathematics- and rhetoric-focused pedagogies can enhance one another, particularly in regard to twenty-first century media. The article’s final section examines a pilot RP site that undergraduates from my university and I initiated at a local public high school, drawing multiple lessons from this experience in order to postulate ways forward for readers interested in building RP sites of their own.

**RISING DEMANDS, RISING INEQUALITIES**

Both educational standards and the resources designated to meet these standards evolve continually in ways that also reinforce inequity. In their book *Radical Equations*, for instance, Moses and Charles Cobb Jr. emphasize the increasingly prominent gatekeeping function of quantitative literacies. Previously, “Algebra could not stop you from going to college—not having it could hinder you but it couldn’t stop you. And it was okay to be in college unable to do math. People boasted [...] ‘Never could do that stuff’” (13). Whereas today, quantitative literacies play such prominent roles in enabling professional advancement and political participation that young people can no longer afford to dismiss mathematics. Algebra represents one component
of a self-reinforcing cycle in which increasing knowledge and innovation compel increasing levels of intense preparation for young people to prosper, or even tread water, in all kinds of fields and, in turn, to avoid being relegated to the Siberian service-sector outposts of the information age. Within this structure, working-class students who cannot easily access educational resources that are pervasive in more affluent communities experience a compound interest on their disadvantage. For Moses and Cobb, the practical implications of this resource gap are demonstrated by the fact that “large percentages of minority students who get through a high school and get admitted to a college have to take remedial math in order to get to the place where they can even get college credit mathematics courses” (16). In practice, massive numbers of minority students are shunted off to remedial courses for which they receive no real credit—merely permission to remain in college—and that often lead them to drop out altogether.

Moreover, members of the New London Group have examined the increasing interconnectedness of contemporary literacy practices through their concept of multiliteracies, “where the textual is also related to the visual, the audio, the spatial, the behavioral, and so on” (64). They explain that “new communications media are reshaping the way we use language. When technologies of meaning are changing so rapidly, there cannot be one set of standards or skills that constitute the ends of literacy learning, however taught” (64). In turn, “Effective citizenship and productive work now require that we interact effectively using multiple languages, multiple Englishes, and communication patterns that more frequently cross cultural, community, and national boundaries” (64). Of course, as Deborah Brandt points out, the evolution of literacy is not a new phenomenon:

Literacy learning is conditioned by economic changes and the implications they bring to regions and communities in which students live. Economic changes devalue once-accepted standards of literacy achievement but, more seriously, destabilize the social and cultural trade routes over which families and communities once learned to preserve and pass on literate know-how. As new and powerful forms of literacy emerge, they diminish the reach and possibilities of receding ones. (42)

At any given time, certain literacy practices are ascendant in their cultural, political, and economic power while other practices lose value and power.

Historically, shifts in literacy’s circulation patterns have widened the racial and socioeconomic consequences of differential access to education. Catherine Prendergast argues that race relations have to some extent driven the continual heightening of literacy standards over the past century—the result of literacy being claimed as white property—and she offers the sardonic prediction that “the day a gap between Whites and racialized groups on literacy tests ceases to become apparent will be the day state and federal legislatures end their love affair with high-stakes standardized testing for a new and more efficient means to identify literacy as White property”
That is, whenever minorities successfully assert their rights to access literacy education from which they have previously been (explicitly or implicitly) barred—as in the struggle of emancipated slaves to ensure universal public education in the South—standards are raised in order to maintain white advantage. Further, differential access becomes even more impactful as advances in technology accelerate the rising demands of literacy. According to Brandt, the “more that economics play a hand in sponsoring literacy development, the more that racial discrimination in that system hurts literacy development. And in the most vicious of vicious circles, injured literacy development in turn hurts chances for economic improvement” (203). This systematized game of literacy catch-up ensures that, as a rule, poor and minority populations cannot access the most valued literacy practices, because they are always fighting for access to earlier, increasingly devalued forms of literacy, or even to the institutions in which such literacies are taught.

High-stakes testing-based initiatives such as No Child Left Behind (NCLB), which ostensibly advocate the laudable idea that all students should be held to lofty standards and given the tools to meet these standards, represent perhaps the most salient and harmful example of this structural opportunity gap. As James Ryan puts it, “politics […] got in the way” of NCLB’s push to raise standards for everyone, in that “state legislatures cannot afford, either politically or financially, to set truly challenging goals” (241). Because the penalties for failing to meet NCLB’s infamous Adequate Yearly Progress standards were so stringent—putting peoples’ jobs and entire schools at risk—the illogic of the system demanded setting the bar as low as possible. As a result, low-income, inner-city students have endured endless test-preparation drills within schools that continually face the threat of reconstitution or closure, whereas students in middle-class, suburban schools that have little trouble meeting the minimum standards often experience little or no test prep.

Aside from contributing to structural inequity, high-stakes testing undermines other missions traditionally associated with public education. In “failing” urban schools, for example, so much time and energy are directed toward test prep that hardly any remain for other goals such as socializing students and preparing them to be effective citizens (Ryan 155). Increasingly, students are expected to master particular, and stunningly constricted, literacy skills in order to flourish within the knowledge economy, but not to learn how these literacy skills can be put to civic use. Nor need students understand their own place within a complicated and ever-evolving society. Concurrent with these changes, young people increasingly cite economic motivations as the most important, or only, reasons for pursuing education. Rebecca Cox notes that by the time students reach college, large numbers perceive postsecondary education as a means to “acquire credentials to advance career goals,” making college “something to invest in, something people must buy, in the expectation that it will be useful in their career endeavors” (42–43). Standardization, then, has helped
facilitate public education’s transformation into an increasingly market-driven system in which everything depends on individual success and failure. The implicit message encoded in this system is that students should advance their individual academic and professional interests but should not feel called to enhance the common welfare. Or rather, that advancing their individual interests does, in and of itself, enhance the common welfare.

As standardization pervades the American education system, it produces increasingly bizarre and heartbreaking scenarios such as the cheating scandals in Atlanta, Philadelphia, and Washington, DC (Gabriel; Rich and Hurdle; Schwarz; Winerip), while creating greater stress, frustration, disappointment, and anxiety for already harried teachers, administrators, and (especially) students and their families. During her address, Adler-Kassner predicted that such developments will eventually cause the movement to collapse under the weight of its own logical absurdities. These events may indeed come to pass; in the foreseeable future, however, school districts will remain obliged to accept the philanthropic money of standardization hawks such as the Gates Foundation and the Eli Broad Foundation (Ravitch), testing lobbyists will retain preferential access to politicians, and our scientistic culture will remain committed to the idea that statistics can successfully quantify all aspects of human behavior (Sacks). Nevertheless, although progressive teachers may never match the financial resources or political networks of the powerbrokers who bankroll the standardization movement, they can work to cultivate other means for piercing the armor around the education-industrial complex, particularly in local communities. In fact, tremendous bottom-up power is latent within the hundreds of thousands of students who experience the systemic repercussions of standardization year after year. But in order to actualize this power, students must learn to make demands on a system that, as Ella Baker put it, “does not lend itself to [their] needs” (qtd. in Moses and Cobb 19). Toward this end, English studies can learn much from the AP.

**Empowering Youth through Math Literacy**

The Algebra Project began in 1982 at a K–8 school in Cambridge, Massachusetts. Moses, who had pursued both undergraduate and graduate studies in mathematics and the philosophy of mathematics, wanted his eighth-grade daughter to begin learning algebra, which was not part of the school curriculum. Serendipity intervened through a MacArthur Foundation “genius” award, which Moses received in recognition for his earlier civil rights work. The MacArthur award operated as a kind of personal endowment, freeing Moses to teach his daughter and a few other students during school hours. Moses and a growing array of partners spent the following five years gaining “deeper insight into the mind of a student” (Moses and Cobb 102) and devising ways to “apply experiential learning to teaching algebra to middle school
Parental enthusiasm about students’ increasing receptiveness to math led to successful demands for a school-wide expansion of the curriculum and an end to tracking students by their believed capacity to learn math, “which unintentionally but seriously impaired the capacity of students of color and females to learn as well as they might” (99).

Building on these successes, the AP expanded to other schools in the community as it gained support from students, parents, teachers, administrators, activists, and institutional partners—including local colleges and community centers. AP personnel began training both teachers and administrators so that more people could apply the AP curriculum in their classes. After outgrowing the capacity of a local college partner to serve as a fiscal and programmatic headquarters, the AP incorporated as a nonprofit and began initiating programs in other communities throughout the country, including Baltimore, Maryland; Chicago, Illinois; Jackson, Mississippi; Los Angeles, California; Miami, Florida; Washington, DC; and Ypsilanti, Michigan.

The AP specifically targets students scoring in the bottom quartile of standardized tests—that is, those most likely not to graduate on time, if at all. Addressing this commitment in *Radical Equations*, Moses invokes the idea of a literacy floor.

First, it’s the floor, not the ceiling. We’re not trying to put constraints or limits on what any group of children might learn. Second, in many ways the college prep math curriculum is a moving target. It differs from place to place, and it’s changing. So for each school, there’s a local target. My metaphor is that you’re running to get on board the bus. The bus is moving, and you can’t get on it from a standstill position. As your speed begins to approach the speed of the bus, you have a chance of hopping on. (15)

Moses recognizes that the standards students are expected to demonstrate evolve continually as part of a modern-day literacy arms race. The AP’s floor for higher-order math is calibrated to the standards that students in nearby suburban districts are expected to attain.

The AP also insists on implementing its curriculum and distinct pedagogical philosophy in regular math classes, because afterschool programs have limited capacity to initiate curricular change. Students take math together for all four years of high school, and when sufficient local resources are available, they participate in summer and extracurricular programs as well. AP cohorts thus experience ongoing peer-to-peer and peer-to-teacher relationship building that can create strong interpersonal bonds against the individualizing tendencies of mainstream education. For instance, the curriculum’s focus on mutual inquiry and experiential learning is exemplified by the *trip line*, which each new AP cohort creates together after embarking on a physical tour through its community. These tours focus on historical landmarks, especially locations connected to civil rights campaigns. The physical landmarks then become progressively conceptual as students immerse themselves in the abstract thinking that is central to algebraic literacy. Through this process,
benchmark settings become linear and planar coordinates, integers, and variables; geographical distances become displacements; and sentences used to describe physical location become mathematical equations. The AP also strives to “give students the ability to move through doing their own work, asking questions of themselves, and then approaching someone for help when they are ready” (Moses and Cobb 99). In these ways, the AP puts the power to learn “in the hands of the people who are being abused by inadequate education” (Wynne and Giles 149).

Equally important is the fact that the AP organizes “community structures to press for change and to begin to hold school systems accountable to the needs of its constituency,” employing a three-tiered demand system to cultivate youth leadership in local communities (Moses and Cobb 110). AP alumnus Ryan Mason explains that the first is to “appreciate the demands on yourself, so do what you need to do. The second demand is demand on your peers, so set an example through yourself to demand that they do something. The third demand is the demand on the larger society; demand everything that’s around you to make a change” (qtd. in Payne, “Miss Baker’s” 28). This process transforms AP students into Math Literacy Workers (MLWs) who, having made enhanced educational demands on themselves, then work to generate interest, excitement, and understanding about mathematics in younger children. In many cases, MLWs also become advocates for quality education in their communities. In the early 2000s, for example, a cohort of MLWs in Baltimore city schools channeled their anger at systemic funding imbalances into a campaign that forced administrators and politicians to listen to their demands.

Members of this cohort had begun mentoring younger students in local schools, and an impressed city school system agreed to pay the MLWs for this work. Unfortunately, as Payne notes, “when the time came, the system didn’t actually have the money.” He adds, however, that these students “were not simply young people running a tutoring program; these were young people with a sense of history running a tutoring program” (“Miss Baker’s” 5). Putting their knowledge of math to good use, the group researched the school system’s budget, discovering that its dire financial circumstances were connected to the state of Maryland’s failure to satisfy a court-ordered mandate to increase district funding by several hundred million dollars. This research spawned a campaign of protests, teach-ins, and school walkouts. Students also attended a state board of education meeting, seeking to place the secretary of education under citizen’s arrest for, as AP spokesperson Lorne Francis puts it, “two counts of failure to obey a court order and 85,000 counts of reckless endangerment” for the entire student population of the district (qtd. in Payne, “Ms. Baker’s” 5–6). Organizing efforts culminated in the Freedom Fall campaign of 2006, a project directly linking itself with SNCC’s Mississippi Freedom Summer Project of 1964. During Freedom Fall, AP students and their allies raised public awareness about the system’s failure to provide quality education. Ultimately, Payne relates, a
circuit court judge ordered both the city and the state to work with the AP in constructing a funding plan (6–7).

Reflecting on how their involvement with the AP has shaped the Baltimore MLWs, Payne emphasizes their collectivism in defiance of the system’s efforts to create an antagonistic, dog-eat-dog mentality among students. “They are very aware of how the culture they’ve created among themselves differs from the more competitive, put-down culture that often exists among their peers” (“Miss Baker’s” 9). This communalism has guided their efforts to fight against the systematic reinforcement of inequality and for schools, curricula, and pedagogies that nurture the potential of all students. As I examine now, a more explicit hybridization of rhetorical and mathematical curricula could further advance students’ mutual advocacy for quality education.

**Rhetorical Mathematics and Mathematical Rhetorics: Interdisciplinary Affordances for Twenty-First Century Education**

How might rhetoric and mathematics jointly promote progressive educational praxes? Having worked with a Miami-based branch of the AP for several years (Feigenbaum, Douglas, and Lovett), I believe there are clear areas of overlap, especially considering that reading, writing, and math form the primary components of the standardization movement, which also relies on numbers-based argumentation to justify the use of standardized assessments. The mainstream media, for example, regularly report on the latest results of standardized tests, taking these numbers as unvarnished windows into how students are faring—at local levels within individual schools, at national levels as indicated by NAEP scores, and at global levels in terms of how American students compare with international peers on tests like PISA and TIMSS. In turn, education reformers use these statistics to reinforce crisis narratives about American education and complementary demands for ever more accountability and test-focused curricula (Adler-Kassner, *Activist*). Learning how the tests are constructed, what skills and capacities they are supposed to measure, and how statistics are derived from them can equip young people with the understanding necessary to speak back to the purveyors of crisis narratives and, as important, to establish the ethos necessary to be taken seriously as they do so.

Further, as a direct response to the rising demands of twenty-first century literacies, perhaps the greatest potential for interdisciplinary synergy involves multimodal composition, which can be useful in terms of circulating counterhegemonic narratives through digital media and also understanding the mathematics that undergird these technologies. Jenny Edbauer Rice speaks to such potential through her praxis of *logomechanics*. Noting that “the expanding means of production is a key to expanded
rhetorical engagement” (377), Rice argues that mastering the mechanics of digital technologies allows students to become “potential inventors of actions and ideas, rather than the invented products” (378; emphasis original). Rice observes that scholars of rhetoric and composition frequently de-emphasize the mechanics of writing, which they associate with current-traditional pedagogies and the marginalization of their discipline. But for Rice, the mechanics of digital composition create opportunities “to expand our own engagements with the modes of invention and means of circulation” (368) while simultaneously enabling students to “imagine, improvise, and enact the material deployments of meaning and its operation” (372).

Employing logomechanics does not require deep knowledge of the underlying numeric codes and abstract symbolizations that make digital literacies possible, but one can imagine the enhanced rhetorical power students might cultivate by delving into the theoretical principles behind these technologies. Generally speaking, digital literacies exemplify the hybridity of multiliteracies, bringing to life multimodal forms of expression through the binary language of 1s and 0s. Beyond using these facets of the digital infrastructure to create podcasts, videos, Prezies, and websites, students could in the long run reinvent both the software and the hardware that make these twenty-first century forms of communication possible.

Though not the primary focus of her article, Rice touches on the social justice implications of logomechanics through her analysis of a summer youth project in Durham, North Carolina, that “chooses participants who have a desire to share ideas with their community, but who might not otherwise have the opportunity to be heard” (374). In further considering these implications, I argue that the concept of logomechanics complements Writing with Video, a pedagogical praxis that began as an interdisciplinary project of scholars from art and design, education, and writing studies at the University of Illinois at Urbana-Champaign. As explained by Maria Lovett and Joseph Squier, the Writing with Video curriculum asks students to pursue a sequence of multimodal assignments via which they “create links between written language and visual language” and become gradually familiar with the four stages of video production: preproduction, production, postproduction, and editing. Writing with Video thus seeks “to empower students by giving them a diverse package of rhetorical, analytical, and creative skills” (243).

Elsewhere, Lovett et al. stress that Writing with Video’s purpose is less to “produce filmmakers” than to “raise students’ awareness of video as doing rhetorical work” (288). In this way, young people can speak back to ideologies that emerge from mainstream cultural narratives. Echoing the AP’s efforts to challenge individualist ideologies and traditional classroom hierarchies, Lovett and colleagues add that multimodal composition repositions students as “creators, teachers, and co-researchers in the learning process” (295). This praxis “alleviates the educator from feeling responsible for keeping up with technology at every turn: students share
what they know—technically and conceptually” (Lovett and Squier 248). Thus, the turn toward multimodal educational literacy practices can encourage young people to pursue multiple roles as learners, teachers, facilitators, and leaders within various rhetorical contexts that apply multiple communicative mediums.

For Lovett, digital literacies offer special promise for enhancing the agency of marginalized students. She writes, “Rhetorical messages are increasingly constructed using multiple forms and modes, altering every aspect of communication. Interactions with audiovisual materials have become so pervasive,” but “their influence often goes unrecognized—and unquestioned.” Usually, “overwhelming stories and images in the media narrate the experiences and characterizations of others, but these others being depicted never (or rarely) get the chance to show their story back” (emphasis original). People from underserved communities, then, face a “double impression of imagery and representation” through which they are “scripted into stories not of their own making.” But hybridizing the mechanical and critical elements of multimodal literacies enables young people to formulate, edit, and circulate their own narratives, a process facilitated by the advent of social networking, which can enhance political participation as people from distant geographic, cultural, and social locations share messages, tactics, and goals.

A key goal of a rhetorical-mathematical education, then, would be to facilitate students’ transformations, not merely into Math Literacy Workers, but into Rhetoric and Math Literacy Workers who can determine for themselves how their voices will enter the public domain. Consider again the case of Baltimore’s AP. Many of the digital technologies associated with Web 2.0 were only beginning to emerge during this campaign, and one can imagine how the cohort might have used these tools to complement more traditional protest techniques. They could, for example, have built and circulated an educational fact-checking website dedicated to contrasting public statements by city and state officials with their own research about the district budget. In Baltimore and other contexts, one can also imagine students tackling data sets of standardized test scores to challenge mainstream narratives about the decline of American education, demonstrating that differing interpretive frames (and political agendas) can produce different—even mutually contradictory—conclusions from the same data.8 In this way, students can push local and national media outfits to report on standardized test outcomes from a more critical perspective—that is, they can make journalists themselves understand that the use of statistics puts us “clearly in the terrain of rhetoric” (Wolfe 453). These are the ambitious kinds of projects that multimedia-savvy students with a strong background in mathematics and rhetoric, as well as a sense of their communal power to make demands on the system, could undertake together. In the remainder of this article, I want to discuss preliminary efforts to apply this vision in practice and propose how people might build on them.
In fall 2012, three Florida International University (FIU) students—Lissy Torres, Andrew Barrocas, and Gabriel Otero—joined me in establishing a pilot program of the Rhetoric Project at a public high school in a traditionally undeserved Miami community. All three had previously taken a course with me titled Community Writing, which asks students to consider how they can use writing and rhetoric to make a difference on issues that matter to them. Lissy, Andrew, and Gabriel were eager to apply themes from the course outside the university, and I was excited to have these highly motivated and conscientious students help me get the RP off the ground. This partnership also built on my previous experiences with the Algebra Project, in that we would be working with a new first-year cohort of AP students.

This was an admittedly modest venture with limited means. Effecting curricular change will ultimately depend on working with teachers during regular classes, yet in this case the physical distance between the school and university, combined with Miami-Dade County’s infamously poor public transportation, gave us little choice but to operate as an extracurricular program. We paid for our own gas and most of our own materials, and we lacked funds for multimedia resources such as digital recorders and cameras, though we did receive generous support in the form of notebooks and weekly snacks through funds connected to an ongoing partnership between FIU and the Miami-Dade County Public School system.

We also coordinated with a group of veteran Math Literacy Workers who were preparing the younger cohort to circulate math literacy in the community. According to this schedule, an hour of activities facilitated by the MLWs would be followed by a food break and then another hour of activities facilitated by the RP; because the RP contingent had to negotiate rush-hour traffic to get to the school, this extra hour proved critical for the pilot’s feasibility. These arrangements were the best we could manage under the circumstances, but they required the high school students to remain at school for several hours past the end of their last period, which can be difficult to manage in coordination with extracurricular, familial, and work-related demands. As a result, attendance by the high school students was at times inconsistent, but for much of the academic year a revolving crowd of ten to fifteen students participated regularly.

As a pilot program meeting once a week after school, this partnership was very much a work in progress, and we found it difficult to establish prior expectations about what accomplishments might be realistic. We hoped to enhance students’ rhetorical awareness, facilitate their application of rhetoric in real-world situations, cultivate opportunities for collaborative reading and writing, and make use of the mathematics students were learning through the AP. However, on-the-ground realities forced
some revisions to these plans. For example, we had intended to introduce concepts of rhetorical theory such as ethos, logos, pathos, kairos, and exigence, and then to practice these concepts through activities such as mock debates and analyses of how the media typically depicts the students’ community. Instead, the other RP facilitators and I quickly realized that if we were going to ask students to stay at the school for an extra couple of hours, we needed to make the experience as fun and engaging as possible. Although the project was physically located in a classroom on school grounds, we hoped students would perceive the RP as more than an extension of the school day. To that end, we came to privilege rhetorical performance and play, inventing various scenarios—some true-to-life, some more fantastic—for people to negotiate and hoping that discussions of rhetorical theory might emerge from this process. Ultimately, I would not claim that the pilot RP had sufficient time or resources to significantly enhance students’ agency as budding community organizers, but it did enable their creative self-expression in response to numerous rhetorical situations.

In the following sections, I address some lessons from this experience and suggest methods and goals for other potential RP sites.

Theory-through-Play

One of the more popular forms of performance was Power Lines, an activity I learned years earlier working with the Prison Creative Arts Project at the University of Michigan. This exercise engenders a staged power dynamic as people face one another in two lines. One line is composed of people who superficially have the power—frequently a landlord, a teacher, or a parent—and the other is composed of those who are “subordinate.” At the facilitator’s signal, one opposed pair improvises dialogue until the facilitator directs them to stop and the next pair to begin. After each pair has squared off, the power shifts to favor those previously in the subordinate role, ensuring that everyone experiences both sides of the dynamic. In our case, dialogues tended to emphasize melodrama and conflict over accommodation and resolution, because the former (in life and in play) is usually more entertaining. It was also common for students to assert power from the subordinate position, especially those with exceptional aptitude for extemporaneous thinking and verbal dexterity—skills that are undervalued in most educational settings and, during normal school hours, more likely to land one in detention than to attract academic praise.

We mostly used Power Lines as a warm-up exercise to keep students fresh and excited after a long day at school, but this activity could be used for a variety of purposes depending on how overtly political facilitators and students want to be (or have become over time)—particularly in communities with histories of redlined housing, racial strife, and tensions with police. Power Lines could, for example, become a platform for engaging rhetorical theory’s ideological turn. It also offers
opportunities to consider when (or whether) alternative means for negotiating real-life power dynamics, such as Wayne Booth’s concept of *listening-rhetoric*, might be feasible in such situations.

Another example of how play can operate as a conduit to theory involves the board game *Circumstances: The Game of Rhetorical Situations*, which Lissy, Andrew, another FIU student named Thomas Oravec, and I codeveloped. *Circumstances* was modeled in part on *Flagway*, a math-based game created by Moses that is used by MLWs in workshops throughout the country. In *Flagway*, students navigate an intricately designed structure according to rules derived from the Mobius Functions.9 *Flagway* lends itself to activities usually associated with organized sports—such as teams, uniforms, and tournaments—which Moses and Cobb perceive as building a “culture of mathematical literacy” (17) within underserved communities. *Circumstances* was designed along similar lines as a way to nurture a culture of rhetorical literacy.

In our beta version of *Circumstances*, players create avatar game pieces that progress along the board from school to career. Along the way, avatars land on squares that require players to apply concepts such as the methods of appeal as they negotiate a wide range of rhetorical situations. The game advantages certain “fortunate” players over “common” players—that is, the game is inherently unfair. However, although the game “ends” when someone becomes CEO, a postgame debrief session should ensue during which facilitators and participants discuss the playing experience, consider the extent to which the rules are realistic, and devise plans for changing the game’s structure for future play. In typical games, players simply follow the rules as set down by unnamed creators, whereas *Circumstances* encourages students to evolve from game players (who follow the rules) to game critics (who analyze the rules) to game makers (who rewrite the rules). Even in a crude form with all homemade materials, the game seemed to be a hit with the high school students, who asked to play it on multiple occasions, though unfortunately there was never sufficient time for the postgame debriefing. More recently, Lissy, Andrew, and I presented the game at the 2013 NCTE convention in Boston. Based on feedback from our various test runs, we hope to streamline the instructions for constructing and playing *Circumstances*, which we envision as an open-source resource for others to adapt for their own contexts.

**Possibilities for Joint Scholarship**

In pursuing community partnerships, I endeavor to uphold the principles that various scholars of community literacy have articulated over the past couple of decades, particularly Paula Mathieu’s injunction that research projects should develop organically out of preexisting relationships rather than the other way around (63). In other words, scholars committed to the ethical praxi of engaged scholarship must enter
community spaces prepared for the possibility that specific research agendas—defined in the traditional sense of research that is sanctioned by academic bodies and that produces data for mostly academic audiences—may not emerge immediately, if at all. We thus did not begin the pilot RP with a protocol in hand, preferring to allow research questions and methodologies to develop from the collaboration itself. In our case, the partnership did not lead to an official research project. However, I agree with Jeffrey Grabill that the process of cultivating relationships is a critically important (if tragically undervalued) form of research in and of itself. As he explains, “In many ways, building relationships is the most fundamental community-building activity associated with any community-based project,” and he implores scholars and, by extension, institutions of higher education to start taking community building seriously as research (334).

I also advise mindfulness that in many schools, especially in inner-city communities, decisions about whether to partner with external organizations often depend on how successfully such organizations can demonstrate their capacity to raise standardized test scores. Even the most supportive school principal must deal with the constant stress of showing that (officially) no child has been left behind, and thus progressive educational programs will have little power to effect long-term change if they cannot first jump through the institutional hoops necessary to sustain a physical presence in schools. In the short term, then, research projects associated with the RP must account for the realities of high-stakes testing. But such contingencies might actually prove advantageous, for showing a capacity to raise test scores without subjecting students to endless drills could both soothe administrators’ anxieties and build legitimacy for alternative pedagogical practices.11

With these considerations in mind, there are multiple areas of inquiry that might attract mutual interest from school and university representatives. Partners who craft hybrid mathematical-rhetorical curricula could also cogenerate research questions and techniques for measuring learning that might be much more intellectually generative than standardized testing. For instance, do students develop enhanced self-efficacy to understand and use math and rhetoric, and, if so, do these developments feed back into other subject areas? Do such curricula increase the likelihood of students finishing high school and attending college?12 The concept of theory-through-play might also lead to promising research, particularly considering that scholars in various disciplines have emphasized the educational benefits of play (Bodrova and Leong; Diamond; Hirsh-Pasek, Golinkoff, and Eyer). And regarding the progressive implications of these relationships, do jointly mathematical-rhetorical curricula cultivate students’ dispositions toward civic engagement and their sense of power to effect social change?
**FUTURE STEPS**

In spring 2013, Lissy, Andrew, and Gabriel graduated and moved on to other adventures both curricular and extracurricular. Currently, there is no RP program operating at the high school, largely due to ongoing complications related to transportation in Miami-Dade County, though several other FIU students have expressed interest in either reviving the RP at that school or establishing new sites at schools closer to our campus. There is also considerable potential associated with my department’s ongoing development of a writing studies master’s degree, of which the majority of students will likely be local language arts teachers. As the chair of the committee designing this program, I perceive this degree in part as a way to further enhance our university’s relationship with Miami-Dade Public Schools. I will invite graduate students to develop RP sites within their individual classrooms and to build their research around this work. I hope the AP in Miami will also expand to other local high schools, potentially enabling direct collaborations between AP and RP representatives during the regular school day. At first, such partnerships might entail exploring the interconnectedness of math and rhetoric in AP classrooms, but in time, associations with local math teachers might be extended to language arts teachers, enabling cohorts to take their math and language arts classes together.

More broadly speaking, I argue that scholars and teachers fighting for pedagogies that are consistent with their disciplinary expertise should perceive students as their most powerful allies in this struggle. To put it another way, efforts to engage the public about quality education will have little impact if students are not empowered to lead the way. In advocating the Rhetoric Project, then, I support David Fleming’s call to revive a dormant paideutic rhetorical tradition that employs both theory and practice to nurture the “moral and intellectual development of the student, who is seen primarily as a future citizen in a community” (178). For Fleming, such education can “shape and strengthen in [...] students certain ethically framed, action-oriented, intellectual capacities” that include a penchant for iconoclasm, a healthy skepticism of dogma, and a pragmatic resourcefulness in the face of dynamic circumstances (180). All of these qualities, I submit, are crucial for fighting systemic educational inequity. However, where Fleming focuses on the prospects of paideutic rhetoric in undergraduate contexts, I also support Booth’s call to extend rhetorical education into K–12 settings. As Booth puts it, “[O]ur democracy depends on better Rhet-Ed than most of our children now receive” (91; emphasis original). Merging a broadened rhetorical education as envisioned by Fleming and Booth with a mathematical education as implemented by the Algebra Project would further cultivate young people’s power to stand up for their interests against the harms wrought by standardization.
NOTES

1. For instance, the Framework has played a key role in efforts to strengthen ties between the English department at FIU, where I teach, and Miami-Dade County Public Schools.

2. I want to thank Robert Cosgrove, Kelly Ritter, and two anonymous College English reviewers for helping me think through the possibilities for rhetorical-mathematical education in general and the RP more specifically.

3. Not coincidentally, both first-year college writing and mathematics courses are frequently perceived as mechanisms of academic gatekeeping.

4. Though they do not speak explicitly about the possibilities of hybridizing mathematics with rhetoric, educators Marilyn Frankenstein and Eric Gutstein both demonstrate possibilities for building justice-focused inquiry into mathematics curricula.

5. Brandt similarly observes, “Throughout recent history, literacy has often served as a stand-in for skin color in the ongoing attempts to subordinate African Americans” (106).

6. The fortuitous timing of the MacArthur award attests to the unique circumstances of the AP’s origins. Few teachers can expect to receive such significant funding, with no strings attached, particularly during a time when foundations and government agencies increasingly demand quantitative assessments in order to measure change (Gertner). Nevertheless, the MacArthur funding ended in 1987, at which time the incipient AP found itself in the same precarious position that most nonprofits and universities face as they negotiate the complex terrain of public and private funding for their community-based educational interventions.

7. For a detailed account of how the AP moves students through this progressive abstraction, see the appendix to Radical Equations.

8. In her manifesto on quantitative rhetorics, Wolfe offers a fascinating hypothetical example of this scenario, employing fictional standardized test scores to illustrate how several “different narratives” can emerge from the same data depending on “the interpretive level chosen” (465).

9. One can find a basic introduction to the setup and purpose of the game by searching “Flagway” on YouTube.

10. See, for example, Ellen Cushman, The Struggle and the Tools; Paul Feigenbaum, Collaborative Imagination; Linda Flower, Community Literacy and the Rhetoric of Public Engagement; Eli Goldblatt, Because We Live Here; and Elenore Long, Community Literacy and the Rhetoric of Local Publics.

11. For example, Moses and Cobb note that “the AP curriculum is an integrated curriculum. A particular chapter will cover several different topics,” so the challenge has been to convince “teachers and administrators that every objective in the standard course of study is covered in the AP curriculum” (156). Although the AP seeks to end high-stakes testing, sustaining a presence in the schools requires negotiating institutional realities on the ground, and thus the AP endeavors to prepare students for whatever hurdles they must overcome at specific sites. Moses and Cobb explain that at various times and places, high-stakes testing has presented challenges, but in some cases the ability to show improved test scores has opened school doors. At the beginning of the 1988 school year, for instance, the AP sought to expand into three large schools in the Boston area. Skeptical of the AP’s unconventional pedagogy, one principal told Moses, “We’re traditionalists.” But that year “scores in the open program on the citywide algebra exam were the second highest in the system” (106). This outcome “changed the school system’s attitude toward us,” and the principal invited the AP “to launch the project among his sixth graders” (106).

12. The AP has already begun investigating this area. As reported by Joan Wynne and Janice Giles, a National Science Foundation–funded study demonstrated that “AP students in several large cities around the country performed at a higher level when compared to the general population. [...] They enroll in college preparatory courses at twice the rate, and they pass state mathematics exams at significantly higher rates” (150–51).


Wynne, Joan T., and Janice Giles. “Stories of Collaboration and Research within an Algebra Project Context: Offering Quality Education to Students Pushed to the Bottom of Academic Achievement.” Perry et al. 146–66.