Journal of Urban Mathematics Education
July 2013, Vol. 6, No. 1, pp. 19–27

Teaching Mathematics as Agape: Responding to Oppression with Unconditional Love

Joel Amidon
University of Mississippi

In this essay, encouraged by the critical examination of mathematics education and mathematics teacher education at the Privilege and Oppression in the Mathematics Preparation of Teacher Educators Conference, the author asks the question: What do I do from a position of power and privilege to interrupt oppression and enable everyone the opportunity and expectation of success in mathematics and life? The author proposes a response with agape (pronounced ägäpā), or unconditional love. Starting with the question What would it mean to teach mathematics as an act of unconditional love? the author theorizes an ideal relationship between students and mathematics that is functional, communal, critical, and inspirational, generated from wanting to teach mathematics as agape.

KEYWORDS: equity pedagogy, mathematics education

My decision to pursue a career in mathematics education was immediately affirmed by the images of all my white, middle-class, male, mathematics teachers who looked just like me, even down to the thick-rimmed glasses, and the occasional use of a pocket protector. Given that inequity exists in the world, there is no denying that I am sitting on the side of privilege. In response to this realization and encouraged by the critical examination of mathematics education and mathematics teacher education at the Privilege and Oppression in the Mathematics Preparation of Teacher Educators (PrOMPTE[1]) conference, I ask the question: What do I do from this position of power and privilege as a mathematics teacher, researcher, and teacher educator to interrupt oppression and enable everyone the opportunity and expectation of success in mathematics and in life? In this essay, I propose to respond with agape (pronounced ägäpā), or unconditional love. I theorize an ideal relationship between students and mathematics that is functional, communal, critical, and inspirational, starting with the question: What would it mean to teach mathematics as an act of unconditional love?

[1] Privilege and Oppression in the Mathematics Preparation of Teacher Educators (PrOMPTE) conference (funded by CREATE for STEM Institute through the Lappan-Phillips-Fitzgerald CMP 2 Innovation Grant program), Michigan State University, Battle Creek, MI, October 2012. Any opinions, findings, and conclusions or recommendations expressed herein are those of the authors and do not necessarily reflect the views of the funding agency.

JOEL AMIDON is an assistant professor in the Department of Teacher Education at the University of Mississippi, P.O. Box 1848, University, MS 38677; email: jcamidon@olemiss.edu. His research interests include advancing theories of teaching and learning and the improvement of mathematics pedagogy to address issues of equity and diversity.

Agape

Some may ask if agape is appropriate for a field such as mathematics education, or education in general. In response, I quote Paulo Freire (1998): "We must dare in the full sense of the word, to speak of love without the fear of being called ridiculous, mawkish, or unscientific, if not antiscientific" (p. 3). Agape is one of the many Greek words for love, more specifically "unconditional love" (Wivestad, 2008, p. 307), which can be better understood by examining another Greek word for love, eros. Eros is "a love of the worthy" and "desires to possess" (Morris, 1981, p. 128). Agape is in direct opposition to eros, it is a love that is "given irrespective of merit" and "seeks to give" (Morris, 1981, p. 128). Turning back to the guiding question of this essay—What would it mean to teach mathematics as an act of unconditional love?—would imply the teacher "seeks to give" knowledge of mathematics.

Ladson-Billings and Tate (1995) describe mathematics as "intellectual property" all students should have access to, but obviously do not. This notion of "intellectual property" can be likened to Callan's (1995) notion of "common education," which he defines as "a range of educational outcomes—virtues, abilities, different kinds of knowledge—as desirable for all members of the society" (p. 252). Using this definition, it would be accurate to label mathematics as "common property," something "desirable for all members of the society" (p. 252). Denying students access to the common property of mathematics has been equated with being denying access to society—mathematics is a "gatekeeper for citizenship" (Moses & Cobb, 2001, p. 14). This denial leads to the question what does it mean to gain access, or learn mathematics?

Learning as Building Relationship

The traditional mathematics classroom, described by Palmer (1998) as "the dominant model of truth-knowing and truth-telling" (p. 100), is where students are not in a direct relationship with mathematics, but are merely passive receivers of information from the teacher as expert. It is this model that dominates the majority of classrooms and is where the teacher controls access to the common property of mathematics. Mathematics, in the form of procedures and examples, is distributed to the students in static, regulated doses dictated by what is on the next page of the textbook and students are passive receptacles for such doses (see Freire, 1970/2000, for a detailed critique of this model of education, which he calls the "banking concept" of education). Thus, the working assumption of this essay is to reject "the dominant model" and presume the classroom as a relational space with the key players as the students, the teacher, and mathematics.

A classroom as relational space is reflected in Lampert's (2001) description of the "problem space" of teaching, and what Lave and Wenger (1991) describe

as a "community of practice." A comparable perspective is what Palmer (1998) describes as a "subject-centered" classroom where the teacher and students are in a direct relationship with mathematics and each other. Learning within this space would be described as moving more central within the community of practice by strengthening the relationship between the subject and the knower (Lampert, 2001; Palmer, 1998). This model suggests that the teacher and students are constantly interacting with mathematics as an entity to relate to and understand, and not just a set of examples and procedures. This relationship with mathematics is thus a product of the processes and products (Udvari-Solner, Villa, & Thousand, 2005), which a teacher initiates in the problem space of teaching (Lampert, 2001).

Teaching Mathematics as Agape

In this section, I attempt to provide a probable answer to the driving question using the lens of agape, and the idea that learning mathematics is about developing a relationship with mathematics. In my search for a response, several equity pedagogies were reviewed and organized into four emerging facets of the ideal relationship that teaching mathematics as agape might promote: functional, communal, critical, and inspirational.

Relationship is Functional

To proclaim to teach mathematics as agape implies promoting a relationship between students and mathematics that is functional, meaning students can work with mathematics to achieve success as defined by society. This "success" can be equated to scoring well on high-stakes tests (Gutstein, 2006), graduating from high school, being accepted to college, and/or being hired in a mathematically related profession (Frankenstein, 1990; Gutstein, 2006).

The label *functional* is borrowed from North's (2009) investigation of social justice teachers, where she defines "functional literacy" as the competencies that students need to access the opportunities of society. Gutstein (2006) also defines functional literacy as "the various competencies needed to function appropriately within a given society" (p. 5). In addition, Gutstein describes "classical knowledge" as "specific competencies students need to pass gate keeping tests and to pursue advanced mathematics and mathematically related careers" (p. 203). Other labels for this facet are "dominant mathematics" (Gutiérrez, 2007) as "aligning with society" (p. 40), "math literacy" (Moses & Cobb, 2001), and "academic achievement" (Ladson-Billings, 1994, 1995). What these labels have in common is the demand that an approach to teach mathematics must facilitate students' success as society has defined it. The teacher does not have to agree with this definition, but as Ladson-Billings (1995) states: "Students must achieve. No

theory of pedagogy can escape this reality" (p. 475). But what if society's definition of success does not align with the student's definition of success?

For instance, Carraher, Carraher, and Schliemann's (1985) classic study describes children from the streets of Recife, Brazil who were able to accurately execute computations in the streets selling fruit, but when asked to do similar mathematical practices in a school environment they were unable to demonstrate the same proficiency. The children's relationship with mathematics in the streets could be described as functional, but in the classroom it was not functional. One solution to this problem would be to do as Lampert (2001) suggests and explicitly teach them how to participate in the classroom environment. Alternatively, there can be movement toward connecting the students' ways of participating in the world with how they participate within the mathematics classroom. To teach mathematics as agape, it would be logical to embrace who the student is and the communities and cultures that they participate in as assets for instruction, and not deficits to overcome. This perspective calls for another facet to the relationship between students and mathematics.

Relationship is Communal

To proclaim to teach mathematics as agape implies promoting a relationship between students and mathematics that is communal, meaning students can work with mathematics in the contexts and through the practices of the students and their communities. This facet goes far beyond finding engaging contexts for "word problems" but, as Paris (2012) describes with respect to culturally sustaining pedagogy, supporting students in "sustaining the cultural and linguistic competence of their communities while simultaneously offering access to dominant cultural competence" (p. 95).

The belief that the classroom should incorporate the day-to-day lives of students to bring relevance to educational objectives and activities can be found in several places within the literature (e.g., Civil, 2007; Emdin, 2013, Ladson-Billings, 1994; Paris, 2012; Udvari-Solner, Villa, & Thousand, 2005). As a part of culturally relevant pedagogy, Ladson-Billings (1995) describes "cultural competence" as creating a classroom environment where a student can achieve academically without having to sacrifice their cultural identity. Gutiérrez's (2007) definition of equity calls for a coordination of "efforts to get marginalized students to identify with "dominant mathematics" (p. 38). A similar notion can be found in teaching mathematics for social justice as promoting "community knowledge" that is defined as "knowledge of … community life in all its complexity, and of perspectives and interpretations of the world" (Gutstein, 2006, p. 201; also see 2003). This communal knowledge also can be equated with acknowledging and employing the "funds of knowledge" that exist in the community, and to use this

knowledge or competence as context and motivation for facilitating the use and development of other types of knowledge (Gonzales, Moll, & Amanti, 2005).

To facilitate a relationship between students and mathematics that is communal would not be limited to utilizing community contexts, but, as alluded to, would include connecting the students' ways of participating in the world with valued ways of participating in the classroom community of practice. Boaler (2007) compared two schools with different pedagogical approaches, one used an "open-ended, project-based approach" and the other used a "traditional, procedural approach" (p. 29). When comparing outcomes from the two schools, the female students scored significantly lower than the male students at the school with the traditional, procedural approach. In addition, female students at the school using the open-ended, project-based approach were "significantly more positive and confident" (p. 29) than the female students at the other school. Such results could suggest that using the traditional, procedural approach (equated with the commonly understood mathematics classroom) would not be teaching mathematics as agape.

If teachers are not actively looking for ways to incorporate students' means of participation into the set of valued classroom practices, then they are ignoring how students participate and/or may perceive students as not participating. The literature describes segments of the student population (specifically African American students) as disproportionally represented in the special education population, segregated from the regular education classroom, and further denied access to the common property of mathematics (Blanchett, 2006). This denial is in direct opposition to the work of Emdin (2013) who names hip-hop cultural practices that are in direct alignment with the valued practice of scientific argumentation. This contradiction further necessitates that teaching practice be shaped to facilitate a communal relationship between students and mathematics to counteract documented inequities and sustain cultural practices (Paris, 2012).

It would be a significant accomplishment to facilitate a relationship between all students and mathematics that is functional and communal. But if all that is accomplished is more people are inserted into a system that produces inequities, then we are just perpetuating the current system (Apple, 1992) or doing something that "serves the reproductive purposes (i.e., maintaining the status quo) of the dominant interests in society" (Gutstein, 2006, p. 5). Perpetuating a system that marginalizes people would fall short of teaching mathematics as an act of unconditional love that seeks to give the common property of mathematics to all students. The system needs to be changed, which calls for another facet to the relationship between students and mathematics.

Relationship is Critical

To proclaim to teach mathematics as agape implies promoting a relationship between students and mathematics that is critical, meaning students can work with math-

ematics to analyze and question the world. This facet of the relationship between students and mathematics suggests that nothing escapes the assessment, including the students, the mathematics, and the system that they are a part of (Gutiérrez, 2007; Martin, 2003).

Using mathematics to question and analyze the world is found in several places within the literature. Earlier, Gutiérrez's (2007) definition of "dominant mathematics" was presented as "aligning with society" (p. 40). The counterpart that aligns with this facet of the relationship between students and mathematics is "critical mathematics," which is about "exposing and challenging society" (p. 40). The "critical" component of culturally relevant pedagogy is achieved when teachers prompt students to "recognize, understand, and critique current social inequities" (Ladson-Billings, 1995, p. 476). Similarly, North (2009) would describe this critical component as "critical literacy," and Gutstein (2003, 2006) as "critical knowledge," a component of teaching mathematics for social justice, which is "knowledge of how to read the world with mathematics … knowledge beyond mathematics that students need to understand their sociopolitical context" (2006, pp. 202–203).

For example, Wager (2010) presented the story of Caroline, a teacher concerned with teaching mathematics more equitably, who had reservations about teaching mathematics with a critical and/or social justice context. Caroline stated: "'I think that the thing about not presenting our world as a big problem is so important'" (p. 88). Caroline ties this statement to her own practice by relating the story of a student who began crying after completing a project on global warming (Wager, 2008). Was the global warming project strengthening the relationship between this particular student and mathematics? Will students who work with mathematics to expose the problems of the world continue to work with mathematics?

Some students who are confronted daily by the problems of the world may find the opportunity to work with mathematics to understand their own struggles liberating. However, the account from Caroline's teaching practice (i.e., the student who cried after the global warming project) suggests the opposite for students who may be sheltered from such problems. Either way, promoting a relationship between students and mathematics that is critical needs to be balanced with something. The aim is not to generate students (or teachers) who are disillusioned or frightened by the inequities and problems of the world, but rather students (and teachers) who are confident that change can occur, and to equip them to be instruments for such change. So, given the brokenness of the world, and the litany of problems that can be identified, what is the means for fueling the effort to keep moving forward? This calls for a final facet to the relationship between students and mathematics.

Relationship is Inspirational

To teach mathematics as agape implies promoting a relationship between students and mathematics that is inspirational, meaning students can work with mathematics to vision and move toward a better world. Gutstein (2006) describes "writing the world with mathematics means using mathematics to change the world" (p. 27), but change to what?

If mathematics is used to analyze and critique society, then a vision is needed of an ideal society, and mathematics needs to be part of that vision. North (2009) calls this "visionary literacy," which she describes as "developing a story for our personal lives and the world that we can not only tolerate but also desire: doing our best to realize that story through concrete, human, and therefore, imperfect actions" (p. 151). As a world that we can not only tolerate but also desire, Gutiérrez (2007) offers what equity could look like:

- Being unable to predict students' mathematics achievement and participation based solely upon characteristics such as race class, ethnicity, gender, beliefs, and proficiency in the dominant language. (p. 41)
- Being unable to predict students' ability to analyze, reason about, and especially critique knowledge and events in the world as a result of mathematical practice, based solely upon characteristics such as race, class, ethnicity, gender, beliefs, and proficiency in the dominant language (p. 45).
- An erasure of inequities between people, mathematics, and the globe. (p. 48)

Gutiérrez has named the target of her concrete, human, and therefore, imperfect actions by working with mathematics to define her ideal. This perspective is an example of how a relationship between students and mathematics that is inspirational can be used to vision, and move toward, a better world.

Conclusion

I began this essay with the realization of the fact that students need mathematics to have access to academic and economic opportunities, the problem of segments of students being denied access to the common property of mathematics, the inspiration of the proceedings and participants of the PrOMPTE Conference, and the question: What would it mean to teach mathematics as agape? Teaching mathematics as agape implies a desire to give access to the common property of mathematics in the form of a relationship with mathematics. What emerged were four facets to that relationship, calling for students to work with mathematics to achieve success as defined by society (functional), in the contexts and through the practices of the students and the students' communities (communal), to analyze

and question the world (critical), and to vision and work toward a better world (inspirational).

Similar to most approaches to teaching more equitably, they remain conjecture until they are attempted in the classroom, and the associated practices can be studied and compared to what is described as the ideal. An appropriate step would be to study the facilitation of the described relationship, and the associated facets, thus the next logical question: What does teaching mathematics as agape look like in practice? Stay tuned…

References

Apple, M. W. (1992). Do the standards go far enough? Power, policy, and practice in mathematics education. *Journal for Research in Mathematics Education, 23*, 412–431.

Blanchett, W. J. (2006). Disproportionate representation of African American students in special education: Acknowledging the role of white privilege and racism. *Educational Researcher, 35*(6), 24–28.

Boaler, J. (2007). Paying the price for "sugar and spice": Shifting the analytical lens in equity research. In N. S. Nasir & P. Cobb (Eds.), *Improving access to mathematics: Diversity and equity in the classroom* (pp. 24–36). New York, NY: Teachers College Press.

Callan, E. (1995). Common schools for common education. *Canadian Journal of Education, 20*, 251–271.

Carraher, T. N., Carraher, D. W., & Schliemann, A. D. (1985). Mathematics in the streets and in schools. *British journal of developmental psychology, 3*, 21–29.

Civil, M. (2007). Building on community knowledge: An avenue to equity in mathematics education. In N. S. Nasir & P. Cobb (Eds.), *Improving access to mathematics: Diversity and equity in the classroom* (pp. 105–117). New York, NY: Teachers College Press.

Emdin, C. (2013). The rap cypher, the battle, and reality pedagogy: Developing communication and argumentation in urban science education. In M. L. Hill & E. Petchauer (Eds.), *Schooling hip-hop: Expanding hip-hop based education across the curriculum*. New York, NY: Teachers College Press.

Frankenstein, M. (1990). Incorporating race, gender, and class issues into a critical mathematics literacy curriculum. *The Journal of Negro Education, 59*, 336–347.

Freire, P. (1998). *Teachers as cultural workers: Letters to those who dare to teach*. Boulder, CO: Westview Press.

Freire, P. (2000). *Pedagogy of the oppressed.* (M. B. Ramos, Trans.; 30th anniv. ed.). New York, NY: Continuum. (Original work published 1970)

Gonzales, N., Moll, L., & Amanti, C. (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Mahwah, NJ: Erlbaum.

Gutiérrez, R. (2007). (Re)defining equity: The importance of a critical perspective. In N. S. Nasir & P. Cobb (Eds.), *Improving access to mathematics: Diversity and equity in the classroom* (pp. 37–50). New York, NY: Teachers College Press.

Gutstein, E. (2003). Teaching and learning mathematics for social justice in an urban, Latino school. *Journal for Research in Mathematics Education, 34*, 37–73.

Gutstein, E. (2006). *Reading and writing the world with mathematics: Toward a pedagogy for social justice*. New York, NY: Routledge.

Ladson-Billings, G. (1994). *The dreamkeepers: Successful teachers of African American children*. San Francisco, CA: Jossey-Bass.

Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*, 465–491.

Ladson-Billings, G., & Tate, W. F. (1995). Toward a critical race theory of education. *Teachers College Record, 97*, 47–68.

Lampert, M. (2001). *Teaching problems and the problems of teaching*. New Haven, CT: Yale University Press.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, United Kingdom: Cambridge University Press.

Martin, D. (2003). Hidden assumptions and unaddressed questions in mathematics for all rhetoric. *The Mathematics Educator, 13*(2), 7–21.

Morris, L. (1981). *Testaments of love: A study of love in the Bible*. Grand Rapids, MI: WB Eerdmans.

Moses, R. P., & Cobb, C. E. (2001). *Radical equations: Math literacy and civil rights*. Boston, MA: Beacon Press.

North, C. E. (2009). *Teaching for social justice?: Voices from the front lines*. Boulder, CO: Paradigm.

Palmer, P. (1998). *The courage to teach*. San Francisco, CA: Jossey-Bass.

Paris, D. (2012). Culturally sustaining pedagogy: A needed change in stance, terminology, and practice. *Educational Researcher*, *41*(3), 93–97.

Udvari-Solner, A., Villa, R. A., & Thousand, J. S. (2005). Access to the general education curriculum for all: The universal design process. In R. Villa & J. Thousand (Eds.), *Creating an inclusive school* (2nd ed.). Alexandria, VA: ASCD.

Wager, A. (2008). *Developing equitable mathematics pedagogy.* (Unpublished doctoral dissertation). University of Wisconsin - Madison, Madison, WI.

Wager, A. (2010). Teacher positioning and equitable mathematics pedagogy. In M. Q. Foote (Ed.), *Mathematics teaching & learning in K–12: Equity and professional development* (pp. 77–92). New York, NY: Palgrave.

Wivestad, S. (2008). The educational challenges of agape and phronesis. *Journal of Philosophy of Education, 42*, 307–324.