A Critical Examination of Learning Disabilities in Mathematics:
Applying the Lens of Ableism

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Introduction

Background and Rationale

Over half of the students who receive special education services are labeled as learning disabled (LD); they comprise approximately five to six percent of the entire K-12 student population (Hehir, 2005). Most students are labeled LD in reading; however, approximately twenty percent are either labeled as LD in mathematics or LD in both reading and mathematics (G. Williamson, personal communication on March 9, 2006). Therefore, it is likely that one in every one hundred students in American public schools carries the label of LD in mathematics.

Many may perceive one percent to be a small and insignificant slice of the K-12 population and may wonder why I would choose to focus my inquiry on such a small group of students. My response is three-fold. First, federal legislation such as the *No Child Left Behind Act* (NCLB, 2001) and the *Individuals with Disabilities in Education Act* (IDEA, 2004) require us to pay attention to the quality of all students' education and (probably more so) their academic performance. Second, not much literature exists in mathematics education on this topic. As a field, we have published mathematics education work relating to race, gender, and socioeconomic status, but on the subgroup of special education, particularly students carrying the label of LD in mathematics, we remain largely silent. Lastly, the social, emotional, educational and political realities for those involved—the labeled student him/herself, his/her

parents, the labeled student's general education mathematics teacher as well as his/her special education teacher, the administrators and in fact the labeled student's entire school—are extremely significant. I am deeply concerned with issues of equity and the power differentials inherent in our society, and I want our schools to seek ways to eradicate practices in mathematics education that privilege some at the expense of others.

Theoretical Perspective

In this article, I apply a *critical pedagogy* (Kincheloe & McLaren, 1994; Freire, 1997) perspective looking through the lens of *ableism* (Rauscher & McClintock, 1977; Hehir, 2005) to examine current educational policy, research and practice regarding the identification of and labeling of students as LD in mathematics. Kincheloe and McLaren (1994, p. 453) state, "inquiry that aspires to the name *critical* must be connected to an attempt to confront the injustice of a particular society or public sphere within the society." A *critical pedagogy* perspective, then, seeks to uncover hegemonic (power) relations, ideologies, and inequities in education, critique instrumental rationality, and inspire a movement for change toward social justice. The following are assumptions from a critical pedagogy perspective that are pertinent to this article:

1. Acknowledging schooling as a form of cultural politics that endorses only particular forms of knowledge, thus creating a dominant group of successful knowers and "others" (Brantlinger, 1997, 2001);

2. Challenging the traditional view of education as a neutral and just process, and instead, recognizing it serves as an "oppressive social structure" (Freire, 1997) for some students;

3. Believing that "self and social empowerment should precede mastery of technical skills tied to the marketplace" and that educators should "attempt to see and experience education from the perspective of those who are not dominant and work towards positive social change" (Pasco, 2003, p. 5).

Hehir (2005) discusses how the ideology of ableism negatively affects the education of children labeled with disabilities and urges educators and policymakers to focus on making just and equitable decisions about the policies and practices that support the educational, emotional and social progress of individual children. In his book on eliminating ableism, he utilizes (and in this paper I adopt) the following definition for *ableism*:

> Ableism is a pervasive system of discrimination and exclusion that oppresses people who are perceived to have cognitive, emotional, and/or physical disabilities. Deeply rooted beliefs about health, productivity, beauty, and the value of human life, perpetuated by the public and private media, combine to create an environment that is often hostile to those whose cognitive, emotional, physical and/or sensory abilities fall out of the scope of what is currently defined as socially acceptable. (Rauscher & McClintock, 1997, p. 198)

Many might envision ableism as applied to mathematics education as the process of providing opportunities for or *enabling* a child to learn mathematics and become a more powerful mathematician. First, to be clear, what I mean by a "more powerful mathematician" has less to do with the ability to follow procedures or conventions and more to do with investigating relationships between ideas and then communicating and justifying one's thinking to others. Second, in this article I am not referring to *enabling* a child to become a more powerful mathematician. Instead, following Rauscher & McClintock (1977) and Hehir (2005), I am referring to ableism as a deliberate act of exclusion and discrimination. It entails those in a position of (political, economic, and/or educational) power narrowly defining what society and educators are to consider as acceptable "school mathematics" as well as acceptable evidence for students' demonstration of proficiency in school mathematics. These narrow (socially and politically constructed) definitions serve to create categories or "boxes" (Brantlinger, 1997) into which students are placed; some are considered to be "able" or "capable" in school mathematics and some are not. Those who are deemed "able" are privileged by the system, while those who are deemed "not able" or "disabled" are marginalized. Hence, *ableism* is a discriminatory system of societal values and beliefs (about mathematics and proficiency in mathematics) that privileges some students at the expense of others.

What follows is organized into three main sections examining: (1) current research and policies on the identification and labeling of students as LD in mathematics through the lens of ableism; (2) current practices of teaching mathematics to students who carry the label of LD in mathematics through the lens of ableism; and (3) what mathematics educators can and should do to eliminate ableism in their classrooms and schools. I caution the reader that what I present necessarily passes through my own bias and interpretation.[1] For this reason, I make every effort to support my inferences with citations from respected researchers and their empirical or theoretical work.

Current Research and Policies on Identifying Learning Disabilities in Mathematics

The Special Education Divide: Traditionalists versus Radicalists

Hallahan and Mock (2006, p. 16) described the history of the field of LD chronologically. They called the last period the "Turbulent Period (c. 1985-2000)," because it was marked by heated debate among special educators regarding the issues of LD existence, definition and identification. They noted the field was (and still is) "wrestling with the debate between modernism and postmodernism," where "the modernism view subscribes to a medical model that places the locus of the disability within the individual…[and] look[s] to empirical research to validate teaching practices…[that will] enhance learner functioning and reduce differences" (p. 27). Alternately, the postmodernists "view disability as a social construction based on incorrect, immoral assumptions regarding difference. They seek to create a caring society that values and accepts differences of any kind" (p. 27). While different authors have utilized a variety of terms to describe each side of the Special Education Divide, I prefer Brantlinger's (1997, p. 430) categories of "traditionalists" and "radicalists" because those terms concisely capture the perspective each holds for the field of LD.

Currently, federal legislation such as the *No Child Left Behind Act* (NCLB, 2001) supports and funds practices grounded in "scientifically-based" (USDOE, 2005) research that utilizes experimental or quasi-experimental methods. The *Individuals with Disabilities Act* (IDEA, 2004) makes explicit a definition of LD that acknowledges its existence as a disorder *within* the individual. U.S. laws specify "which conditions will be treated as disabilities…as well as whether and/or how such conditions will be accommodated in schools" (Rice, 2002, p. 170). For these reasons it is clear that at the present time the federal government embraces a traditionalist view of special education (Rice, 2002). Additionally, in my personal experiences both as a mathematics educator and school administrator in K-12 public schools, the policies and practices that permeated the schools at which I worked also embraced a traditionalist view of special education. The current reality is that if public schools intend to receive federal funding, they are largely constrained by NCLB and IDEA, which require them to follow and practice traditionalist views. For these reasons I restrict my examination of the policies, research and practices on the labeling of students as LD in mathematics to that of the traditionalists' paradigm (as opposed to examining both the traditionalists' and the radicalists' perspectives). It is this view that is most

widely embraced by federal, state and local education agencies as well as practiced by special educators in schools.

Locating and Labeling a Learning Disability in Mathematics

Officially, since 1977 a learning disability in mathematics has been identified by experts in the field of special education and the federal government (through legislation such as IDEA [2004]) as an "intra-individual variability" representing a discrepancy between the child's intelligence (IQ) and his/her mathematical achievement, as measured on norm-referenced assessments. The required discrepancy, sometimes referred to as "unexpected underachievement" (Fletcher et al., 2006, p. 30), is usually around fifteen points, although the number varies from state to state and even from district to district within the same state. In other words, if the student's achievement on a normative mathematics assessment is at least fifteen points below his or her IQ, then the student exhibits "unexpected underachievement" in mathematics and is often labeled as LD in mathematics. The IQ-achievement identification model has dominated special education research and policy since the 1970s.

However, research over the past fifteen years has not provided evidence that "IQ discrepancy demarcates a specific type of LD that differs from other forms of underachievement," nor has it found that "children with 'expected' forms of achievement differ from those with 'unexpected' underachievement beyond the identification criteria" (Fletcher et al. 2006, p. 31). Many refer to the IQ-achievement model as "wait-to-fail" because "the child must first fail to learn the material that his intelligence would indicate he should be able to learn before he can establish eligibility for special education services" (Hehir, 2005, p. 30). Hence, some traditional researchers in the field of special education now feel that this identification model is "ineffective, inefficient, irrational, immoral and indefensible" (Carnine, 2003, p. 10).

These researchers now propose a new method of identifying learning disabilities, called response to intervention (RTI), which uses "informed clinical judgments, [is] directed by relevant data, and [is] based on students' needs and strengths" (Carnine, 2003, p. 4). The RTI model relies on providing at-risk students with early intervention in reading and/or mathematics and carefully monitoring the students' responses to such "special" instruction. Under this model, those students who do not respond to intervention would be eligible for LD identification (Carnine, 2003). The 2004 reauthorization of IDEA allows states the flexibility to identify LD via either the IQ-achievement or the RTI model. The law also permits up to fifteen percent of funds earmarked for special educa-

tion to be used for early interventions with general education students considered to be at-risk (Hehir, 2005).

Regardless of the identification model to which they ascribe, traditionalists are likely to agree on the following core assumptions regarding the labeling a child as learning disabled in mathematics:

> 1. The obstacle—a learning disability or disorder—is located within the child's brain and it impairs the child's ability to understand mathematics. "Certain students have disorders in one or more of the basic psychological processes involved in understanding or in using language which may manifest itself in an imperfect ability to do mathematical calculations" (Carnine, 2003, p. 1).
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> 2. There is a need to define "normal" or "ideal" learning and achievement in mathematics. "Those who vary below the norm or ideal (and who do not respond to interventions) may be learning disabled" (Fletcher et al., 2006, p. 34).
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> 3. Diversity from "the norm" is problematic in school and in society. Those exhibiting significantly low achievement or "deficits in cognition" are in need of special education services and "training regimens for the remediation of these deficits" (Hallahan & Mock, 2006, p. 26).

Applying the Lens of Ableism to Traditional Special Education Research and Policy

The label of LD in mathematics has been socially constructed (Rice, 2002) through a narrow vision of what counts as acceptable mathematics and what counts as acceptable ways of demonstrating proficiency in mathematics. These narrow views are propagated by a society that is fixated on normalizing populations and standardizing education. Special educators have "embraced the construct of intelligence" (Reid & Valle, 2004, p. 469). There is a prevailing premise that all children should be at least average and students who fall below the standard deviations that surround the statistical average should be labeled as at-risk or LD (Brantlinger, 2004). However, by the very nature of distributing a population normally (e.g., applying a Bell Curve), some students will always exist in the "below average" stanines. It is impossible for all of the population to be "average" or "above average." This normative process of identifying students who are able in (a narrowly defined) mathematics inherently embraces "domination through 'Othering'," where the dominant group "considers itself normal and able" and the "Others become abnormal and disabled" (Brantlinger, 2001, p. 1).

Brantlinger (2004, p. 491) proposed, "instead the norm of…variation should be expected." What is the rationale behind measuring how far students vary from a norm? Who benefits from such practices? The process "delimits its questions to 'how to' instead of 'why should'" (Kincheloe & McLaren, 1994, p. 438).

I claim one answer is that the institution of school benefits. The concept of labeling an Other as LD is understandable only in the context of schooling, where it was created to serve a purpose (Berger & Luckman, 1966; Varenne & McDermott, 1999). Locating the learning obstacle within the brains of the individual student offers the school a convenient explanation for student failure. It sways the spotlight of responsibility away from the school by offering an explanation that does not call instructional practices into question. It serves to absolve the school of the need to reflect upon and possibly alter the environments (physical, social, emotional and academic), in which the child's learning experiences take place. The fault is placed within the child rather than within the schooling system. Using this perspective, identifying children as LD in mathematics "can be viewed as the means by which the failure of the system and the exclusionary pressures within it are transformed into the failings of students" (Booth, 1998, p. 83).

The construct of LD was borne from and is sustained by pervasive cultural and historic ideologies of schooling, including individualism (effort and ability) and competition with others (McDermott, 1993; Dudley-Marling, 2004). Schools are the primary means for inculcating American culture in children (Reid & Valle, 2004). The assumption is that success in school mathematics is achieved through an individual's effort, ability, and hard work. When students do not succeed in mathematics, it is because of *their* internal *dis*ability rather than to factors related to the learning context and environment, such as a mismatch between the learner and the task, conceptually fragile curriculum and/or instruction, inadequate social and emotional support structures, etc. When a child's ways of "doing school" are "noticeably different from that of the school, educators may question a child's…competence and use standardized tests to 'diagnose disability'" (Reid & Valle, 2004, p. 469). Thus, "dominant ideological practices and discourses" in schools become rituals that serve to "shape our vision of reality" and sustain the status quo (Kincheloe & McLaren, 1994, p. 440). Thomas Hehir (2005, p. 9) offered the following pertinent questions for us to ponder:

> Is our role simply to comply with law or to comply with the spirit of the law? Are we providers of service, or do we produce results?….Are the only important results of our efforts performance on standards-based tests, or do we have a more robust agenda? Do we accept dominant

negative societal attitudes toward disability, or do we seek to change the world through education?

Let us not forget that locating the obstacle within the child also legitimizes the necessity for an army of special education school personnel, including special education teachers, paraprofessionals, school psychologists, and speech and language therapists. "Being identified with a learning disability entails being channeled into the huge social services apparatus, whose various agencies try to provide for different perceived needs….Once in the social services system, legal guidelines steer an individual's passage through every turn" (Rice, 2002, p. 179). It is assumed that these professionals and guidelines are needed in order to provide "special" (not regular) services and interventions to "special" (not regular) children.

Additionally, while parents have the legal right to participate in special education case conferences and decision making, they "enter an already ongoing drama in which the principal players speak the elaborate language of science and law and, more often than not, offer mere walk-on roles" to the parents (Reid & Valle, 2004, p. 475). While borne from intent to support struggling students and thus meant to be "productive aspects of power" (Kincheloe & McLaren, 1994, p. 439), special education guidelines and practices often serve as "oppressive acts of power" (Kincheloe & McLaren, 1994, p. 439) that encourage labeled students and their parents to "consent to domination" (Kincheloe & McLaren, 1994, p. 439) in order to receive what is perceived as educational assistance.

The Practices of Teaching Mathematics to Students Labeled LD in Mathematics

Which Classroom—Special Education or General Education?

Under IDEA (2004), students receiving special education services are to be educated alongside their non-disabled peers to the fullest extent possible, as determined by the case conference committee; this is referred to as the least restrictive environment (LRE). However, the core assumptions of traditionalists include an affinity for a positivist view of LD in mathematics focused on intervention. The task of the special educator, then, is to offer the child intensive intervention in an attempt to remedy or, at least, lessen the child's learning disorder. Many traditionalists believe that students labeled LD in mathematics require highly directed, explicit, step-by-step instruction in procedures and problem solving (Baxter et al., 2002; Fuchs et al., 2002) and that mastery of basic skills and procedures must precede higher-order con-

ceptual thinking. Therefore, students labeled LD in mathematics are often pulled-out (removal from the general education classroom) or pulled-aside (within the general education classroom but not working alongside his or her non-labeled peers) for mathematics instruction. The United States Department of Education (USDOE, 2000) reported students labeled as learning disabled received special education services outside the regular classroom in the following degrees:

- 44.3% of students labeled LD were pulled out for less than 21% of the school day;
- 40.3% of students labeled LD were pulled out between 21-60% of the school day; and
- 14.4% of students labeled LD were pulled out for more than 60% of the school day.

Unfortunately, for large numbers of students labeled LD, neither the regular education nor the special education classroom seems to be meeting their needs (Hehir, 2005). Vaughn, Gersten, and Chard (2000) found that elementary children labeled LD (in reading and/or mathematics) received pull-out special education instruction in large, multiage groups that were characterized as predominantly non-differentiated. Hehir (2005) pointed out that those students labeled with LD receiving instruction in the general education classroom fared no better; they "did not receive many accommodations or much support," and "were more likely to fail and drop out of school" (p. 32).

What Type of Instruction Is Needed?

Woodward and Montague (2002, p. 91) concluded that special education mathematics practice has a "history of placing a considerable emphasis on rote learning and mastery of math facts and algorithms for basic operations (e.g., addition, multiplication) and limiting instruction in problem solving." Special education interventions in mathematics are largely based upon principles that "assume a transmission view of knowledge," where "through explicit teaching…[and] step-by-step highly directed instruction, the learner fully understands what the teacher is trying to communicate" (Woodward, 2004, p. 24). Many traditionalists claim that intensive intervention, involving highly directed, explicit, step-by-step instruction in specific skills, concepts and problem-solving strategies are effective treatments for learning disabilities in mathematics (Baxter et al., 2002; Fuchs et al., 2002). Cohen and Spenciner (2005), in their university course textbook for pre-service (general education) teachers, present instructional strategies for teaching mathematics to students labeled LD; some of these include:

"grouping similar problems on a page" (p. 435), "using different colors for symbols such as -, +, and =" (p. 436), and pointing "out information that is not required to solve the problem" (p. 442).

These sorts of assumptions suggest that special education teachers should help labeled students by providing assistance in the form of "uncomplicating" the mathematics, eliminating distractions, and clearly presenting the mathematics procedurally in a step-by-step format. It is often assumed that students who carry the label of LD in mathematics are not capable of participating in and engaging in activities involving mathematical inquiry, problem solving, and/or discourse. These students are often times denied access to such activities (and are instead pulled-out or pulled-aside) because it is assumed that they must first master the basic skills (E. Stoughton, personal communication on March 28, 2006). Sometimes referred to as "tracking," this practice has historically and consistently "resulted in a select group of students being enrolled in mathematics courses that challenge and enrich them while others…are placed in mathematics classes that concentrate on remediation or do not offer significant mathematical substance" (NCTM, 2000, p. 368).

Applying the Lens of Ableism to Traditional Special Education

Instructional Practices

The belief that some students are not capable (disabled) in mathematics often leads to "legitimate their exclusion" (Reid & Valle, 2004, p. 469) from general education mathematics instruction in order to receive specialized interventions in the special education classroom. The daily mathematics instructional interventions students labeled LD in mathematics receive in special education pull-out classrooms is generally not sufficiently differentiated to meet their needs; instead that instruction is mainly comprised of procedures and strategies of the "one-size-fits-all" sort. Brantlinger (2004, p. 492) warns against such instruction saying, "I point out that such standardization is antithetical to the special education professional tenet that children be taught according to their individual characteristics and aspirations." These procedural and "one-size-fits-all" practices tend to support a view of instrumental rationality that "often separates fact[s] from value[s] in its obsession with 'proper' method[s], losing in the process an understanding of the value choices always involved in the production of so-called facts" (Kincheloe & McLaren, 1994, p. 438).

Hehir (2005, p. 42) claimed, "Inordinate segregation, low expectations, failure to provide accommodations, and misguided attempts to 'cure' disability are all examples of practices that serve to keep disabled

students in a subordinate position." In the current school system, those in a position of political and educational power have identified a "norm" or standard for the mathematics content that is to be mastered (as well as the rate in which it is to be mastered) by all students. These standards serve to sort students into categories or "boxes" (Brantlinger, 1997), and it is interesting to note that the "boxes" keep changing. For example, IQ scores that currently label children as "at-risk" used to mark them as "mildly mentally retarded" fifty or so years ago (G. Williamson, personal communication on March 9, 2006). Narrowly defined standards of mathematics and proficiency in mathematics serve as dominant ideological discourses that "shape our vision of reality" (Kincheloe & McLaren, 1994, p. 440). They create "winners and losers" and we must question the "processes by which such power plays operate" (Kincheloe & McLaren, 1994, p. 437).

I claim that at least some of the roots of "such power plays" lie in the cultural institutions of schools and legislatures. These cultural agents "produce hegemonic ways of seeing" (Kincheloe & McLaren, 1994, p. 442) that are "legitimized by their depiction as natural and inevitable" (Kincheloe & McLaren, 1994, p. 440). For example, the processes of assessing students' mathematical proficiency—required by schools, who are in turn constrained by federal and state legislation—are so obsessed with standardized tests, procedures, content, and levels of proficiency that they ignore the "humanistic purpose" (Kincheloe & McLaren, 1994, p. 438) of schooling. These assessments focus on what Gutiérrez (2002) called *dominant* rather than *critical* mathematics. For her, the distinction between dominant and critical mathematics "is one of aligning with society (and its embedded power relationships) or challenging society and its power relationships" (p. 151). It is critical mathematics that "squarely acknowledges students are members of a society rife with issues of power and domination. It takes students' cultural identities and builds mathematics around them in such ways that doing mathematics necessarily takes up social and political issues in society, especially highlighting the perspectives of marginalized groups" (Gutiérrez 2002, p. 151).

In addition, schools and legislatures make much out of human differences, especially differential rates of learning, "to the point that the rate of learning rather than the learning is the total measure of the learner" (McDermott, 1993, p. 272). Ordinary human diversity is seen as problematic. Reid and Valle (2004, p. 469) offer Linton's (1998) notion that perhaps "because difference has typically been studied from a deficit model, we are deficient in the language to describe it any other way than as a 'problem.'" Differences in human beings (and students in particular)—be they physical, social, emotional, and/or cognitive—are natural and should be welcomed. Diversity contributes positively to a classroom

environment. "There is more than one way to walk, talk, paint, read, or write (and I would add, 'do mathematics'). Assuming otherwise is the root of fundamental inequities" (Hehir, 2005, p. 35, parenthetical statement mine). Practices that view difference and diversity as problematic are discriminatory and oppressive to those who are deemed (by those in a position of power) to "fall out of the scope of what is currently defined as socially acceptable" (Rauscher & McClintock 1977, p. 198). Stoughton (2006) pointed out that "in the current atmosphere…in schools, caring for student needs tends to be devalued" (p. 160). She echoed Mickelson's (2000) call for educators to focus on the "three C's of caring, concern and connection" (p. 111).

Concluding Thoughts: Looking Toward the Future

How Can we Eliminate Ableism and Enact Equity?

The National Council of Teachers of Mathematics (NCTM, 2000) claims teaching mathematics well involves "creating, enriching, maintaining, and adapting instruction to…engage students in building mathematical understanding" (p. 17). It requires mathematics teachers to observe students, listen carefully to *the students'* ideas and explanations and use that information to make instructional decisions. This vision embraces a diversity of mathematical thinking and teachers who employ such practices "motivate students to engage in mathematical thinking and reasoning and provide learning opportunities that challenge students at all levels of understanding" (NCTM, 2000, p. 18). However, federal and state legislation, as well as special education policy, research and practice, are grounded in a traditionalist perspective that embraces behaviorism and a narrow vision of what counts as mathematics and mathematics proficiency. These stand in direct contrast to the guiding principles of the *Standards*, in which processes, such as problem solving, communication, and justification, are the pervasive activities through which students actively make sense of mathematical ideas and relationships. As mathematics educators we should be genuinely concerned that traditional special education policy, research and practices are incompatible with the kinds of instructions called for in the NCTM *Standards*.

Hehir (2005, p. 17) claimed, "progress toward equity is dependent first and foremost on the acknowledgement that ableism exists in schools." Our goal as mathematics and special educators striving to eliminate ableism and promote equity is to support the mathematical thinking of all children in such a way that they progress along their own learning trajectory, always pushing forth beyond *their* "bubble of the known" (St. John, 2000, p.109). However, in an educational system built upon the

pillars of normalizing populations and standardizing content, instruction and assessments, every student's "bubble of the known" is mistakenly assumed to be identical. The vision of mathematics and proficiency in mathematics put forth by institutions of schools and legislatures, and overwhelmingly accepted by society at large, is narrow and dense with procedures and skills. Diversity of mathematical thinking outside of those narrow definitions is seen as problematic.

Equity in mathematics education requires educators to "recognize the value of fully honoring diverse perspectives in the classroom as a tool for learning" (Tharp & Lovell, 1995, p. 7). If we desire equitable mathematics education environments where all children's mathematical thinking is invited, recognized, and nurtured and no child is Othered, then we all need to broaden our vision of what counts as mathematics and proficiency in mathematics. Mathematics and special educators, schools and legislators, and society at large will have to modify some deeply held beliefs about what constitutes acceptable and "normal" mathematics content, mathematics pedagogy, and mathematics assessment. Systemic reform is surely necessary and, while beyond the scope of this paper, a comprehensive vision for such "improving research and systemic reform toward equity" is adeptly offered by Confrey (2000, p. 87) and Weissglass (2000). Here however, I suggest ways in which individual mathematics educators can begin to eliminate ableism and enact equity immediately in their own classrooms and schools.

As teachers we make many choices each day about how the mathematical learning environment in our classrooms will be structured. "These decisions determine, to a large extent, what students learn" (NCTM, 2000, p. 18), what they believe about mathematics, and how they view themselves and others as mathematicians. We must embrace a belief that each student is capable of and is expected to understand mathematics and we must support each student in his/her own journey (NCTM, 2000). Educators and researchers in the fields of mathematics and special education need to expand their circles of community to include and consult each other. Team teaching between mathematics and special educators might be one way to accomplish such a task; another is to implement book study clubs within schools so that teachers across different disciplines can learn from and with each other. We must open the dialogue between general and special educators and work together to better meet the needs of all students (NCTM, 2000).

Reid and Valle (2004) urged us to "focus on redesigning the context" of *schooling* rather than "on 'curing' or 'remediating' *individuals'* impairments" (p. 468). They offered a "sociopolitical vision of the classroom" (p. 474) which included the following:

(1) "Effective instruction must be *student-centered, authentic, and contingent"* (p. 474);

(2) "Teachers need to approach their work as *scholar-practitioners* and operate as responsive curriculum makers who teach to students strengths rather than technocrats who focus on their 'deficits'" (p. 474);

(3) "Classrooms must become *communities of learners*, including and guided by teachers and instructional aids, who work together to make certain that everyone is supported in doing work that is appropriate, although perhaps not the same" (p. 475); and

(4) "Community-building must be a conscious and evolutionary process which supports cooperative learning, differentiated instruction, and the formation of positive classroom relationships and talk….Teachers [must] intentionally create classrooms that engender a sense of safety and belonging, value for diversity, shared responsibility for the community and an overall atmosphere of support and caring" (p. 475).

Mary Falvey reminded us that "such changes in attitude toward people with disabilities will not come as a result of legislation, litigation, or even government paving the way but rather through daily contacts and interactions with people with disabilities and their families" (2005, p. 4). Therefore we must embrace full inclusion and realize that we have enormous influence over how children feel about themselves as mathematicians and how they perceive others as mathematicians. We must celebrate each student's growth in realms cognitive, emotional, social and physical. Our classrooms and schools need to be places that embrace and foster cooperation and teamwork, rather than competitiveness. We must require and "model respectful interactions that allow children…to be who they are and to achieve their greatest potential" (Falvey, 2005, p. 4). We must each work diligently to become aware of and to eliminate practices and policies that support ableism in our own classrooms and schools. We can enact equity—one classroom and one school at a time.

Note

Many of the ideas in this paper emanated from discussions with two other colleagues, Andrea McCloskey and Erik Winarski, while we collaborated to write a group paper entitled, *What mathematics educators need to know about the Special Education Divide*, for a mathematics education seminar facilitated by Dr. Signe Kastberg and Dr. Anderson Norton III. I wish to thank Andrea and Erik for rich academic discussions that pushed my thinking in this area.

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