

CHAPTER 23

SOCIAL JUSTICE AND MATHEMATICS EDUCATION

Issues, Dilemmas, Excellence and Equity

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ABSTRACT

This article explores reasons for educational research and practice in social justice from evolutionary, ideological and philosophical viewpoints. The tension between nihilistic and empathetic tendencies within our history is used to reflexively examine the origins and causes of inequity with emphasis on the works of giants such as Paolo Freire, John Dewey, Karl Marx, and Vivekananda. Finally we address one particular issue in depth, namely the tension between excellence and equity in talent development in schools, east and west.

WHY SOCIAL JUSTICE?

It is a basic fact that life around us constantly reveals inequities such as rich versus poor; the educated versus uneducated; those in power versus those without power; wealthy countries versus poor countries; citizens versus guest/transient workers; higher social standing and mobility versus being stuck in abject status quos; affluent neighbourhoods and schools versus ghettos and the remnants of social Darwinism; ad infinitum. While most of the world is caught up in dealing with the excruciating minutiae and the vexing exasperations of day-to-day life simply to survive, we in academia are in the privileged position to ponder over the bigger questions confronting humanity. Why do inequities exist in the first place? What are their origins? Are educators' attempts to address social justice problems in the classrooms simply attempts at "patching up" things that are in essence atomically broken., i.e., an allopathic attempt of getting rid of symptoms so we don't have to deal with the real objective roots of problems. Another analogy is that of surgical procedures done on an ad-hoc basis to remedy defects that arise as opposed to caring for the well being of the whole and getting to the root of problems. Or is social justice research in mathematics education, a well intentioned movement around the world to present arguments for the necessity to address social inequities via mathematics education, i.e., to give a deeper meaning to the purpose of education. A nihilist would choose the allopathic (surgical) answer whereas the empathetic individual would choose the latter. Most of us find ourselves somewhere in between, in perpetual but necessary tension to solve the bigger problems around us. Some positions about the origins of inequity and injustices within educational and societal mechanisms are now presented followed by addressing the issue of the tension between excellence and equity within educational systems, east and west.

The Darwinian explanation suggests that inequity is simply one of the many natural mechanisms that have arisen over the course of our evolution. If we view ourselves as creatures whose sole purpose in life is to survive and to have progeny, then it is evident that the competition for the same natural resources would leave others in the wake. The strictly Darwinian explanation would suggest that certain groups are doomed to perish simply because they are unable to cope with changes occurring in their environment. Unlike other mammals, we tend to hoard natural resources, much more than we can possibly use and at the same time, we also exhibit tendencies towards altruism which are paradoxical and unexplainable in strictly biological terms. In fact, Charles Darwin (1871) in *The Descent of Man*, posed the question whether the phenomenon of moral behaviour in humans could be explained in evolutionary terms, viz., natural selection. The evolution of social systems (religious, ideological, political) of various kinds is

not explainable strictly in Darwinian terms. Comte (1972) proposed a stage theory for our social evolution in which humanity moves from a theological stage onto a metaphysical stage onto a “positive” stage. It is too difficult to explain the meaning of the third stage, but simply put, we reject absolutism of all kinds and we strive for knowledge based on rationality.

The present day economic inequity in the world is best illustrated by the fact that many universities in the West have larger budgets than the GNP of many nations in Africa, Asia and South America. Despite the current state of affairs we are also creatures of ideas who over the course of our evolution have moved away from a strictly clannish and genotypic connection to a memetic connection.¹ We conglomerate over common ideas or ideals as evidenced in the spread of the numerous great world religions, which link together people across a spectrum of class, culture, race, socioeconomic status and nationality. These two special issues of PoME journal on social justice are a memetic product. Similarly ideologies such as Marxism connect people from diverse socioeconomic and cultural backgrounds. Even the so-called phenomenon of “globalization” is nothing new from the point of view of history. There is sufficient historical evidence that even in periods when means of transport and communication had not been developed, oriental civilization penetrated into the West. Iran and Greece were in contact with each other, and many South Asians found their way to Greece and vice-versa through this contact (Radhakrishnan, 1964). Asoka’s² missions to the West, and Alexander’s influence on Egypt, Iran, and North West India, produced a cross-fertilization of cultures.

Another big, intensive, but relatively “localized” process, which we may, also call “globalization,” occurred in Asia and Europe, in the expansion of Christianity and Islam in the Middle Ages, in the shadows of the Roman and (the emerging) Caliphate Empires. In the late Middle Ages, States began to take shape as components of a new form of Empire. The scenario resulting from this process of European “globalization, prevails until now. In the sort of jig-saw puzzle which characterize the political dynamics present in this process, the idea of a Nation became strong. States and Nations are different concepts, as well as Political Dynamics and Cultural Dynamics. The political dimension of this process prevailed and something vaguely called State/Nation began to take shape as the primary unit of the European scenario. The Empire which emerged in the Late Middle Ages and the Renaissance as the assemblage of such State/Nations, although fragile, mainly due to power struggle, favored the development of the ideological, intellectual and material bases for building up the magnificent structure of Science and Technology, anchored in Mathematics, supporting a capitalistic socio-economic structure. The expanding capitalism, supported by religious ideology and a strong Science and Technology, had, as a consequence, a new form of globalization, now effectively engaging the entire

Globe. The great navigations and the consequent conquest and colonization, completely disclosed the fragility of a possible European Empire. The internal contradictions of State, as a political arrangement, and of Nation, as a cultural arrangement, emerged, in many forms. Religious and linguistic conflicts, even genocide, within a State/Nation became not rare facts. Indeed, they are not over. As a result of all these processes, Education was, probably, the most affected institution. Educational proposals, even curricula, are noticed in this era. The influence of national characteristics interfered with objectives derived from the new World scenario. The development of Science and Technology, obviously related to the educational systems, was unequal. Interchanges intensified. The Industrial Revolution made Science and Technology a determinant of progress. Hence, the enormous competition among European States, which intensified during the 19th century and early 20th century, raised Science and Technology, which became increasingly dependent on Mathematics, to top priority (Sriraman & Törner, 2007). One terrible consequence of this competition between European states was the advent of colonization, the consequences of which the world is still very much experiencing (Sriraman, 2007).

Although many countries in Asia, Africa and South America became “free” from the yoke of colonialism in the last century, this freedom left in its wake uprooted peoples when colonial masters started drawing lines on maps to “equitably” partition land in various regions of the world. Hopefully the reader realizes the irony in my previous statement. There was considerable loss of subsistence lifestyles, loss of indigenous cultures and traditional knowledge. The consequences of colonization were not any different in North America and in Australasia. The outcome of the colonial period of our history was Education as an Institution and a new economic structure being implanted in various regions of the world with the explicit purpose of perpetuating the very structures created to maintain colonialism, namely oppression of the many by a few. Indeed Karl Marx and Friedrich Engels’ monumental writings³ address issues such as exploitation of workers within a capitalistic economic system and the problem of materialism confronting humanity, which would inevitably lead to class struggles and revolutions. Many of the foundational writings of social justice can be traced back to the ideas proposed by Marx and Engels. Today’s study of the ecological footprints left by the industrialized nations reveals the obscene differences in resource consumption⁴ between rich and poor nations, a natural consequence of materialism run amok as predicted by Marx and Engels.

The question then is: can emancipatory and social justice pedagogies really free individuals from oppression at a societal level? How can this be possible without it occurring at the individual level first? Freire (1998) himself wrote that the central problem was “How can the oppressed, as divided, unauthentic beings, participate in developing the pedagogy of their lib-

eration? Only as they discover themselves to be “hosts” of the oppressor can they contribute to the midwifery of their liberating pedagogy.” Clearly Freire is stating that the oppressed adhere to the oppressor and have to break free. If individuals do not subjectively and intrinsically feel free, how can any educational or social mechanism make this happen no matter how good the intention? Cho & Lewis (2005) recently re-emphasized the aforementioned essence of Freire’s pedagogy from the point of view of psychology and the problems with the attempts by Marxist theorists to transform Freire’s “pedagogy of the oppressed” into a “pedagogy of revolution.” They write that “oppression has an existence in the unconscious such that those that are oppressed form passionate attachments to the forms of power that oppress them” (p. 313), and it is necessary for social justice researchers and Marxist theorizers to recognize and address this important issue. Cho & Lewis (2005) formulate several challenges⁵ to Marxist theorizers as follows:

...part of the discomfort with “revolutionary pedagogy,” is that the project of liberation often appears to be presupposing universal notions of what it means to be oppressed, liberated, and how this movement is to be made—often the problem lies in Freire’s emphasis on material relations and not on the issue of patriarchy or colonization. ...[w]ith no clear resolution to the issue of authority, liberatory pedagogies can portray particularist notions of oppression and liberation in universal was and to impose these visions of oppression and liberation upon others through a kind of vanguardism, which can ironically replicate relations of oppression other than overcome them thus returning us to the problem with which Freire begins his analysis in the first place. (p. 314)

In India, the problem of individual liberation has been addressed within Hindu philosophy by numerous scholars, especially social reformers in the 19th and 20th centuries. Vivekananda (1863–1902) belonged to a branch of Hindu philosophy called Vedanta (see Sriraman & Benesch, 2005), in particular to a special strand of Vedanta, which holds that no individual can be completely free unless every one else is also free (from oppression). In other words, we as individuals are obliged to act to better society. Vivekananda was able to move beyond the prevalent dogmatic caste system which characterized Indian society and propose a theory of action which necessitated that each of us consciously act towards bettering the lot of our fellow humans, if our goal is to ultimately liberate ourselves and become enlightened. From a Freirean perspective it is not possible to “empower people...”—the best we can do is to create conditions to facilitate, support people empowering themselves, and to work along side in common struggle.

Given this overview of the origins on inequities within society, we now discuss a particular contentious issue especially in the United States, namely gifted/talented education albeit from a social justice viewpoint.

THE CASE OF GIFTED/TALENTED EDUCATION

Gifted education in the United States has been subject to much criticism due to the perception that it is either elitist, or caters to students who are socio-economically privileged (Clark, 1997). Some theorists have also reduced this problem to that of nature versus nurture, i.e., students who are labeled academically promising or gifted are more likely to have received the benefits of a socio-cultural upbringing where reading, music and other creative activities are encouraged with parents providing additional support for children to pursue intellectually stimulating activities. This is in contrast to students that have not had the privilege of growing up in an intellectually stimulating social environment. Gifted education is also construed as being elitist because it caters to the needs of a small proportion of students based on identification measures which may be biased. There is also considerable debate over the definitions of giftedness with the word “gifted” lending itself to negative connotations. On the other hand, public schools in the U.S do provide a lot of resources towards students in need of remediation in reading and mathematics at the elementary levels. Kent & Lawrence (2002) pointed to the fact that in the U.S, on an average \$30 billion is spent on special education programs, whereas funding for gifted education is less than 1% of this amount.

Sriraman & Steintorsdottir (2007a) argue that if we view catering/nurturing talent of students that are academically promising as being elitist, then are we not being “unjust” towards the abilities of these students and squandering the opportunity to develop their talent. So, addressing this issue becomes a catch-22 situation unless we try to construct a completely different theoretical perspective which moves away from the regressive and dogmatic spirals of various arguments. According to Sriraman (2005) it is a basic fact that the comforts and security of today’s technologically evolved society is due to the innovative spirit and the toil of scientists, inventors, investors, artists and leaders who have made the present comfortable state possible. In a similar vein, Martinsen (2003) in his introduction to a special issue of the *Scandinavian Journal of Education* focused on creativity wrote:

Despite differences of opinion as regards the definition of this construct it can be argued that creativity is fundamental to all individual and societal development. Societies need inventors, creative artists, managers, teachers, authors, philosophers, entrepreneurs, therapists and more. Moreover, most people will need to restructure their understanding, find new solutions, new

challenges and new ideas frequently during their lifetime. One may also suspect that the capacity to create and to solve complex or novel problems will become more and more important in an increasingly regulated, technology-oriented and complex world. (p. 227)

The Special Place of Mathematics Education

The field of mathematics has been criticized for its academic elitism. There is a growing canon of studies which indicates that the institution of mathematics tends to marginalize women and minorities (Burton, 2004; Herzig, 2004). Moreover several studies have shown that the knowledge produced by the institution of mathematics is based on a patriarchal structure and a male-centered epistemology. There is also adequate empirical evidence in the U.S that academic fields related to mathematics continues to be predominantly male (Seymour, 1995). Further, in the U.S, the representation of minorities (African America, Native American) at the post-graduate level is still miniscule (Seymour & Hewitt, 1997; Sriraman & Steinhorsdottir 2007b, 2007c). Mathematics has also historically served as the gatekeeper to numerous other areas of study. For instance the hard sciences, schools of engineering and business typically rely on the Calculus sequence as a way to filter out students unable to fulfill program pre-requisites.

In numerous countries around the world, particularly in Asia, entry to government subsidized programs in engineering and the sciences is highly competitive and require students to score in the top 1 percentile in entrance exams in which mathematics is a major component. The situation is not so different in North America as evidenced in the importance of standardized tests like SAT or ACT to gain entry into college programs. It is not uncommon to hear politicians use schools' performance on mathematics assessments as a reference point to criticize public school programs and teachers (e.g., the passing of the No Child Left Behind Act in the U.S).

MATHEMATICS EDUCATION: DEMOCRATIZATION AND GLOBALIZATION

Based on the previous paragraphs, we can say that mathematics education has everything to do with today's socio-cultural, political and economic scenario. In particular, mathematics education has much more to do with politics, in its broad sense, than with mathematics, in its inner sense (D'Ambrosio, 1990, 1994a, 1994b, 1998, 1999, 2007; Moreno & Trigo, 2007; Sriraman & Törner, 2007). Mathematics seen in its entirety can be viewed as a means of empowerment as well as a means to oppress at the other end of

the spectrum. For instance Schoenfeld (2004) in his survey of the state of mathematics education in the U.S wrote “Is mathematics for the elite or for the masses? Are there tensions between “excellence” and “equity”? Should mathematics be seen as a democratizing force or as a vehicle for maintaining the status quo?” (p.253). Skovsmose (2004) poses the questions: Is it true that mathematics has no social significance? Or does also mathematics provide a crucial resource for social change? in other words: How may mathematics and power be interrelated? We further ask what does this have to do with current educational structures and pedagogy. Skovsmose (2005) further discusses critically the relations between mathematics, society and citizenship. Skovsmose’s program of critical mathematics education give challenges connected to issues of globalization, content and applications of mathematics, mathematics as basis for actions in society, and on empowerment and mathematical literacy (mathemacy).

These questions are more generally addressed by Spring (2006), who summarizes the relationship between pedagogies and the economic needs of nation/states. His thesis is that the present need for nation/states to prepare workers for the global economy has resulted in the creation of an “educational security state” where an elaborate accountability-based system of testing is used to control teachers and students. Spring correctly points out that:

Both teachers and students become subservient to an industrial–consumer paradigm that integrates education and economic planning. This educational model has prevailed over classical forms of education such as Confucianism, Islam, and Christianity and their concerns with creating a just and ethical society through the analysis and discussion of sacred and classical texts. It has also prevailed over progressive pedagogy designed to prepare students to reconstruct society. In the 21st century, national school systems have similar grades and promotion plans, instructional methods, curriculum organization, and linkages between secondary and higher education. Most national school systems are organized to serve an industrial–consumer state. As later explained, the industrial–consumer state is premised on the idea that a good society involves economic growth resulting from increased production and consumption of goods. In the industrial–consumer state, education is organized to serve the goal of economic growth. (p. 105)

Therefore, in order to counter this organized push for eliminating progressive education, it is important that educators be open to alternative models of pedagogies which attempt to move beyond the current dominant “industrial consumer state” model of education. In order to do so, it is imperative that we first understand the dichotomy between excellence and equity in mathematics education. The general questions we raise in this article are:

1. Is there a way in which one can resolve talent development, particularly in mathematics education so that that the curriculum and/or instruction is equitable to all the students in the classroom?
2. Can excellence and equity co-exist or does attending to one compromise the other, i.e., excellence at the sacrifice of equity; equity at the sacrifice of excellence?

REFORMULATING THE PROBLEM WITHIN A HEGELIAN DIALECTIC

In western philosophy, the use of dialectics is seen in ancient Greek philosophy (e.g., Socrates, Plato etc). The dialectic consists of theses and anti-theses which are in opposition to each other. The tension between these two opposing forces eventually leads to a synthesis which in turn becomes the thesis of a new dialectic. It should be noted though that the idea or concept of a dialectic is much older and found in Hindu and Buddhist philosophy. It was however, Hegel (1770–1831), who applied the dialectic method to create a model of a direction in which history unfolds. Although Hegel was in very abstract terms speaking of this evolution towards an absolute idea (a kind of philosophical idealism), his dialectic was also applied by Marx towards material conditions to formulate what is known as the Marxist dialectic or dialectical materialism. Figure 23.1 shows a visual representation of Hegel’s dialectical model.⁶ The Hegelian dialectic is applicable to the problem of resolving/understanding the tension between the opposing forces of excellence and equity within the framework of education. The tension between these opposing forces is seen in educational systems in numerous parts of the world. We present some examples (from east and west) and urge the reader to attempt to apply the dialectic to resolving this issue.

EAST VERSUS WEST

Educational systems are heavily influenced by the social and cultural ideologies that characterize the particular society (Clark, 1997; Kim, 2005; Spring, 2006). Kim (2005) characterizes “western” systems of education as fostering creativity and entrepreneurship when compared to “eastern” systems where more emphasis is laid on compliance, memorization and repetitive work. However East Asian countries stress the values of effort, hard work, perseverance and a general high regard for education and teachers from society with adequate funding for public schools and family support. Again in comparison, in the U.S., public schools are poorly funded, teachers are in general not adequately compensated nor supported by parents, and there is a

ence and engineering tracks. The tension and contradiction within this system is apparent in the fact that although these societies value education, the examination system is highly constrictive, inhibits creativity and used to stratify society in general. Late bloomers do not have a chance to succeed within such an educational system. In the U.S., despite the problems within the educational system and the general lack of enthusiasm from society to fund academic programs that benefit students, the system in general allows for second-chances, for individuals to pursue college later in life in spite of earlier setbacks. On the other hand, for many students, particularly from poorer school districts, socio-economic circumstances may not allow for such second chances. The U.S model of an industrial-consumer state based on the capitalistic ideal of producing and consuming goods, forces students into circumstances which make it economically unfeasible particularly for students from poor socio-economic backgrounds to veer vocations and pursue higher education. Clearly both systems, based on different ideologies have strengths and weaknesses that are a function of their particular historical and cultural roots. Social change is possible within and across both systems but requires changes within cultural and socio-political ideals of eastern and western societies. Both systems have intrinsic flaws that undermine developing the talents of students. There are however solutions proposed by numerous educational philosophers and activists which reveal a synthesis of eastern and western ideas and provide for the possibility of systemic change for society as presented in the Hegelian dialectic (Sriraman & Steinhorsdottir, 2007a).

PROGRESSIVE EDUCATION AND CRITICAL PEDAGOGIES

The principles of progressive education as outlined by John Dewey inspired educational structures in the former Soviet Union and China in the early part of the 20th century and ironically have been forgotten by policy makers in the U.S and today viewed as a “dissenting” tradition (Spring, 2006). The goal of the progressive movement was to empower students by attending to student strengths and interests; stressing constructivist approaches to learning; and integrating the curriculum in order to improve society. Interdisciplinary approaches to the teaching and learning of mathematics create natural differentiation and enrichment opportunities for all students including the talented students (Sriraman & Dahl, 2007). In the age of globalization, societies have realized that there is an urgent need to move beyond the ego-centric needs of their particular society towards the shared needs of the planet. Numerous educational theorists have stressed the need for educational structures to stress co-operation, social and environmental

justice and wisdom through schooling (Atkinson, 1994; Kurth-Schai, 1992; Sternberg, 1998, 2001).

The Greek philosopher, Socrates, said that our ultimate purpose is to will Good for humankind. If one accepts this premise and connects this to the purpose of contemporary education (and not only the discipline of mathematics), then it becomes clear that two broad goals of education must be:

1. to produce citizenry who are capable of thinking critically and willing to engage in such thought; and
2. to develop an awareness for the value of making reasoned choices that seek to will Good for humanity.

Critical thinking is often not associated with the teaching and learning of mathematics, however the two disciplines share many common traits. Historically, training in critical thinking makes explicit use of formal logic in order to draw inferences and/or make comparisons. Mathematics can be presented as being structured and rigid in the same way, but this need not be so. Plato in *Apology* suggested that one should not blindly accept a persuasive argument without being aware of the reasons why the argument is persuasive (Plato, 1999). In other words, a critical thinker must be able to examine the validity of the logic used in an otherwise eloquent and persuasive argument, as well as to verify the facts and assumptions that are involved. Likewise, students of mathematics can be taught to question the didactic claims of their teachers and can be taught to validate mathematical propositions based on their own emerging skills and frames of reference. For the ancient Greeks, critical thinking not only involved an examination of the eloquent words and actions of other people but also an examination of one's own thoughts and capabilities. The traditional constructs of critical thinking have been criticized as being "a narrow way of thinking, excessively centered on reasoning and argumentation" (Smith, 2001, p.349) which do not take into account imagination or intuition, and do not nurture the creative (generative) side of thinking (Walters, 1994). If we believe well-stated arguments based on the position of the author (ad hominem) or the authority of the teacher, then we can easily be misled by charismatic voices and thus fail to question and think critically for ourselves. Another criticism about the traditional view of critical thinking is that the excessive focus on formal logic, rhetorical ploys, fallacies and argument construction encourages students to view critical thinking as merely an arduous mental exercise without any wide-ranging applicability (Adler, 1991; Baron, 1988; McPeck, 1984). Students may lack the confidence to challenge propaganda or advertising because they might feel the rigorous tools required to think critically are beyond their abilities. Likewise when mathematics is taught as formal algorithms, with learning restricted to successful computation with-

out any requirement to apply this mathematics to the real world, then it weakens the growth of knowledge for students (Sriraman & Adrian, 2004). Students must learn not only to perform in the context of their own world, but to explain what they are doing and why it is important (Sriraman, Knott & Adrian, in press).

Given these criticisms of the traditional definitions of critical thinking, we adopt a modified view of critical thinking that is compatible with the expectations we generally hold for beginning students. We define critical thinking as “reasonable reflective thinking that is focused on deciding what to believe or do” (Ennis, 1991, p.6) with the added requirement that it be connected to real life. This pragmatic view enables students at very early stages to understand the cultural and instructional influences that ought to influence accepted thought (Bacon, 1902). The rationale for choosing this definition is that it requires that critical thinking skills apply to real world problems, brings to the forefront the issue of bias in critical thinking (Paul, 1990), and makes use of appropriate questioning to stimulate students’ reflections on problems (Simpson, 1996).

Paolo Freire (1921–1997), the Brazilian educator and social reformist, came of humble backgrounds. His book *Pedagogy of the Oppressed* (Freire, 1998) is perhaps the most frequently cited Marxist-influenced work in educational literature. Freire (1998) addressed the power dynamics between the oppressed and the oppressors (including the dynamic between teacher and student), and that the way toward liberation is through political movements and political struggle, of which literacy is but one part. Thus his emphasis on *writing* the world, is beyond literacy. Clearly, literacy (i.e., reading the world) is also an integral and necessary part of this process. Freire’s banking concept holds that students are knowledgeable beings with the intrinsic capacity of creating knowledge *with the teacher*, as opposed to being empty buckets of ignorance or simply “files” or automatons dependent on the teacher’s absolute authority to learn and construct new knowledge. It is also important to note that Freire emphasized critical literacy as opposed to functional literacy. The Organization for Economic Co-Operation and Development (OECD, 2004) has attempted to promote mathematical literacy in numerous countries through international tests like the Program for International Student Assessment (PISA).

Freire (1998) suggested that pedagogical practices should support education for liberation and emphasized problem-posing pedagogies that strive “for the emergence of consciousness and critical intervention in reality” (p.62). Problem posing pedagogies are necessary if the goal of education is to challenge inequities. Freire’s writing suggests a pedagogy which promotes greater social awareness or a social consciousness appropriate for initiating major shifts in thinking. An outstanding example of this pedagogy in practice is Gutstein’s (2006) work *Reading and Writing the World with Mathematics*.

Gutstein's work also points out the obstacles to such a pedagogy within a school system, particularly institutional resistance from administration and other stake holders within a school district (Sriraman, 2007; Sriraman & Steinthorsdottir, 2007c).

CONCLUDING NOTE

The present day tension between equity and excellence in the school system in the U.S is symptomatic of the deeper political problems polarizing politics and people in this society. While the Hamiltonian tradition stresses elitism and division of classes based on the "cognitive" capital possessed by people, the Jacksonian tradition suggests everyone is equal no matter what. Sternberg (1996) points out that there exists a forgotten third alternative to the polarizing positions characterizing education today, namely the Jeffersonian tradition whose essence is that "people are indeed all equal in terms of political and social rights and should have equal opportunities; but they do not necessarily avail themselves equally of these opportunities and hence do not get rewarded for what they accomplish, *given equal opportunity*, rather than what might have, should have or could have accomplished" (pp. 262–263). The challenge facing society today (in the U.S and elsewhere) is to first create this equality in educational opportunity. This is a necessary first step in resolving the tension between equity and excellence.

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NOTES

1. See Richard Dawkins (1964) *The Selfish Gene*
2. Asoka (c. 299–237 BCE) is credited with the establishment of the so-called “first” Indian empire, accomplished through decades of bloody conquests. His deep remorse over the carnage at Kalinga led him to embrace the peaceful doctrines of Buddhism. Under his protection, Buddhism flourished and numerous Buddhist texts were written. Asoka also sent numerous emissaries of Buddhism to places like South East Asia, Egypt, Libya, and Macedonia, which resulted in the “golden” age for Buddhism.
3. Karl Marx, Friedrich Engels, *Gesamtausgabe*, Edited by the Institut für Marxismus-Leninismus
4. *World Resources 2000–2001: People and ecosystems: The fraying web of life. United Nations Development Programme, United Nations Environment Programme, World Bank, World Resources Institute.*
5. Here Cho & Lewis are synthesizing the writings of Ellsworth (1989), Gore (1990) and Weiler (1991). These particular writings convey a completely different conception of the complexities of empowerment from the point of view of feminist pedagogy. See references.
6. Figure reprinted with permission from Daniel Waldspurger http://www.calvertonschool.org/Waldspurger/pages/hegelian_dialectic.htm.