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## Dewey, Freire, and Foucault and an Ever-Evolving Philosophy of (Mathematics) Education

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**ABSTRACT.** In this essay, the author provides a working definition of philosophy from a cultural point of view, and argues the need for mathematics educators to develop *their* philosophy of mathematics teaching and learning or, to speak more broadly, their philosophy of education. He then historically situates three scholars—John Dewey, Paulo Freire, and Michel Foucault—who have been instrumental in the formulation of his philosophy of education. Next, he shares how the philosophies of these three scholars provide different languages to critique three aspects of education. He concludes with brief discussions on the process of his ever-evolving philosophy of mathematics teaching and learning and the emerging debates about the “grand challenges” for mathematics education.

**Key words:** Education reform, Mathematics education, Philosophy of education, Philosophy of mathematics teaching and learning

### I. Introduction

Ever since being engaged in the profession of mathematics education for the past 20 years or so, I have often commented that an aspect of the problem regarding “reform” in mathematics teaching and learning has been what I perceive as a lack of conversations regarding a general “philosophy of education” by those engaged in various reform efforts. Too often, mathematics education reform efforts as well as discussions about and research on mathematics teaching and learning generally appear to be void of philosophical considerations. Higginson (1980), however, with an aim toward improving both the intellectual and the emotional mathematics learning experiences for all students, argued for the inclusion of philosophical considerations as an integral component of mathematics teaching and learning.

Higginson (1980) began his argument with the “foundation stone” of mathematics education: the question “What is mathematics?” (p. 4) In responding to this foundational question, Higginson provided an image of mathematics education as a tetrahedron in which the four faces were the interrelated disciplines of mathematics, psychology, sociology, and philosophy. He noted that allegiance to mathematics is self-evident, and that the “battle for the recognition of a psychological dimension in mathematics education has been won, for almost all purposes, for some time now” (p. 4). In regards to sociology, he stated, “the recognition of the role of social and cultural factors is,

however, a process which is still ongoing” (p. 4). He then made a two-pronged argument for the inclusion of a sociological dimension: (a) the need to more fully understand the social role of schooling and the inter- and intra-personal activity among teachers, students, and the mathematics being taught and learned; and (b) the need to more fully understand the influences of cultural values, economic conditions, social structures, and emerging technologies on schools generally and on teaching and learning specifically.

In arguing for the inclusion of philosophy, Higginson (1980) cautiously noted that to some the gates have been open too far already with the inclusion of sociological considerations. Nonetheless, for Higginson the inclusion of philosophical considerations in mathematics education (reform or otherwise) is important because all human “intellectual activity is based on some set of assumptions of a philosophical type” (p. 4). These assumptions, he stated:

*will vary from discipline to discipline and between individuals and groups... . They may be explicitly acknowledged or only tacitly so, but they will always exist. Reduced to their essence these assumptions deal with concerns such as the nature of “knowledge,” “being,” “good,” “beauty,” “purpose” and “value”. More formally we have, respectively, the fields of epistemology, ontology, ethics, aesthetics, teleology and axiology. More generally we have the issues of truth, certainty and logical*

*consistency.*

Similar to Higginson (1980), as a former high school mathematics teacher and currently as a mathematics education teacher educator and researcher, I am committed to the idea that to ethically engage in reform efforts in mathematics teaching and learning, which should have as their chief aim improving the mathematics learning experiences and opportunities for every child, requires that the mathematics teacher, teacher educator, and/or education researcher (i.e., the mathematics educator) engage in the task of developing a philosophy of mathematics teaching and learning or, to speak more broadly, a philosophy of education.

In this essay, to assist other mathematics educators in the task of developing a philosophy of education, I begin by providing a working definition of philosophy from a cultural point of view. I then historically situate three scholars—John Dewey, Paulo Freire, and Michel Foucault—in the field of education; scholars who have been instrumental in the formulation of my philosophy of education. Next, I share how the philosophies of these three scholars provide me with different languages to critique three specific aspects of education. I conclude the discussion with an explanation of the process of developing my own ever-evolving philosophy of mathematics teaching and learning.

## **II. Defining Philosophy from a Cultural Point of View**

Dewey (1934/1989) provided a working definition of philosophy from a cultural point of view: a critique of basic and widely shared beliefs and values that are attached to customs and institutions within a social and historical milieu. That is, philosophical assumptions such as the nature of knowledge, being, good, beauty, and so forth are best understood as socio-cultural and -historical “significant *cultural* phenomena” (p. 29, emphasis added) that change over time. The chief role of philosophy then “is to bring to consciousness, in an intellectualized form, or in the form of problems, the most important shocks and inherent troubles of complex and changing societies” (p. 30). When philosophy serves this function, Dewey suggested, systems “divide into the conserving and the revolutionary” (p. 30). He claimed that some thinkers will “preserve the values that are already embodied in the traditional, relatively established order...by setting forth their rational justification” (p. 30). Other thinkers, how-

ever, “sometimes the most important of an entire generation, [who] are acutely conscious of the deficiencies and corruptions of the existent order” will fashion their thinking in a manner that demonstrates the “necessity of radical changes and to pointing out the character of needed reforms” (p. 30). In other words, Dewey believed that although philosophy serves the purpose of preserving the existing social order, it should also, and more importantly, motivate radical change.

As Dewey (1934/1974) explicitly argued for a philosophy of education in his essay “The Need for a Philosophy of Education,” he stated:

*While the educator must use results that have already been accomplished [she or] he cannot, if he is truly an educator, make them his final and complete standard. Like the artist he has the problem of creating something that is not the exact duplicate of anything that has been wrought and achieved previously. (p. 7)*

I, too, believe that what is needed in education is the creation of something new and less duplication. My reflective readings of philosophers and education scholars, past and present, coupled with life experiences, undergraduate and graduate coursework, and collegial discussions have provided me the opportunity to develop a philosophy of education that aims at achieving an education that has not been wrought or achieved previously. In doing so, I clearly understand that developing a philosophy of education means making choices among different and oftentimes conflicting perspectives about the purposes of education (Dewey & Childs, 1933/1989).

Consequently, while choosing the perspectives that have been instrumental to my developing philosophy of education, I acknowledge the complexity of the issue of impartiality. Dewey and Childs (1933/1989) argued:

*The scheme of education itself cannot be impartial in the sense of not involving preference for some values over others. The obligation to be impartial is the obligation to state as clearly as possible what is chosen and why it is chosen. ...It will be helpful if those who disagree in practice, in the courses of action they are following, will also clarify and expose the grounds for their policies: in short, develop and formulate their philosophies of education. (p. 78, emphasis in original)*

In other words, when making education choices, I do not have the means of being impartial. That is, the reasons

for making the choices that I or anyone for that matter make are always shaped and informed by her or his positionality, experiences, and morals and values. I believe that as those who are engaged in the profession of education debate various perspectives regarding the purposes of (mathematics) education that the debates should not be centered around whose perspective is “right” or “wrong,” but rather around what are the ontological, epistemological, and ethical bases, that is, the philosophical basis, (Paul & Marfo, 2001) for why one perspective is chosen over another. Engaging in debates of this sort requires the formulation of a philosophy of education, as suggested by Dewey and Childs, resulting, I believe, in more productive debates about mathematics teaching and learning.

### III. Situating Dewey, Freire, and Foucault in Education

If one argued that Plato’s philosophy established the concept of public education in Western thought, and that Jefferson’s philosophy established the concept of public education in the United States, then one could argue that Dewey’s philosophy, “comparable in scope and depth to that of Plato” (Cahn, 1991, p. xviii), established how public education would be debated in the United States during the twentieth and twenty-first centuries. As one of the founders of the philosophical school of pragmatism, John Dewey (1859–1952) was a prolific writer who contributed to the fields of philosophy, psychology, and education. He established the University Elementary School at the University of Chicago in 1896 (renamed the Laboratory School in 1902), which established his national and international prominence in education (Jackson, 1990). Although it has been argued that Dewey’s philosophy has had minimal influence in the actual practices of schools (Jackson, 1990; Kliebard, 1995; Spring, 1991), his philosophy “earned [him] a place in the panoply of the world’s great educators” (Kliebard, 1995, p. 27). Kliebard (1995) suggested that one of the reasons for the limited influence on actual school practice was due to Dewey’s “considerable departure from the main line of any of the established [education] movements” (p. 26) of the first part of the twentieth century.

Kliebard (1995) identified four movements that were “struggling” for the American curriculum at the turn of the twentieth century: (a) the humanist, who emphasized the classic traditional disciplines of knowledge found in Western philosophy; (b) the developmentalist, who

emphasized the “natural” development of the child; (c) the social efficiency educators, who emphasized a “scientific” approach toward the “natural” development of social stratification; and (d) the social meliorists, who emphasized education as a means of working toward social justice. Kliebard suggested that Dewey’s position in matters of curriculum was an “integration and especially a reinterpretation” (p. 26) of these four movements. Ironically, it was probably due to the fact that Dewey “was not a man who chose sides easily” (p. 26) that still makes his philosophy so influential in the debate of education in the twenty-first century. Jackson (1990) argued that Dewey’s philosophy of education extended beyond schools: “It is also a vision of what our whole society might be like if we all worked at it and how ours schools might contribute to that noble end [a more just society]” (p. xxxv).

Perceiving education as a means toward a more just society was also an integral element in the scholarship and philosophy of Paulo Freire (1921–1997). Influenced in part by the writings of Dewey, Freire has been identified as “the most important educator of the second half of [the twentieth] century” (Carnoy, 2000, p. 7) and “one of the great revolutionaries of our generation” (McLaren, 1997, p. 101). It is the coupling of these two descriptors, educator and revolutionary, that best characterizes Freire and his scholarship. Freire was a Brazilian born no-armchair professor (i.e., “reflection without action is empty ‘verbalism’” [Crotty, 1998, p. 147]) of history and education who was significantly influenced by the works of Marx and Gramsci (Crotty, 1998). His initial engagement in education was through the development of a literacy campaign for the “peasants” of northeastern Brazil during the late 1950s and early 1960s. Based on the campaign’s success it was adopted by Brazil’s Ministry of Education in 1963 and showed great promise in transforming the economic structure of Brazil (Gadotti, 1994). The military *coup d’état* of 1964, however, toppled the Brazilian government and forced Freire into exile.

While in exile for 16 years, first in Chile and then time spent in Switzerland and the United States, Freire continued to work and write for social transformation and justice through education. The publication of the English translation of *Pedagogy of the Oppressed* in 1970 distinguished him as an education scholar on the international front.

Freire’s education philosophy has been influential in Third World countries since the 1960s and began to become influential in First World countries in the 1980s as

part of the critical educational and pedagogical movement. This movement is rooted in the social and political critique of the Frankfurt School (*circa* 1920), which holds a Marxist theoretical perspective: to critique and subvert domination in all its forms (Bottomore, 2001). Skovsmose (1994), drawing from the work of Freire (and others), defined the “most general and uniting idea” of a critical education:

*If education, as both a practice and research, should be critical it must discuss basic conditions for obtaining knowledge, it must be aware of social problems, inequalities, suppression etc., and it must try to make education an active progressive social force. A critical education cannot be a simple prolongation of existing social relationships. It cannot be an apparatus for prevailing inequalities in society. To be critical, education must react to social contradictions. (pp. 37–38)*

Overall, Freire’s scholarship has influenced countless educators within the United States and throughout the world. His philosophy of education characterizes knowledge as a never ceasing social and emancipatory process in which humans through critical thinking learn to read and write their worlds with the aim of transformation toward a more just society. In closing his last book *Teachers as Cultural Workers: Letters to Those Who Dare Teach* published posthumously, Freire (1998) concluded: “Knowing has everything to do with growing. But the knowing of dominant minorities absolutely must not prohibit, must not asphyxiate, must not castrate the growing of the immense dominated majorities” (p. 95).

The scholarship and philosophy of Michel Foucault (1926–1984), a French political and social activist and philosopher, is also rooted in the social and political critique of the Frankfurt School with an emphasis on a structuralist Marxist critique of humanism of the Enlightenment. The Student and Worker’s Revolt of 1968 in Paris, however, dramatically changed the frame of structuralist philosophy, significantly impacting Foucault and others who later would become known as post-structuralists (e.g., Jacques Derrida, Gilles Deleuze, Félix Guattari, Julia Kristeva, Jean-François Lyotard).<sup>1)</sup> The failed 1968 Revolt brought about a rethinking and ultimately abandonment of the Marxist structuralist critique with its anal-

ysis of economic structures, and was replaced by a post-structuralist critique of the discursively constituted subject and the deconstruction of cultural symbols and hierarchies (Belsey, 2002; Sarup, 1983). Deconstruction, generally speaking, works to unsettle and displace cultural symbols and hierarchies, to uncover their historically contingent origin and politically charged roles, not to provide a “better” foundation for knowledge and society, but rather to dislodge their dominance, creating a social space that demonstrates its tolerance of difference, ambiguity, and playful innovations (Seidman, 1994).

Foucault, “never a structuralist strictly speaking, or a post-structuralist” (Dreyfus & Rabinow, 1983, p. xxiv), was significantly influenced by the works of Nietzsche. Foucault’s critiques on the discursively constituted human subject, knowledge, history, and sexuality used an analysis of power and the methods of archeology and genealogy, which were derivatives of Nietzsche’s scholarship (Crotty, 1998). Throughout all of Foucault’s critiques he encouraged one to think the unthought, to think: “how is it that one particular statement appeared rather than another” (Foucault, 1969/1972, p. 27)? Clifford Geertz, the renowned American anthropologist, in the *New York Review of Books* in January 1978 characterized Foucault as “a kind of impossible object: a nonhistorical historian, an anti-humanist human scientist, and a counter-structuralist structuralist...the difficult of his work arises not only from self-regard...but from a powerful and genuine originality of thought” (quoted in Dreyfus & Rabinow, 1983, p. xviii-xix). Rorty suggested, “Foucault can be read...as an up-to-date version of John Dewey” (quoted in Thomas, 1997, p. 98). While St. Pierre (2004) argued, “both Foucault and his readers are multiple and changing, mastering Foucault is impossible” (p. 325). The scholarship of Foucault as well as all those who are “identified” as post-structuralists has only been taken up within the U.S. education framework for the past three decades or so. It will be interesting to observe how the poststructuralist critique of humanism will be played-out in schools and classrooms as educators struggle to think the unthought of U.S. education.

#### IV. Engaging Dewey, Freire, and Foucault in a Philosophy of Education

The scholarship of Dewey, Freire, and Foucault has been instrumental in the formulation of my philosophy of education. Individually and collectively their scholarship made available new languages. For instance, Dewey

1) None of the philosophers listed would claim the label of post-structuralist, with the exception of Lyotard who claimed the label postmodernist.

(1933/1989) provided the language of *reflective thinking*: “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends” (p. 118). Freire (1970/2000) provided the language of *critical thinking*: “learning to perceive social, political, and economic contradictions, and to take action against the oppressive elements of reality” (p. 35). And Foucault (1969/1972) provided the language of *divergent thinking*: “The description of the events of discourse poses a quite different question: how is it that one particular statement appeared rather than another?” (p. 27). This acquisition of different languages has provided me with the ability to engage in critical reflections on my lived experiences, resulting in the rewording of my world (Freire, 1970/2000). The consequence of rewording my world with the languages of reflection, critique, and difference has resulted in my rethinking the purposes and possibilities of education, amending my (what I now understand to be) ever-evolving philosophy of education.

While providing a means of rethinking education by contributing new languages, the scholarship of Dewey, Freire, and Foucault has also contributed by providing specific critiques on three aspects of education: the purpose of schools (e.g., Dewey, 1916), the role of pedagogy (e.g., Freire, 1970/2000), and the nature of knowledge (e.g., Foucault, 1969/1972), respectively. In making the foregoing statement, I do not intend to suggest that Dewey only critiqued education with respect to the purpose of schools; Freire, only with respect to the role of pedagogy; and Foucault, only with respect to the nature of knowledge. Clearly, the philosophy of each of these three scholars is comprehensive and complex, addressing not only the concepts that I have mentioned but also much of human thought and action. Nonetheless, for the purpose of this discussion that aims to shed some light on the effect that each of these scholars has had on my developing philosophy of education, I have limited the discussion to these three concepts.

Dewey’s philosophy has significantly influenced how I think about the purpose of schools. He argued that the chief theme for consideration of the problem of education should be for schools to attain “clarity concerning the concrete significance of democracy” (Dewey 1937/1987, p. 416). Dewey suggested, rather than take “democracy for granted,” thinking and acting as if the forefathers had founded it once for all, that the ideal of democracy “has to be enacted anew in every generation” (p. 416). And, for Dewey, the concept of enacting anew the ideal of democ-

racy meant directing social change toward a more equitable and just society. While acknowledging the powerful forces outside the school that effect the possibility of enacting anew this ideal, Dewey vehemently argued that although school is not a “sufficient condition, it is a necessary condition” (p. 414) in directing social change. Dewey (1934/1974) explicitly stated:

*Unless the schools of the world can engage in a common effort to rebuild the spirit of common understanding, of mutual sympathy and goodwill among all people and races, to exercise [sic] the demon of prejudice, isolation and hatred, the schools themselves are likely to be submerged by the general return to barbarism. (p. 14)*

I agree with Dewey’s argument to make the chief theme in schools creating anew the ideal of democracy while rebuilding the spirit of common understanding, mutual sympathy, and goodwill among all people and races.

Freire’s philosophical perspective has provided the frame for my rethinking the role of pedagogy. He strongly criticized the most often used form of pedagogy, which he identified as the “‘banking’ concept of education” (Freire, 1970/2000, p. 72). This concept of education positions students as passive and empty receptacles eagerly awaiting the teacher’s deposits of knowledge. Freire, on the other hand, argued for a problem-posing pedagogy in which Subjects<sup>2)</sup> “develop their power to perceive critically *the way they exist* in the world *with which* and *in which* they find themselves” (p. 83). A problem-posing pedagogy is dialogical, reconfiguring the “traditional” teacher-student roles. In a problem-posing pedagogy, Freire claimed:

*The teacher is no longer merely the-one-who-teaches, but one who is [herself or] himself taught in dialogue with the students, who in turn while being taught also teach. They become jointly responsible for the process in which all grow. ...Here, no one teaches another; nor is anyone self-taught. People teach each other. (p. 80)*

I agree with Freire’s challenge to teachers to develop learning environments in which teachers and students alike become teachers and learners. Freire (1970/2000) suggested that the dialogical nature of problem-posing

2) Freire (1970/2000) defined Subjects, with a capital S, as “those who know and act in contrast to objects, which are known and acted upon.—Translator’s note” (p. 36).

pedagogy affirms subjects (teachers and students) “as beings in the process of *becoming*—as unfinished, uncompleted beings in and with a likewise unfinished reality” (p. 84, emphasis in original). Freire’s reconfiguration of the roles of pedagogy resonates with my own thinking. Pedagogy should facilitate the development of reflective and critical life-long learning by teachers and students alike. Freire believed, as I do, that this reconfiguration of pedagogical roles transforms education into a liberating praxis—reflection followed by action, followed by reflection, followed by action, and so on—resulting in the humanization of teachers and students.

Foucault’s philosophy has been instrumental in my rethinking the nature of knowledge. Foucault (1969/1972) replaced the concept of the “nature” of knowledge with the “discursive formation” (p. 38) of knowledge. In other words, Foucault rejected the “natural” concepts of knowledge found in humanism, such as Descartes’ dualism of mind-body, which argues that the thinking subject is the authentic author of knowledge, or Comte’s positivism, which rejects knowledge produced within the realms of theology and metaphysics in favor of a scientific knowledge gained from methodologically observing the sensible universe (St. Pierre, 2000). Foucault uncovered knowledge as a discursive formation through the means of performing an archeological analysis—a method that examines the history of a discourse. But rather than being concerned with uncovering the “truth” by an examination of facts and dates, archeology is concerned with the “historical conditions, assumptions, and power relations that allow certain statements, and by extension, certain discourses to appear” (St. Pierre, 2000, p. 496). To clarify the limits of discursive formations, Foucault wrote:

*The field of discursive events...is a grouping that is always finite and limited at any moment to the linguistic sequences that have been formulated; they may be innumerable, they may, in sheer size, exceed the capacities of recording, memory, or reading; nevertheless they form a finite grouping. (p. 27)*

In effect, knowledge viewed as a discursive formation no longer maintains its privileged status as an “objective” reality, but knowledge itself becomes subjected to and limited by the very historical and sociocultural assumptions, conditions, and power relations against which natural knowledge within the humanist tradition claimed immunity.

As a mathematics educator, I have rethought and

reworded—with and through the languages of reflection, critique, and difference—the purpose of schools, the role of pedagogy, and the nature of knowledge. This rethinking and rewording is evident across my research and scholarship where I champion and apply non-traditional theories and methodologies to move the mathematics education community into fuller theoretical and practical understandings of how the intersectionalities of race, class, gender, ethnicity, language, and so forth come into play in mathematics and mathematics teaching and learning. This work includes justifications for culturally relevant and critical/social justice mathematics teaching (e.g., Stinson, 2004; Stinson, Bidwell, & Powell, 2012; Wager & Stinson, 2012), explorations of how sociocultural discourses and discursive practices influence mathematics achievement and persistence (e.g., Stinson, 2006, 2008, 2013), and proposals for critical postmodern theory and methods in mathematics education research (e.g., Stinson, 2009; Stinson & Bullock, 2012, 2015). The aim in all of this work is to assist in transforming mathematics from an instrument of social stratification to an instrument of *self*-empowerment (Stinson, 2004).

## V. In the End, an Ever-Evolving Philosophy

As I have singled out the scholarship of Dewey, Freire, and Foucault, one should not infer that these are the only scholars who have influenced my thinking, for there have been many, but these three scholars have had substantial impact. Nor is the discussion intended to suggest that the aspects of the concepts that I have highlighted reflect a complete picture of how each of these scholars reconceptualized these human concerns. Furthermore, one should not infer from the discussion that I currently agree with all aspects of their philosophies or that I will in the future. My philosophy is changing concurrently with my understanding of theirs. Indeed, the attributes of change and growth, and contradiction, are reoccurring aspects found in their philosophies—as well as in mine. But we are in good company: “Nietzsche...argued that consistency in a thinker is more a symptom of a disease than a theoretical virtue” (Orton, 1995, p. 227).

In view of the fact that I have implied that the attributes of change, growth, contradiction, and even inconsistency are positive attributes found within my philosophy of education, one might ask: What then is the purpose of a philosophy of education? Dewey and Childs (1933/1987) argued that the purpose, or “business,” of a philosophy of education is

*to make clear what is involved in the action which is carried on within the educational field, to transform a preference which is blind, based on custom rather than thought, into an intelligent choice—one made, that is, with consciousness of what is aimed at, the reasons why it is preferred, and the fitness of the means used. (p. 78)*

With Dewey and Child's remark in mind, what I have developed within the context of a philosophy of education is a philosophical *statement* of education. This statement is similar to the mission statement of an organization, which ideally is meant to reflect its vision and drive its actions. This statement of education acts as a guide as I make choices that abandon the restraints of what is "customarily" done in schools, in order to embrace intelligent possibilities—that is, possibilities that are consistent with my evolving philosophy of education—of what might be achieved in and through schools. In other words, it serves as a checkpoint to ensure that the choices I make within the context of education are intelligent choices rather than choices that are blind—based on custom rather than thought (cf. Dewey 1934/1989). If I perceive a contradiction between my actions and statement, I make an assessment as to the soundness of the actions, the statement, or both, making modifications when ethically necessary.

This constant assessment as to the ethics of my actions against my philosophy of education keeps my philosophy of education in motion. In other words, although this discussion attempted to present the development of my philosophy of education in a linear fashion, in actuality it has no beginning or end, just a middle (Deleuze & Guattari, 1980/1987). Or understood in another way, it will always be a work in progress. Each time I read and reread a book, essay, or interview by Dewey, Freire, or Foucault (and others) I am impelled into critical reflection—rethinking my rethinking. And ever since Foucault entered into the picture, I attempt to think the unthought. St. Pierre suggested that we get smarter as we read, and as we reread we will always find something different because we have changed since the last reading (E. A. St. Pierre, personal communication, fall 2002). But then again, as I read and reread text, I no longer have "dreams of deciphering a truth or an origin"; but rather, I think about how the text offers a different way of seeing, trying "to pass beyond man and humanism" (Derrida, 1978, p. 292). Presently, I am reconciling old and discovering new contradictions concurrently within my philosophy; nevertheless, my continued intimacy with Dewey, Freire, and Foucault will

unendingly influence my ever-evolving philosophy of education.

## VI. Coda

Recently, in mathematics education—similar to disciplines such as engineering, chemistry, health, and others—there have been discussions about what might be the "grand challenges" for mathematics teaching and learning in the twenty-first century. Over the past couple of years, the National Council of Teachers of Mathematics Research Committee has been spearheading the discussion for the larger mathematics education community. In the summer of 2014, the committee sent a brief survey to a broad range of members of the community to assist the committee in framing what grand challenges in mathematics education might "look like." In the March 2015 issue of the *Journal for Research in Mathematics Education* the committee formally outlined their efforts thus far in the commentary "Grand Challenges and Opportunities in Mathematics Education Research" (Stephan et al., 2015).

In summarizing their efforts, the Research Committee (Stephan et al., 2015) provided both justifications and cautions of developing a list per se of grand challenges. In the end, they acknowledged that although dangerous not developing a list is not an option. In short, they warned, "If we do not set forth an agenda as a community, others certainly will" (p. 144). Although the process of developing a list is still undecided, the committee provided some possible grand challenges themes and a hypothetical grand challenge based on an analysis of the initial survey data. The three possible themes were (a) changing perceptions about what it means to do mathematics, (b) changing the public's perception about the role of mathematics in society, and (c) achieving equity in mathematics education (p. 139). The hypothetical challenge was "*All students will be mathematical literate by the completion of eighth grade*" (p. 140).

The language alone in both the themes and the hypothetical simply demonstrate the need for those who are and will be engaged in the grand challenges debates to develop and formulate *their* philosophies of (mathematics) education (cf. Dewey & Childs, 1933/1989). Responses to questions such as what does it mean to do mathematics, what is the role of mathematics in society, how is equity in mathematics achieved, and what is mathematical literacy, are not detached from a person's philosophical assumptions and choices about the meaning of



knowledge, being, good, beauty, purpose, value, and so forth. As the Research Committee (Stephan et al., 2015) noted, “It is clear to us that people’s theoretical orientations, ideologies, epistemologies, and values will shape what they might put forward” (p. 143). Therefore, given that impartiality is impossible, as argued by Dewey and Childs (1933/1989), it will be helpful if those who champion different assumptions and choices during the debates clarify and expose the grounds for their philosophies of (mathematics) education.

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