

Journal of Mathematics Education at Teachers College

Spring – Summer 2011

A CENTURY OF LEADERSHIP IN
MATHEMATICS AND ITS TEACHING

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The *Journal of Mathematics Education at Teachers College* is a publication of the
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This issue honors Clifford B Upton who was a senior member of the Teachers College faculty from 1907 until his retirement in 1942. Professor Upton was among the Nation's most prolific mathematics authors. He served on the Board of Directors of the American Book Company enabling him to endow the Clifford Brewster Chair of Mathematics Education. The first professor to hold the Upton Chair was Dr. Myron Roszkopf.

Bruce R. Vogeli has completed 47 years as a member of the faculty of the Program in Mathematics, forty-five as a Full Professor. He assumed the Clifford Brewster Chair in 1975 upon the death of Myron Roszkopf. Like Professor Upton, Dr. Vogeli is a prolific author who has written, co-authored or edited more than two hundred texts and reference books, many of which have been translated into other languages.

This issue's cover and those of future issues will honor past and current contributors to the Teachers College Program in Mathematics. Photographs are drawn from the Teachers College archives and personal collections.

Aims and Scope

The *JMETC* is a re-creation of an earlier publication by the Teachers College Columbia University Program in Mathematics. As a peer-reviewed, semi-annual journal, it is intended to provide dissemination opportunities for writers of practice-based or research contributions to the general field of mathematics education. Each issue of the *JMETC* will focus upon an educational theme. The theme planned for the 2011 Fall-Winter issue is: *Technology*.

JMETC readers are educators from pre K-12 through college and university levels, and from many different disciplines and job positions—teachers, principals, superintendents, professors of education, and other leaders in education. Articles to appear in the *JMETC* include research reports, commentaries on practice, historical analyses and responses to issues and recommendations of professional interest.

Manuscript Submission

JMETC seeks conversational manuscripts (2,500-3,000 words in length) that are insightful and helpful to mathematics educators. Articles should contain fresh information, possibly research-based, that gives practical guidance readers can use to improve practice. Examples from classroom experience are encouraged. Articles must not have been accepted for publication elsewhere. To keep the submission and review process as efficient as possible, all manuscripts may be submitted electronically at www.tc.edu/jmetc.

Abstract and keywords. All manuscripts must include an abstract with keywords. Abstracts describing the essence of the manuscript should not exceed 150 words. Authors should select keywords from the menu on the manuscript submission system so that readers can search for the article after it is published. All inquiries and materials should be submitted to Ms. Krystle Hecker at P.O. Box 210, Teachers College Columbia University, 525 W. 120th St., New York, NY 10027 or at JMETC@tc.columbia.edu

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Call for Papers

The “theme” of the fall issue of the *Journal of Mathematics Education at Teachers College* will be *Technology*. This “call for papers” is an invitation to mathematics education professionals, especially Teachers College students, alumni and friends, to submit articles of approximately 2500-3000 words describing research, experiments, projects, innovations, or practices related to technology in mathematics education. Articles should be submitted to Ms. Krystle Hecker at JMETC@tc.columbia.edu by September 1, 2011. The fall issue’s guest editor, Ms. Diane Murray, will send contributed articles to editorial panels for “blind review.” Reviews will be completed by October 1, 2011, and final drafts of selected papers are to be submitted by November 1, 2011. Publication is expected in late November, 2011.

Call for Volunteers

This *Call for Volunteers* is an invitation to mathematics educators with experience in reading/writing professional papers to join the editorial/review panels for the fall 2011 and subsequent issues of *JMETC*. Reviewers are expected to complete assigned reviews no later than 3 weeks from receipt of the manuscripts in order to expedite the publication process. Reviewers are responsible for editorial suggestions, fact and citations review, and identification of similar works that may be helpful to contributors whose submissions seem appropriate for publication. Neither authors’ nor reviewers’ names and affiliations will be shared; however, editors’/reviewers’ comments may be sent to contributors of manuscripts to guide further submissions without identifying the editor/reviewer.

If you wish to be considered for review assignments, please request a *Reviewer Information Form*. Return the completed form to Ms. Krystle Hecker at hecker@tc.edu or Teachers College Columbia University, 525 W 120th St., Box 210, New York, NY 10027.

Looking Ahead

Anticipated themes for future issues are:

Fall 2011	Technology
Spring 2012	Evaluation
Fall 2012	Equity
Spring 2013	Leadership
Fall 2013	Modeling
Spring 2014	Teaching Aids

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Editorial Point

Will Common Core State Standards facilitate consistency and choice?

The development of the Common Core State Standards (CCSS), if implemented well, represents a step forward towards achieving an educational system that simultaneously encourages a common level of consistency and affords choice in mathematics education, particularly at the secondary level.

Education can be viewed as a public good or a private good, as the source of granting access to learning or withholding it, as the place for institutionalizing knowledge or individualizing it, or as all of these things, representative of the various pressures that invade the educational landscape. Consistency and choice are often opposing forces in the educational landscape, frequently brought out by debates around standards-based education, like the current proposition and adoption of the CCSS. The idea of standards-based education is linked to trying to achieve consistency, which is often viewed as being at the expense of choice. Americans cringe at the thought of enforcing consistency without consideration of the individual; they fear that national-level standards would create too many barriers for differentiating the curriculum enough to serve every student individually.

Yet a common core curriculum between states has many advantages—the United States is one of the only OECD countries to have such a decentralized system. Common standards have the capacity to: allow all students, regardless of state, city, or location, access to rigorous and carefully planned out materials, under teachers who are held accountable to teaching the same curriculum by state assessments; simplify and focus the content taught in K-12 mathematics courses; allow choice, but also include high expectations; facilitate transcript reviews by post-secondary institutions, since courses taught in different schools and states would cover similar core content; and keep teachers knowledgeable of basic expectations and goals in education. Common standards between states are advantageous in many ways in an age of testing and international accountability and comparison. The question surrounding the adoption of these core standards is less about the evidence for *why* they should be included, and more about *how* these standards would be implemented.

If the swing towards consistency, represented by the CCSS, comes at the cost of choice, the results will be poor. Choice, however, can be elusive. Granting too little choice in education in the short term, by mass producing education and treating everyone as identical, can have a stifling effect on creativity and unnecessarily limit what students are exposed to in a way that restricts options in the long run. Still, granting too much choice in the short term, by letting individuals make potentially limiting and uninformed decisions too early, also can exponentially reduce the availability of choices and options in the long term—perhaps, even, in a way that disadvantages and does not serve some populations of students equally. It must be for a balance between regulating and allowing choice that standards aim. The proposed CCSS give evidence of just that. Requiring students to complete up to Algebra II helps keep future options open; making a broad variety of secondary mathematics curriculum available to students helps keep the mathematics content relevant and useful for a variety of future careers. The educational requirements in mathematics are less about mathematicians' egos than American democratic tendencies and ideals. Not teaching mathematics, not clearly identifying what should be taught, not setting high expectations, and not including relevant alternatives to traditional mathematics courses are mistakes.

The CCSS document reflects a balance between consistency and choice desired in education. If their implementation becomes a vehicle to promote consistency, but still adopted and executed at a local level, allowing for some choice, they have the capacity to promote a positive sea change in mathematics education.

Nicholas H. Wasserman

Editorial Counterpoint

Will Common Core State Standards lead to unexpected outcomes?

The Common Core State Standards are a continued move towards the standardization of American public mathematics, under the guise of consistency, and a unified definition of appropriate mathematics for the future American citizen. In continuing on with the march towards standardization, “There are known knowns. These are things we know that we know. There are known unknowns. That is to say, there are things that we know we don’t know. But there are also unknown unknowns. There are things we don’t know we don’t know” (Rumsfeld, 2002)¹.

These insightful words offer us a surprisingly accurate way of viewing the current incarnation of the ongoing standards movement. The known knowns are the modern characteristics of the ideal child. A smooth flowing document, CCSS opens by describing how a child is to think in mathematical situations, effortlessly shifting to what the appropriate content is to expose a child to in order to fabricate this modern democratic citizen. If adhered to and mastered, a child has the ability to succeed in college and career.

The known unknowns of the most recent edition of the mathematics standards are the effects the standards will have on the teaching and learning of mathematics in our public schools. But the mood is optimistic. There is reason for this optimism, and as we listen to the rhetoric of the importance of education for the good of the nation, we gain insight into the motivation for improvement. A highly technologically skilled workforce will lead the United States back to the top in economic innovation and development, while simultaneously developing a better informed citizenry that can use mathematics critically to examine real life situations. The coming years will offer us insight into the current things we don’t know we don’t know as far as outcomes and efficacy of the evolving standards movement. It is these unknown unknowns that should cause pause.

While these innovations and rationales seem reasonable at first, one also must take into consideration the history of public education in the United States and its past effects on our population. Currently our schools serve as societal filters, relegating those who choose to resist or reject modernity’s ascriptions, to lower standards of living and limited access to governmental agency. There are reasons to believe that this may, in fact, be by design. At this crucial moment in history it is important to question the role that mathematicians and mathematics educators will play in continuing these past patterns of discrimination.

Complicity in this enterprise is not an easy pill to swallow, especially when many of those involved have the best of intentions. Regardless, whether to support the trend of standardizing education is a necessary question for anybody who involves themselves in these matters. The CCSS document itself is harmless; however, it provides others with artillery to move forward, streamlining content and creating assessments for our schools. With the new standards in the hands of policy makers, our schools are transformed into marketplaces for private industry under the guise of educational technology, test development, and curriculum materials. Is the crisis in education based upon poor performance on admittedly unreliable assessments? If so, is the expenditure of time and capital justified?

How democratic ideals will be realized through limiting choice in education, narrowing and governing the soul of the American student, and mandating ascription to modernity’s capitalist ideals, is a question that will continue to go unanswered by those whose interests have been served for many years. The ominous unknown unknown of the standards movement may be its impact upon democracy. Will national standards that restrict educational choices lead eventually to restriction of action, of thought, of belief? Will curricular proscription lead eventually to proscribed lives? Truly an unknown unknown!

Jacob Koehler

¹ Rumsfeld, Donald. Press Conference at NATO Headquarters. Brussels, Belgium. 06 June 2002

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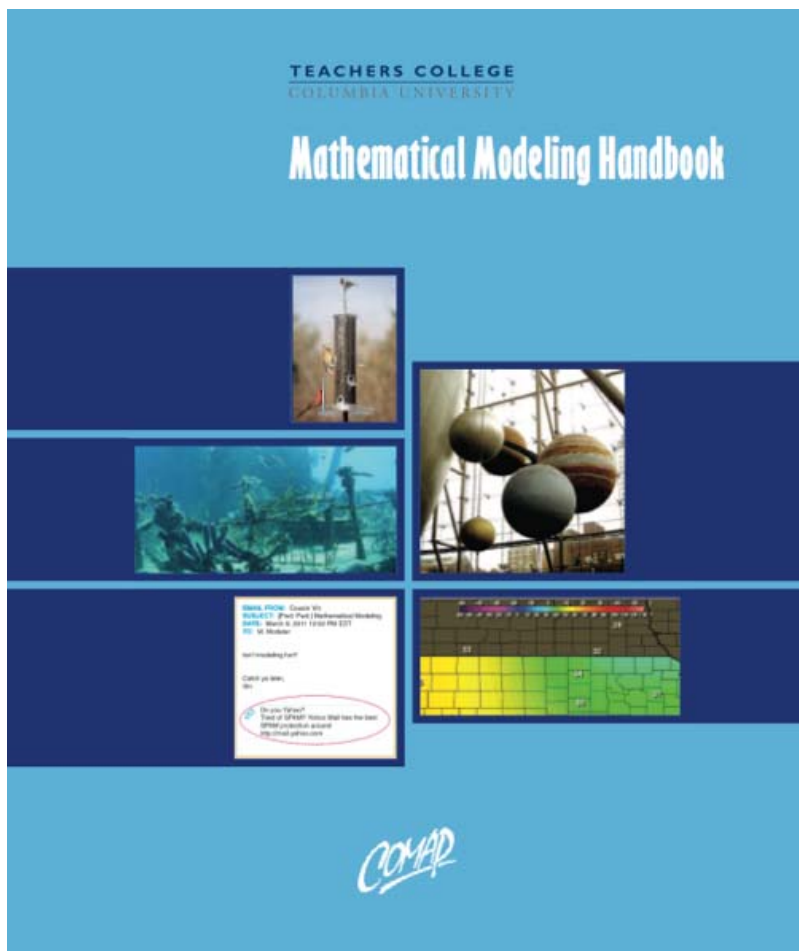
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Review of applications will begin by November 15, 2011 and continue until the search is completed. Appointment begins September 2012.

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