

AMATYC and MITE Team Up To Tackle Developmental Math

On Tuesday, February 24th, 2009, newly elected President Barack Obama addressed a joint session of Congress with a [speech](#) that covered several weighty issues facing the nation. One of these was education: “In a global economy where the most valuable skill you can sell is your knowledge, a good education is no longer just a pathway to opportunity – it is a pre-requisite. Right now, three-quarters of the fastest-growing occupations require more than a high school diploma. And yet, just over half of our citizens have that level of education.” The President went on to urge Americans to commit to enrolling for at least one year to an institution such as a community college.

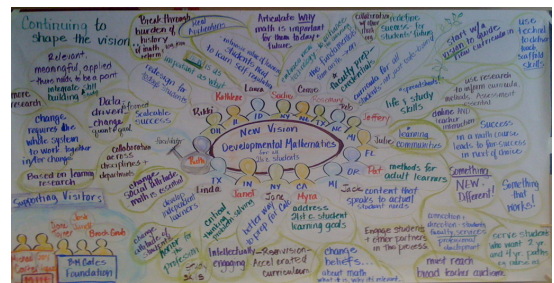
While investments of personal and professional betterment are crucial to the future of the American workforce, there are hurdles along the way, with developmental mathematics being one of the biggest barriers to student progress. Simply put, many students are not prepared for success in higher education. According to a recent Bill and Melinda Gates Foundation [press release](#):

“...nearly 60 percent of students enrolling in the nation’s community colleges must take remedial classes to build their basic academic skills. For low-income students and students of color, the figure topped 90 percent at some colleges. Remedial classes cost taxpayers more than \$2 billion a year, money that is mostly wasted as few students even complete the classes, let alone continue on to graduate.”

With such a large percentage of students not prepared for a continuation of their education, a new pathway is needed that will give students an opportunity to finish college ready to enter and remain in the workforce.

To help address this crucial problem, the Monterey Institute for Technology and Education (MITE) has embarked upon a networking effort, headed by Director of

Learning Design Ruth Rominger, to connect several groups focused on the lack of literacy in mathematics in college-bound students. MITE and the Bill and Melinda Gates Foundation recently



brought together subject-matter experts from AMATYC ([American Mathematical Association of Two-Year Colleges](#)) and representatives from the Gates Foundation to develop a new vision for a developmental mathematics curriculum.

Ambitions for the group included drafting a vision for developmental mathematics for the next decade, building a consensus on promising models, providing guidance on curricula and approaches, and considering an alternative path culminating in a college-level statistics course (rather than to calculus). The timing was fortuitous in that an AMATYC committee had already begun to tackle the lack of success in development mathematics. In collaboration with MITE and with support from the Gates Foundation, the committee was able to convene in person for the first time for a graphically facilitated curriculum design workshop to make substantial progress on their goals.

Richelle (Rikki) Blair, President of AMATYC, and Jack Rotman, Chair of the AMATYC Development Mathematics Committee, collaborated with Rominger to develop the workshop agenda. “It was a process of culling down a list of a few hundred learning objectives that [the group] believed students need if they want to pursue any major in college,” Rominger said. After tying down a working schedule, Rominger went on to facilitate the workshop process and graphically record the group’s work. “We arranged a very interactive 2.5 days...everyone was very pleasantly surprised that we were able to make so much progress.”

Combining the practical knowledge of the mathematics practitioners, the over-arching vision of the Gates Foundation, and the research and implementation experience of



MITE, a curriculum framework was drafted that will guide the expansion of future developmental math courses. MITE will also participate in the developmental mathematics symposium at the

annual [AMATYC conference in November](#), where a larger group of two-year college math instructors will discuss the framework, hopefully leading to the creation of suggested syllabi.

The framework that came out of the Seattle workshop is a “new vision” for mathematics courses leading to college level-material, but there is a broader purpose as well: “As functioning citizens in today’s world, in the 21st century, everybody needs to have basic

literacy in math.” Rominger explains. “It’s important to be able to understand what you read in the paper, to be able to understand what a financial plan is, etc. We’re aiming at what I call ‘citizen literacy’ in math, as well as preparing all students for choosing different college career pathways.”

