



To: The National Mathematics Advisory Panel
From: Mary Jane Schmitt, Past President of the Adult Numeracy Network
Date: September 14, 2006
Re: The Importance of Insuring Access to Quality Mathematics Education for Students At Risk of Leaving School and Adults and Young Adults Who Have Left the K-12 System

My name is Mary Jane Schmitt. I am representing the Adult Numeracy Network, a national professional organization of educators concerned with the mathematical literacy, sometimes referred to as the numeracy or quantitative literacy, of our nation's adult population. Most of us teach math in GED, adult basic education, or developmental community college programs. We work with adolescents and adults of all ages, many who have dropped out of school and are now returning for a second chance at an education. We believe these school-returners seeking this second chance deserve and require a mathematics education that is first rate.

We in the Adult Numeracy Network are in the business of teaching K-12 mathematics content to students who didn't 'get it' when they were in the K-12 system. First, we ask the panel to pay close attention to the mathematics learning of those students who are presently at risk of joining our classes, (i.e., dropping out or being pushed out), particularly those with "various abilities and backgrounds" (as per Section 3c in the Presidential Order). Secondly, we ask you not only to anticipate, but also to address the mathematical learning needs of the people who are no longer in the K-12 system but who are at risk because of their lack of math knowledge.

Therefore, we ask the panel to create an inclusive agenda that not only addresses the needs of every student currently in the K-12 system, but also extends somewhat beyond the K-12 system. The Executive Order sets forth a policy to "foster greater knowledge of and improved performance in mathematics among American students". But what about the adolescents and young adults who have dropped out of the system and have yet to obtain a high school diploma? The members of your panel have been directed by the President to focus on the need to create a competitive future workforce. What about the adults in the current workforce who lack sufficient mathematics knowledge and skills to succeed? The panel is interested in parents having input to their children's education. What about the need of parents to develop their own mathematical skills as heads of family, citizens, and workers? The panel is interested in preparing students for college and careers. What about those who when enrolling in community colleges find themselves unprepared to take on college-level mathematics?

The numbers here are not insignificant, and must motivate the mathematics education community to take action.

- There have been estimates of a 70% high school graduation rate,ⁱ and that every nine seconds a student drops out of school in America.ⁱⁱ When they do so, their journey through K-12 mathematics education is cut short.
- One in every seven high school diplomas awarded in the United States is a GED.ⁱⁱⁱ Of those who fail to pass the GED, the mathematics test is the most frequently failed section.^{iv}
- Most of those who are going to be working 10 years from now are already working. Yet, results of large-scale surveys of the adult population indicate that a strikingly large proportion have inadequate skills for the mathematical demands of the twenty-first century. One recent survey found that numeracy proficiency of 58.6% of U.S. adults is below the minimum level for coping with today's skill demands.^v Another survey estimates that the quantitative literacy skills of 55% of U.S. adults are at Basic or Below Basic levels.^{vi} Moreover, in both surveys, the percentage at these lower levels in math was significantly higher than it was for reading.
- Nearly half (42%) of students in community colleges are taking remedial courses. Community Colleges are quickly becoming the space where students who need to take catch up courses must go.^{vii} This includes both recent high school graduates and adults seeking retraining and re-education. Moreover, few who begin developmental math continue on to complete a degree. As one professor graphically stated on the front page of the New York Times on September 2, 2006, "It's the math that's killing us."^{viii}

To omit this large group of adolescents and adults from the panel's agenda does a disservice to countless individuals, to our nation's families, communities and workplaces, and to the economic prosperity of the nation.

- Individuals are impacted. A person's numeracy skill level may be even more predictive of economic success than literacy skill level.^{ix} People lacking math knowledge and skills lag financially behind those with higher skills.
- Our nation's economic health is impacted. One international comparative study suggests that increasing the quantitative, prose, and document literacy of the segment the population with the lowest skill levels has a greater positive effect on a nation's GDP than increasing the mathematics literacy of the segment with higher-level skills.^x

The Executive Order encourages you to deal with "such other matters relating to mathematics education as the Panel deems appropriate" (Section 3.i). We trust that you conclude, as we do, that your agenda must include the mathematics education of not only those at risk of dropping out, but also those who drop back in, working adults in need of more math for workplace and career advancement, and adolescents and adults seeking higher education. We ask you to ensure that each of the other points in Section 3 of the Executive Order address this population: the critical skills and skill progressions, varying learning processes, standards and assessments, instructional practices, the needs for research, and training of teachers.

The board of the Adult Numeracy Network welcomes the opportunity to serve as a resource for the panel in the event you require further information.

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The ANN website: [http:// www.literacynet.org/ann/](http://www.literacynet.org/ann/)

ⁱ Swanson, Christopher B. (2004). Who Graduates? Who Doesn't? A Statistical Portrait of Public High School Graduation, Class of 2001. Urban Institute.
(<http://www.urban.org/url.cfm?ID=410934>)

ⁱⁱ Martin, N. & Halperin, S. (2006). Whatever It Takes: How Twelve Communities are Reconnecting Out-of-School Youth. Washington, DC: American Youth Policy Forum.
(<http://www.aypf.org/publications/WhateverItTakes/WITfull.pdf>)

ⁱⁱⁱ American Council on Education. (<http://www.acenet.edu>)

^{iv} American Council on Education (2006). Who Passed the GED Tests? 2004 Statistical Report. Washington, DC: American Council on Education.

^v Statistics Canada & OECD (2005). Learning a Living: First Results of the Adult Literacy and Life Skills Survey. Ottawa and Paris: Statistics Canada and Organisation for Economic Cooperation and Development.
(<http://www.statcan.ca/english/freepub/89-603-XIE/89-603XIE2005001.htm>)

^{vi} National Center for Education Statistics (2006). National Assessment of Adult Literacy (NAAL): A first look at the literacy of America's adults in the 21st Century. (NCES 2006-470). Washington, DC: U.S. Department of Education, Institute of Education Sciences.
(<http://nces.ed.gov/naal>)

^{vii} Alliance for Excellent Education (August, 2006). Paying Double: Inadequate High Schools and Community College Remediation. Washington, D.C.: Alliance for Excellent Education. (<http://www.all4ed.org/publications/remediation.pdf>)

^{viii} Schemo, D. (2006 September 2). At 2-Year Colleges, Students Eager But Unready. New York Times, pp.1, 9.

^{ix} Murnane, R., Willet, J., & Levy, F. (1995, March). The growing importance of cognitive skills in wage determination. (Working Paper No. 50-76). Cambridge, MA: National Bureau of Economic Research.

^x Coulombe, S., Tremblay, J., & Marchand, S. (2005). Literacy Scores, Human Capital and Growth across Fourteen OECD Countries. Ottawa: Statistics Canada.
(<http://www.statcan.ca:8096/bsolc/english/bsolc?catno=89-552-M2004011>)