

Letter from the University of Minnesota and Minnesota State Colleges and Universities

November 8, 2011

The Honorable Arne Duncan
U.S. Secretary of Education
The United States Department of Education
400 Maryland Ave, SW
Washington, DC 20202

Dear Secretary Duncan:

As the leaders of Minnesota's two public systems of higher education, we are pleased to confirm that our state's K-12 academic standards in mathematics are well aligned with the knowledge and skills that students need to succeed in credit-bearing coursework at the postsecondary institutions of the Minnesota State Colleges and Universities (MnSCU) system and the University of Minnesota. We are confident that a student who masters those standards will not need to take remedial coursework in mathematics at our institutions.

In part, our confidence in the content and quality of Minnesota's math standards is based upon the fact that leading faculty from our systems helped to develop them. The committee that revised our state's mathematics standards in 2007 was co-chaired by Dr. Larry Gray, who at the time was also chair of the Department of Mathematics in the College of Science and Engineering at the University of Minnesota. Other key members of the committee included Dr. Sandra Johnson, professor of mathematics at St. Cloud State University, and Valerie Kafka, mathematics instructor at Rochester Community and Technical College. Altogether, eight of the twenty-six members of the committee had experience teaching mathematics at the postsecondary level.

The committee's charge was defined in statute as developing academic standards that align "with the knowledge and skills that students need for college readiness and advanced work" (Minn. Stat. §1208.023, subd. 2(a)). Minnesota statute also stipulates that all students must "satisfactorily complete" the standards.

The 2007 revision of Minnesota's mathematics standards was informed by the state's active participation in the American Diploma Project (ADP) coordinated by Achieve, Inc. As you know, that effort seeks to improve postsecondary preparation in participating states by aligning academic standards, assessments and graduation requirements with a national definition of college and career readiness. A quality review of Minnesota's mathematics standards was conducted as part of the state's participation in the ADP. The primary purpose of that review was to ensure that the state's academic standards align with the knowledge and skills identified in the American Diploma Project benchmarks, which define what students should know and be able to do by the end of high school. A secondary purpose of the quality review was to ensure that the Minnesota standards meet a set of general criteria for high-quality academic standards, such as rigor, focus, coherence, specificity, clarity, and measurability.

The quality review conducted by national experts through the American Diploma Project confirmed that Minnesota's math standards are aligned with the ADP benchmarks and meet the

criteria for high-quality academic standards. Achieve President Michael Cohen summarized the findings of the review in a letter to the Minnesota Commissioner of Education on June 22, 2007, as follows:

The Minnesota K-12 Academic Standards in Mathematics (April 14., 2007 Revision) present student learning expectations that are intellectually demanding and well aligned with the ADP Benchmarks, with minor exceptions. If Minnesota students master the state standards, they will likely be well prepared for both workplace and college success.

Minnesota's participation in the development of national standards that are aligned with the knowledge and skills for postsecondary success has not been limited to its participation in the American Diploma Project. Educators from the Minnesota Department of Education and from schools and colleges across our state also participated on the writing and review teams for the Common Core State Standards (CCSS) in mathematics. In fact, the development of the Common Core in mathematics began with an extensive review of Minnesota's mathematics standards, along with those of three other states.

For a number of reasons that are not relevant to the subject of this letter, Minnesota ultimately elected not to adopt the Common Core State Standards in mathematics (though our state did take that step in reading). Despite Minnesota's decision not to adopt the Common Core in math, however, it is important to note that Minnesota's math standards and the Common Core math standards have a great deal in common. In fact, differences between the two sets of standards are primarily ones of format and organization, rather than of academic content or level of rigor.

For example, while the Common Core standards identify the points in a student's educational career at which he or she should study a particular concept or skill, the Minnesota state standards identify the point at which the student is expected to master that concept or skill. Because concepts and skills in mathematics are often introduced in one grade or course but mastered in another, this is a meaningful difference in the structure of the standards, but not in their alignment with the knowledge and skills for college and career readiness.

A second important structural difference between Minnesota's state math standards and the Common Core in math is Minnesota's integration of standards focused on mathematical processes into the standards focused on related mathematical concepts. Minnesota took this approach because the design team concluded it would encourage teachers to provide instruction that helps students master processes and concepts in an integrated fashion, which reflects the way that students will need to use both procedural and conceptual knowledge and skills to solve the complex problems that are the hallmark of college-level mathematics. In contrast, the Common Core State Standards in math largely separate mathematical processes from mathematical content, but do so as a different means to the same ultimate end.

A third structural difference between Minnesota's mathematics standards and the Common Core is simply the number and complexity of the standards. Wherever possible, Minnesota's mathematics standards emphasize mastery and seek to avoid the "mile wide, inch deep" approach that has often characterized academic standards in the United States. Partly as a result, there are considerably more clusters and standards in the CCSS than in the Minnesota state standards. At the high school level, for instance, the Common Core math standards

include forty-seven clusters and one hundred and twenty-seven standards, compared to Minnesota's eleven standards and seventy-one benchmarks.

Because the Minnesota mathematics standards developed in 2007 have only recently gone into effect, we do not yet have empirical evidence that students who master those standards do not require remediation in higher education. We note, however, that the same is true of the new Common Core State Standards in both math and reading. We are committed to pursue such empirical validation of the alignment of Minnesota's K-12 mathematics standards with the knowledge and skills for college success in the years ahead. In the meantime, we hope you will accept our individual and institutional confidence in that alignment as you consider Minnesota's application for a waiver from elements of No Child Left Behind.

Sincerely,

Eric Kaler, PhD (original signed)
President
University of Minnesota

and

Steven Rosenstone, PhD (original signed)
Chancellor
Minnesota State Colleges and Universities