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Missouri should adopt strong math curriculumn

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Special to The Star

As a professor of mathematics at MU, I have a great interest in the quality of the K-12 math curriculum because strong math skills are essential for a wide range of college courses and majors.

Sadly, many students find their studies and career options severely limited by their inadequate math skills.

I believe that the struggle of students at all levels has been exacerbated by the use of “reform math” curricula throughout the country.

The term “reform math” refers to course materials mostly developed at schools of education with the goal of making math “accessible” to students. However, many professional mathematicians are highly critical of the reform approach.

The basic problem is that reform courses avoid teaching the very concepts and skills central to understanding authentic mathematics.

A glaring deficiency of the reform approach is that it derides as “drill and kill” any attempt to master basic skills such as long division. As a consequence, students in reform curricula never learn the foundations necessary to use or understand mathematics in any meaningful way.

The state of Missouri is set to adopt a new set of K-12 Mathematics Standards and Learning Goals. These new standards will dictate how math is taught in Missouri for years to come.

Regrettably, the draft document has a strong bias toward reform math. Many of the learning goals are just strings of meaningless jargon such as: “describe multiplicative relationships in context” and “represent different contexts using integers.”

As a mathematician, I believe that math standards should be math-centered and state in simple and precise language the basic skills and concepts required of students at a given grade level.

I strongly urge the state Board of Education to reject the proposed draft and ask the Department of Education to commission another writing group under new leadership.

Such a group should mirror the full range of expertise that was represented by the members of the National Mathematics Advisory Panel. The panel was charged by the secretary of education to integrate the best practices from the fields of education, mathematics and cognitive science.

The panel’s recently released final report has been broadly accepted as the definitive document on K-12 math education. It is imperative that Missouri align with its conclusion that all students learn authentic mathematics.

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