

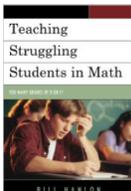
Nevada Public Education



Additional Math Credit for Graduation? One-Size-Fits-All Programs Don't Work!

Bill Hanlon

The actions taken by the state board and state superintendent clearly suggest they don't support students who might want to enter fields that don't require a college education. Nevada students are unable to leave high school with saleable skills because the state, by their actions, continually demonstrate they think people who would like to be plumbers, electricians, etc. are not as smart as students who would like to go to college.



Why don't our words and actions align in public education? A new proposal of requiring an additional credit of math to graduate coming from the NV State Board of Education is just another bad example of a one-size-fits-all program that is detrimental to our students.

Here's a math axiom that the state board has not figured out; you can only use an hour once – then it's gone. By increasing the math credits for graduation, that means that there will even fewer, if that is possible, opportunities for student to experience vocational classes or programs and other electives.

Then, a larger question, we have an issue of supply and demand. The state is already experiencing a shortage of math teachers. They have tried to hide the problem by licensing and placing underqualified teachers in classrooms to suggest the shortage is not as bad as it is. And, while that in itself is terrible, the state then wants to hold those very students accountable on testing when they have done nothing to assure those students have a well-qualified teacher. That's just not fair! Parents understand the importance of their kids' teachers, why can't the state?

Then there's the typical hitch in the state's thinking; ***if we increase the credit requirement, where are we going to get these additional math teachers?***

Let's be very clear, our current students are not getting the math education they need because of this chronic shortage of qualified teachers. The math standards, out of the necessity of the one-size-fits-all models and teacher shortage, are watered down in Nevada. Because students are not well placed and we don't have enough truly qualified math teachers, as much as 40% of instructional time is lost because of disruptions and distractions in classrooms when special needs students, non-college bound and college bound students are all placed in the same classes.

In terms of the math, it is not a matter of ***“if”*** students will forget information over time, it is a matter of ***“when”*** they will forget it. We need professional teachers, not drop-by placeholder teachers doing two year stints, to ensure they possess instructional & assessment strategies that will allow our

students to better remember and recall information over time and handle classroom management issues.

Some of those strategies have been lost because of the one-size-fits-all model. One of those strategies is to develop concepts & skills so the students can see where the math comes from, so *when* they forget it, have the possibility of reconstructing that knowledge. That is not happening in our schools today because of the lack of qualified teachers. So is linking concepts and skills so students feel more comfortable in their knowledge and application of math. In true college prep classes, we'd expect students to derive formulas and know content well enough to understand the Pythagorean Theorem, Distance Formula, Equation of a Circle and trig identity, $\cos^2x + \sin^2x = 1$ are all the same formula, just written differently because they are being used in different contexts.

One-size-fits-all programs fail. We see that in the NV state standards. There are reasons the state is dead last in education that lie at the feet of the governor and state board of education. These short time place-holder teachers, here for a year or two, do not possess the math background to do our students justice. And having underqualified teachers negatively impacts what well qualified teachers can do because of a lack of prerequisite knowledge. Adding to that, the state doesn't invest much in professional development, and when it does, it's in name only – not the content teachers' teach.

I would expect students who are considering careers in science would know where formulas they learn in math come from; being able to derive a formula. But, it is very doubtful that fill-in algebra teachers are deriving the quadratic formula, the equation of a parabola (conic sections), or have the slightest clue “why” perpendicular lines have negative reciprocal slopes.

I can assure you that students in the college bound track (which is everyone) are not receiving a good math education because of the teacher shortage, underqualified teachers, students not meeting prerequisite knowledge, over-sized classes, lack of resources and teachers not getting the assistance they need to help their students with the one-size-fits all state standards.

After the election and Sandoval, Wynn, Canavero, and Barley leave, we can stop worrying about their resumes and maybe, just maybe, we can get Nevada back on track and start concentrating on students' experiences learning in the classroom. Ensuring real college bound students are having their needs met, vocational students have access to programs and students that need additional assistance attaining their goals are also met.

As Nevadans, we should remember, before the of arrival of Sandoval, Erquiaga, Canavero, Wynn and Barley and their “reforms”, the Clark County School District was recognized nationally as the fastest improving district in the nation.

Bill Hanlon, is a noted speaker, an author, educator, consultant and coach for schools, former Director of the Southern Nevada Regional Professional Development Program, and is a national presenter for organizations such as AASA, ASCD, ALAS, NMSA, NASSP, NSBA, and NCTM. He was the coordinator of Clark County School District's Math/Science Institute and was also responsible for K-12 math audits. He served as vice president of the Nevada State Board of Education, Regional Director of the National Association of State Boards of Education (NASBE) and as a member of the National Council for Accreditation of Teacher Education (NCATE) States Partnership Board. He also hosted a television series, "Algebra, you can do it!" on PBS Las Vegas.

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