

DMS Schedule Q & A

The Dorseyville Middle School schedule meeting that occurred on February 15, 2018, provided a forum to clarify confusion and an opportunity for community members to voice their thoughts on possible enhancements to the DMS schedule. At the meeting, many questions were raised for clarification and understanding. The information below provides a response to the prevailing themes generated at the meeting.

Do our teachers have the training to provide quality instruction in math?

The district's math and science teachers have received ample professional development and continue to participate in these opportunities in their curricular areas. This ongoing development includes training in best practices, differentiated instruction, the use of data for planning instruction, and other mandated and/or prioritized initiatives.

Professional development for our mathematics teachers has been delivered by experts such as Dr. Diane Briars (Past-President of the National Council of Teachers of Mathematics), Dr. Peg Smith (University of Pittsburgh), the Math Science Collaborative, and ASSET. These trainings provided educators the opportunity to learn about the following concepts: (1) unpacking the mathematical practices and content standards, (2) building mathematical fluency and conceptual understanding, and (3) using mathematical performance tasks and conversation as a means to build deeper levels of student understanding. Educators also worked in grade-level teams with principals and district office administrators to write curriculum throughout the year.

Teachers have had sufficient training to support the implementation of Eureka Math as well. Professional development workshops revolved around mathematical fluency, lesson preparation and customization, representations across grade levels, time for module and lesson studies, and on-site coaching. This professional development will continue into the future.

Why do we need more time in math and science?

Mathematics is a form of reasoning. Thinking mathematically consists of thinking in a logical manner, formulating and testing conjectures, making sense of things, and forming and justifying judgments, inferences, and conclusions. This takes time. Adequate instructional time in mathematics and science is supported by both research and national experts. This time is necessary to provide students opportunities to expand their depth of knowledge and to have greater opportunities to apply the skills they are learning. The National Council of Teachers of Mathematics (NCTM) refers to "deeper learning" as the process through which an individual can take what was learned in one situation and apply it to new situations. The product of deeper learning is transferable knowledge. This includes content knowledge of how, why, and when to apply this knowledge to answer questions and solve problems. We refer to this blend of both knowledge and skills as "21st century competencies."

Sufficient instructional time in science allows for a modernized, 21st century approach to scientific discovery. Hands-on application of skills through inquiry approaches, an emphasis on science technologies, and a focus on preparing students for future professions in science-related fields are all priorities for the school district.

The current middle school schedule does not afford students the opportunity to engage in adequate application of content. Additionally, the current approach to student intervention and enrichment provides limited time and opportunity for differentiation. Intervention and enrichment are available, but many students are unable to participate due to scheduling conflicts. Integrating differentiation within a class period is a more efficient and streamlined approach that will benefit all students.

What data points were used to determine that more time in math and science were needed?

The school district utilizes the STAR assessment, a nationally-normed and standardized student benchmarking tool, to monitor our students' achievement and growth. Our review of student growth data in quarterly STAR benchmarking assessments indicates students in grades three-five (on average) have grown more than 62 percent of their academic peers. By comparison, students in grades six-eight (on average) have grown better than only 45 percent of their academic peers. This includes students in accelerated math courses who have grown better (on average) than only 47 percent of their national academic peers. Current ninth grade students (on average) have grown more than 61 percent of their academic peers across the country.

In sixth, seventh, and eighth grades, student performance on the STAR assessment is normed against approximately 100,000 students in schools across the nation. Student growth comparisons are based on groups of students who have similar academic profiles.

The Pennsylvania Department of Education's student growth measure, PVAAS, showed that sixth grade students made significantly less academic growth than the average of their peers across the state during the 2016-2017 school year. This includes students in both traditional and accelerated math courses.

Is this driven by the PSSA?

While the PSSA is mandated, there are also other pressing priorities. This includes the need to maintain the growth rate of students, as measured by state and national benchmarks. Additionally, we need to provide consistent opportunities for enrichment and support in order to ensure students acquire a thorough conceptual understanding and the capacity to apply mathematical knowledge at a high level.

It is our supposition that achievement scores will continue to increase by way of professional development initiatives, interventions, and data-driven decision making. However, the primary goal is to afford time for students to apply new learning, thus improving the academic growth rate for all students.

Is the district furloughing teachers?

The district is *not* furloughing teachers. A schedule change for students will *not* influence decisions regarding replacement of retirees. The primary consideration when determining retiree replacement is whether or not the district can maintain or exceed current programming for students. The new schedule is also *not* connected to the district budget. It is a plan to maximize learning for *all* students. Funding will *not* be reduced as a result of the schedule, and any increases will be limited but necessary in order to fully staff the program.

Why not reduce math class size to more effectively teach the subject rather than extend class time?

Our class sizes are among the lowest in the county. Fox Chapel Area has the lowest student:teacher ratio for a middle school when examining comparative schools. Research shows that class size has much less influence on student success than other factors such as teacher quality, resources, and supports. At Dorseyville Middle School, there is often not enough time in the period for students to apply the new concepts they have just learned. This impedes acquisition of math skills due to the inefficient time allotment.

How will this affect accelerated math students?

Students in an accelerated math course will also benefit from additional time. Adequate time will facilitate opportunities for enrichment and application of complex problem solving. This, in turn, will facilitate mathematical fluency and a greater depth of knowledge.