

Education Update

May 2018

A decade of accomplishment

Retiring superintendent and Mount Olive Board of Education worked together for 10 years to innovate and improve education across the district

AN important chapter in Mount Olive School District history comes to a close on September 30 when Dr. Larrie Reynolds retires as superintendent of schools.



He and the board of education worked together, along with administrators, teachers, and support staff, to transform the district at every level, helping shape Mount Olive into a progressive school system consistently ranked among the county's best.

During his 10-year tenure, test scores soared to new heights compared to state and regional averages, school buildings were renovated, and successful initiatives were implemented including the K-Excel extended kindergarten program. New curriculum in every subject was put into place to better reflect the way today's students think and learn. Instruction became more hands-on and interactive.

The most notable accomplishments were made in the areas of instructional technology and financial planning.

Instructional technology

Over the past 10 years, Mount Olive has become a model for the way technology can be used in education.

Thousands of computers, laptops, and tablets have been added (giving the district one device for every student) and this technology has been fully integrated into

what and how teachers teach. Students as young as elementary school-age routinely research topics online, create videos, and develop PowerPoint presentations to show what they've learned.

That really just touches the surface of technology in the schools. Early in his tenure here, Dr. Reynolds focused the district on using the power of technology to help improve learning. Computerized assessments are now regularly used by classroom teachers to help pinpoint each student's strengths and weaknesses in various subjects. The data allows teachers to provide personalized instruction to meet each student's unique needs. It's also used to track student progress.

Dr. Reynolds and the board of education were also early proponents of STEAM – the application of science, technology, engineering, art, and math – and the maker movement that is now sweeping the country.

Maker education is the next generation of instructional technology, a bold frontier that takes students from absorbing and disseminating information via technology to actually designing and manufacturing physical objects. The conversion of the upper floor of the high school's old auditorium into a dedicated makerspace, where students can design and prototype products using 3-D printers, cemented the district's leadership



MOHS named a top high school in US

Mount Olive High School was recently named one of the best high schools in the country by U.S. News and World Report. The ranking included factors such as college readiness, the percentage of students completing AP courses, and math and reading proficiency.

in maker education.

The addition of virtual reality equipment, drones, and a marine robotics club that builds remotely operated vehicles that function underwater are other cutting-edge technology initiatives recently implemented.

Financial planning

With the amount of state and federal aid always in question, Dr. Reynolds and the board of education actively sought outside revenue sources that would generate recurring income for the district. Three outside revenue streams have been created that will provide more than \$1 million annually and aid the district's financial health for years to come.

Several years ago, the decision was made to purchase for administrative use the office complex on U.S. Route 206, at about half the cost of renovating the old administration building on U.S. Route 46. This move had both short-term and long-term impacts. It allowed money that had been saved up over the years (and earmarked for addressing the

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AWARDS

**Middle school
STEAM team
wins 17 trophies**

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Studying living things

Don't call the exterminator!
This is science.

Kindergarten students in Darcy Kelson's class at Mountain View Elementary School are immersed in a four-week science unit called "Living Things" and they have real living things to help them learn, including bess bugs. The docile, slow-moving black beetles helped students learn the anatomy of insects (e.g., head, thorax, etc.) as well as the different environments and foods they prefer. The students studied the bess bugs by placing them into a chamber that let the bugs choose between moisture and dryness. They repeated the experiment with apple pieces and wood, and several other combinations.

Next up, the class will receive a shipment of caterpillars and see first-hand the stages of life. Instead of just reading about it in a book, the students will witness the transformation from larva (caterpillar) to chrysalis to butterfly, and will write about their life cycle observations.

The unit is part of a new hands-on elementary science curriculum that focuses on discovery and exploration. The new



Alex Rogoff makes a new friend

curriculum engages students with experiments that let them learn by doing. This also provides them with the experience of real scientists as they make observations, perform experiments, record results, and draw conclusions.

The science of erosion

MONICA Beaumont and Lauri Stokley's fourth-graders at Chester M. Stephens Elementary School are ready for jobs with the Army Corps of Engineers. The students recently created and tested erosion prevention methods right at their desks.

Working in small teams, the students used clear plastic tanks of soil and cups of water in their simulations. They were challenged with diverting and controlling a stream of water from one end of the tank to the other in ways that would minimize

erosion. (The tanks were set on a slope or tilted so that the water would run through a drainage hole at the bottom.)

The teams each tested three erosion prevention methods. The first attempt used just toothpicks, cardboard, and aluminum foil. Students were allowed to use materials brought in from home for subsequent attempts. Sponges, Legos, and straws were some of the other items that the teams incorporated into their solutions.

"The students really saw how they can



Rachel Bishop, Raynell Derrick, and Matthew Evans test their erosion prevention method

learn from trial and effort," said Mrs. Beaumont. "I was so proud of the way they worked together in teams. They talked things out and learned from each other. It was nice, too, to see teams acknowledging the ideas and efforts of other teams."

The weathering and erosion experiment was part of the "Living on a Changing Earth" unit, a major component of the fourth-grade science curriculum. Students also learned about rocks and minerals, layers of the earth, and plate tectonics.

NEWSBRIEFS

Music program one of the best in US

Mount Olive School District has been named as one of the best communities in the nation for music education by the National Association of Music Merchants Foundation in association with the University of Kansas. This is the second consecutive year that the district has been honored by NAMM.



The award recognizes the efforts of teachers, administrators, parents, students, and community leaders who have made music an integral part of the district's educational experience.

MATE team to compete in Seattle

Mount Olive High School's Marine Advanced Technology Education club took 3rd place in the Pennsylvania MATE regional event on May 12 and qualified for the international event in Seattle in June.

MATE is an annual competition in which teams construct underwater remote-controlled vehicles that can tackle a specific mission modeled after a scenario from the marine workplace. For 2018, the teams constructed vehicles that could locate underwater plane wreckage and install underwater monitoring equipment.

Mount Olive's MATE club also won the Design Elegance Award, 1st place in Spirit & Sportsmanship, 2nd place in Technical Documentation, and 2nd place in Product Demonstration. Allison Egan and Katie Weatherwax won the Robert L. Zande Pilot Award.

FIRE bowl award

Mount Olive Middle School students recently earned 3rd place in Fire Information Rescue Education Bowl, a statewide contest that tests knowledge of fire safety and prevention, fire science, firefighting techniques, and the history of firefighting.

In preparation, the team of seventh-graders spent several months studying from a variety of sources, including the exact same handbook that New Jersey firefighters use in their training.

This is the first year in which MOMS participated in the event.

Raising money

Students in Rebecca Radecky's class at Chester M. Stephens Elementary School recently raised money for the National Down Syndrome Society in recognition of World Down Syndrome Day. The students sold coffee and tea to staff members, raising \$90 for the charity while also practicing their math skills.

Awards for the MO theater family

MOUNT Olive theater students and productions won a total of nine awards this year at the Bucks County Playhouse's Student Theater Festival, including a Best



Sometimes you have stressful things going on in your life, but when you're on stage and you can be someone else, it all goes away."

Priscilla McDade
MOHS senior

team of Chris and Jodi Bosch, two MOHS teachers. (Mr. Bosch directs the middle school musical and fall MOHS production; Mrs. Bosch directs the spring MOHS musical and teaches MOHS drama courses.)

It truly is a family, and not just because there's a real-life family running the show. Many students have been performing together in Mount Olive productions for six or seven years, starting in middle school and continuing throughout high school. Long

Musical award for Mount Olive High School's "Little Shop of Horrors." Two nominations were also received in Paper Mill Playhouse's Rising Star Awards program, which announces its winners in June.

It was a banner year for the middle-schoolers and high-schoolers who make up this big happy theater family, led by the husband and wife

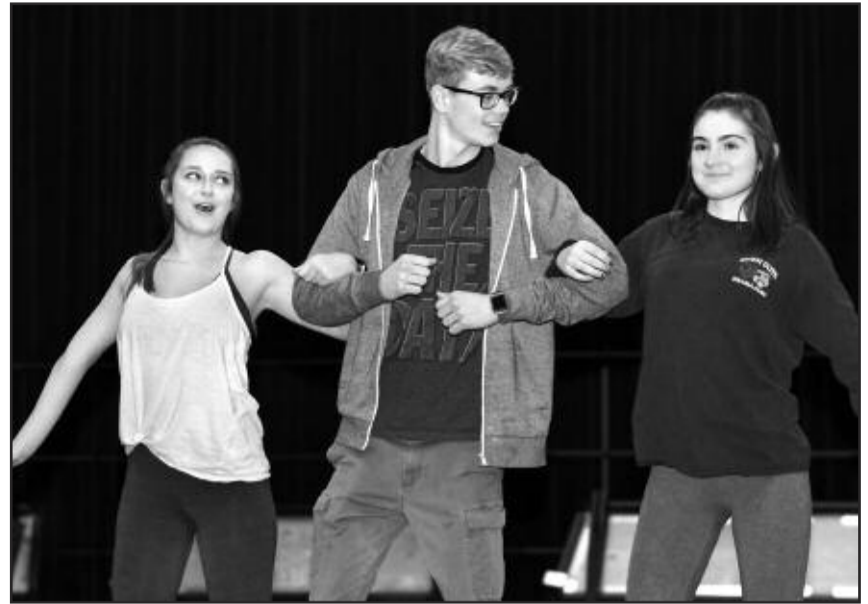
hours spent together and the shared experience of opening yourself up on stage builds lasting friendships.

It also helps students define who they are during this formative time of life.

"You know when I started I was very introverted," said Priscilla McDade, high school drama club president who started performing in middle school. "Acting has helped me become more confident and is an outlet to express myself creatively. Sometimes you have stressful things going on in your life, but when you're on stage and you can be someone else, it all goes away."

When the middle school production is in rehearsal you'll also find high-schoolers working with the younger performers one-on-one, passing the baton and helping prepare the next generation of actors, singers, and dancers for the MOHS stage. They're the big brothers and big sisters who've been through it all and know what the directors are looking for.

Lauren Onufryk, Rising Star nominee for Best Supporting Actress, has helped out. So



The cast of "Catch Me If You Can" rehearses a musical number at MOHS

has Brian Carlstrom, who was honored with the Spotlight on Acting Award at Bucks for "Little Shop" and also co-starred in "Catch Me if You Can."

But Charlie Baduini can perhaps provide the most insight when mentoring. He knows first-hand what it's like to be in the director's chair. The MOHS senior is directing "Godspell" for drama class.

"It's strange, now you have to think of things differently," said Charlie, this year's winner of the Best Actor award at Bucks. "It puts me in a frame of mind of what the Bosch's go through. It's not easy."

STEAM team wins 17 awards

MOUNT Olive Middle School students in the school's Technology Student Association scored high honors in the New Jersey TSA State Conference, taking home a total of 17 awards, including seven 1st place trophies.

At the conference, held at the College of New Jersey, the 50 MOMS students competed against students from about two dozen middle schools throughout the state in more than 25 competitions involving STEAM (science, technology, engineering, art, and math).

Exploring genetic engineering

Among the highlights was the 1st place-winning project in the medical technology category which explored cutting-edge genetics.



The team of Varshini Chinthareddy, Siya Kulkarni, Amulya Kuntamukkala, and Shana Soyfer examined CRISPR-Cas9, a unique technology that enables geneticists and medical researchers to remove, add, and alter sections of DNA.

Cas9 is an enzyme that works as "molecular scissors" that can cut a DNA strand at specific locations so that bits of DNA can then be added or removed. This method of genetic manipulation, developed just six years ago, is inexpensive and relatively simple, and promises to revolutionize the field of genetic engineering.

The MOMS students created a model of the process and discussed in a report the ethical, environmental, and social impacts of easy DNA manipulation. The students explored not only the potential to cure diseases but also the real possibility in the near future of creating "designer" babies with customized physical traits.

Addressing an urban challenge

In another project, Sia Bawa, Aanya Khanderia, and Aveena Khanderia tackled a problem facing most major cities.

The team, which took 1st place in the system control technology category, spent three months developing and building an automated parking garage. Using the motors, sensors, and con-

struction pieces of the Lego Mindstorms EV3 robotics system, the students engineered a circular conveyer belt-driven method of car parking and retrieval.

A customer would drive a car onto a parking bed and be given a computerized receipt. The system would automatically rotate the car to an elevator where the vehicle would be moved for storage. A scan of the customer's receipt would complete the process in reverse.

The system would not only save time because of its automation but would also maximize real estate by allowing parking garages to have multiple stories of densely stored cars.

"I like to try new things and challenge myself," said Aveena, discussing her reasons for entering this category. "I'm really into Legos and I thought this would be great for me. It's hands-on and I like to build things."

Other interesting projects included 3-D penguin puzzles manufactured using the district's MakerBot 3-D printers, balsa wood gliders, and solar cars.



I like to try new things and challenge myself. I'm really into Legos and I thought this would be great for me."

Aveena Khanderia
Eighth-grader

Learning the power of persuasion

Fifth-graders at Tinc Road Elementary School are doing some deep thinking about issues that concern them.



We saw all the negative effects of social media and I think the cons outweigh the pros. That's why I don't think kids under the age of 13 should have social media.

Katelyn Alessandrini
Fifth-grader

In their persuasive essays, Pam Sexton's students explored a variety of topics, many of which directly concern young people in their age group. The students weighed in on issues such as children's access to violent video games, posting and participation in social media, more exercise during the school day with more frequent physical education classes and longer recess time, and the use of cell

phones and portable electronic devices.

The students explained the pros and cons of their chosen issues, often peppering their discussions with statistics found during the research stage of the process. Then the young authors presented their positions and

wrapped things up with conclusions intended to sway readers to their side of the debates.

Many students were inspired to write about topics that they feel personally connected to or recently learned about. For example, Katelyn Alessandrini heard many cautionary tales about social media and the internet during the "Don't Press Send" presentation held at

Mount Olive Middle School in March. In her essay, Katelyn noted the positive role that social media can play in the lives of students, such as connecting teenagers to a larger group and boosting self-esteem, before expounding on her contrary viewpoint.

"We saw all the negative effects of social



Danny D'Amico shows Katelyn Alessandrini and Kylie Tessler his persuasive essay

media and I think the cons outweigh the pros," she said. "That's why I don't think kids under the age of 13 should have social media."

To judge the persuasive power of the essays, students read each other's papers and voted on their effectiveness.

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Accomplishments...

needs of the old admin building) to be used to renovate schools. In addition, in five years the property will begin providing \$350,000 in annual revenue since the district will keep the rental income from the second building in the complex.

The purchase of an air dome for use in winter over the lacrosse field at the high school also provides rental income. The money covers the installment payments on the dome and will be a significant revenue source once the dome is paid off in four years. Annual rental income is expected to be about \$500,000.

Dr. Reynolds and the board of education also developed a tuition-based international education program. High school students from China and East Asia are paying to learn in Mount Olive schools, both over the summer and during the regular school year. The international program brought in \$250,000 in 2017-2018 and is expected to generate the same amount in 2018-2019.

Upon retirement, Dr. Reynolds will relocate to Tennessee to be near his family (including two new grandchildren).

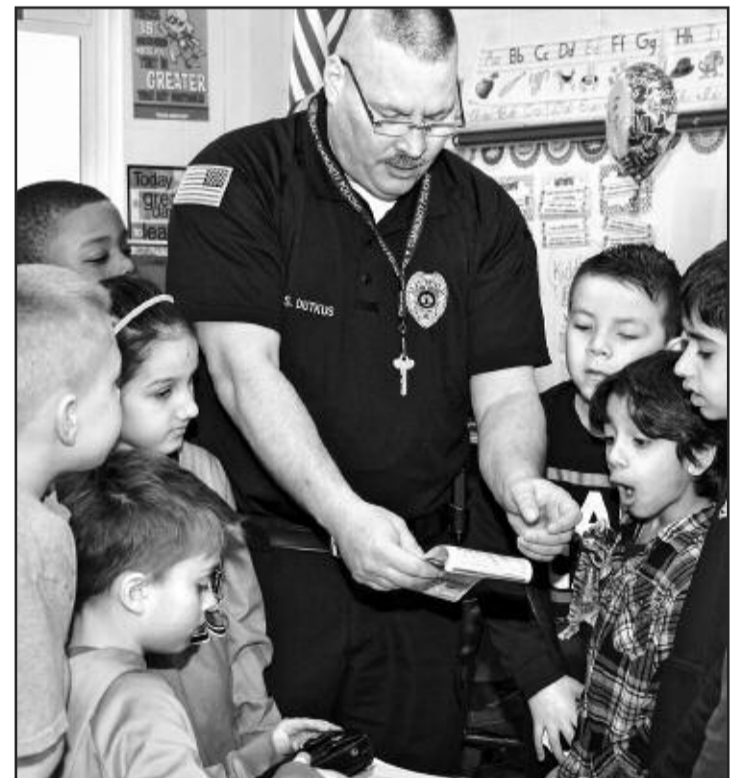
'Officer Stan' brings fun and safety

STUDENTS and staff members recently welcomed safety and security officer Stan Dutkus to the Sandshore Elementary School family. As part of his responsibilities in the newly created position, Officer Dutkus monitors the building's security cameras and controls visitor access into the school.

Officer Dutkus brings more than 31 years of law enforcement experience to his role. He spent 25 and ½ years with the state police and presently works part-time on special projects for the Sparta Township Police Department.

The Branchville resident introduced himself to every class on his first day at Sandshore and spoke about the importance of safety and good conduct. Later in the week he dropped in on classes with a box of mementos from his long career, showing students handcuffs, Miranda cards, holsters, newspaper clippings, and ticket pads.

The students had dozens of questions, too, about "Officer Stan" and his experience in the field. In Sharon Enea's classroom, they gathered around him to hear stories about police work and meeting professional athletes while on detail at Giants Stadium.



Second-graders crowd around Stan Dutkus to see a ticket pad

"Kids love him," said Nicole Musarra, school principal. "He brings such a positive energy and friendliness to the building."

Officer Dutkus is one of four armed security officers that were recently hired, one for each elementary school.

Michael Cravotta - editor

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