

TEACHING TODAY MN™

Fall 2021, Volume 1

MINNESOTA'S K-12 EDUCATION CONNECTION



The Academy for Sciences and Agriculture



*Stephanie Forliti
Marketing and Communications
The Academy for Sciences & Agriculture*

As the leaves start falling and we are well into the school year, students are bustling around the hallways busy learning and exploring ideas for their annual agriscience fair project.

Whether students are working on their science fair or heading out to help the community for Farm and Community Service Day, agriculture is everywhere and it is the heart of AFSA K-12. Beginning in the younger grades, agriculture studies focus on local agriculture, environmental stewardship, agriculture consumerism, and human impact. Many lessons are taught in conjunction with Minnesota Ag in the Classroom.

The 7-12 grade curriculum includes developing leadership skills and learning about career opportunities in five areas of AgriScience, including: Engineering; Animal Science; Plant Science; Environmental Science; and Food Science. AFSA K-12 staff are all responsible for growing students' agricultural literacy by integrating agriculture topics into all classes and experiences.

Students' opportunities don't stop at the classroom door. They are exposed to a wide variety of content areas and unique experiences within hands-on and practical learning applications that go above and beyond a typical classroom setting. With our own buses available to us, students K-12 have weekly field trip opportunities. This may be to a park to explore the woods or to a coffee company to learn about

fair trade. The high school's rooftop garden boasts raised bed planters built by AFSA's construction classes. The school's landscaping is done by the Landscaping class, and Floriculture class makes the boutonnieres and centerpieces for special events. AFSA students take ownership of their school and design new clubs, activities, and propose school-wide changes.

Community is a big part of the AFSA K-12 culture. The school emphasizes family involvement, community support, and partnerships with agribusiness and educational organizations. Each school year we hold two major fundraisers, our annual fruit sales and our spring plant sale. Plants for the sale are

Continued on Page 18



MINNETONKA PUBLIC SCHOOLS

Minnetonka Public Schools

Minnetonka High School is often referred to as a 'school of opportunities,' able to support and challenge students to discover and pursue their passions while achieving personal excellence. The growing MOMENTUM Design and Skilled Trades program, launched in fall 2020, provides opportunities for students to explore the trades through pathways focused on manufacturing, construction, architecture, engineering & design and engine & automotive careers.

The vision for MOMENTUM began as a reimagining of the high school's technical education department.

"As we dreamed about what MOMENTUM could become, we looked to the success of other signature programs at the high school, such as VANTAGE and Minnetonka Research," shared Jeff Erickson, Minnetonka High School principal. VANTAGE is an advanced professional studies program that launched in 2013, and Minnetonka Research is an interdisciplinary research program that challenges students to pursue authentic, collaborative research projects based on their own curiosities and interests.

In Minnetonka High School's signature programs, students engage in real-world learning through experiences such as site visits,

MOMENTUM Program at Minnetonka High School Expands Opportunities for Students in the Trades



collaborative projects, mentorships and guest lectures from industry professionals.

"We saw the passion in our students to learn about the trades in an experiential way, and we saw the opportunity to partner with businesses and organizations in our community to provide authentic learning and mentoring as part of the courses. It's been amazing to see the excitement that students, staff and community members have brought to the table," said Erickson.

In the 2020-21 school year, 472 students took a class through MOMENTUM. From freshmen to seniors, the program's launch has inspired many students to take a technical education course for the first time. The number of freshmen taking such a course tripled, the number of sophomores doubled, the number of juniors tripled, and in total, 56 seniors took their first technical education course last year.

Continued on Page 8

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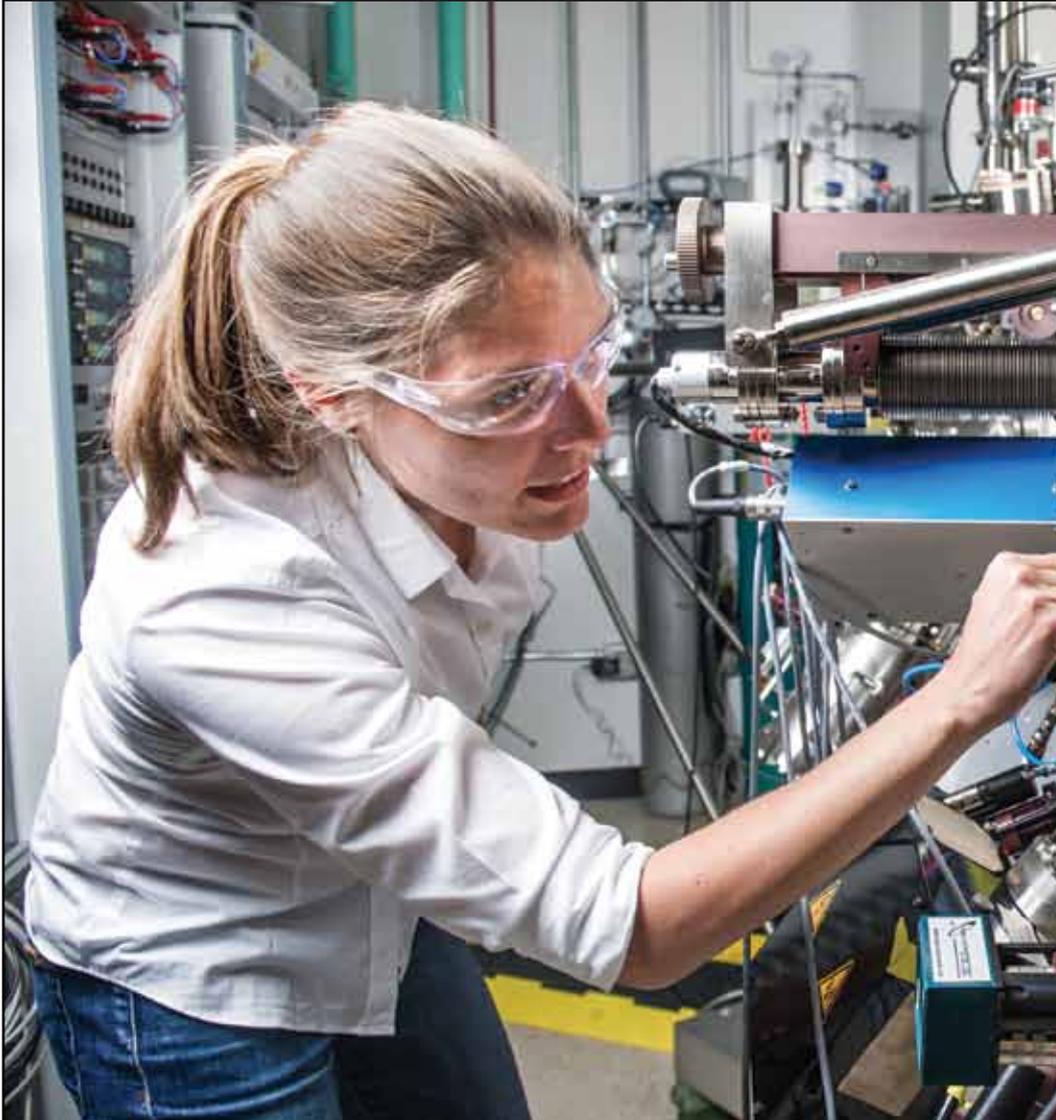
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TEACHING TODAY MN™

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Thank you, to all our past, present and future contributors!

In this Issue

A Focus on the Manufacturing & Engineering Career Pathway at White Bear Lake Area Schools	Page 4
Manufacturing Careers	Page 7
St. Cloud State University TEC Network	Page 8
You Can't Be "It" Unless You See "It" (Detroit Lakes Schools)	Page 9
Educating and Recruiting a Younger Workforce in Manufacturing (Elk River)	Page 10
Jacket Manufacturing (Perham-Dent Public Schools)	Page 10
Bemidji Career Academies: New Partnerships and Real-World Experiences	Page 12
Itasca Area Schools Collaborative Starts Manufacturing Internship Program	Page 13
MAAE Announces State Award Winners	Page 16
Mary Hoffmann, Sleepy Eye Agriculture Education Program Receives MAAE Outstanding Agriculture Educator of the Year Award	Page 16
Agriculture at Lafayette Charter School	Page 18
Joe Ramstad of Staples-Motley High School named 2021 Teacher Turn the Key by MAAE	Page 20
Grants	Page 21
Student Contests	Page 22
Nancy Antoine, Northfield Public Schools, Named Minnesota's 2021 NAESP National Distinguished Principal	Page 23
Nominations for the 2022 Minnesota Teacher of the Year are Now Open!	Page 24
75 Teachers Were Candidates for the 2021 Minnesota Teacher of the Year	Page 24
Rochester Educator is 2021 Minnesota Teacher of the Year	Page 25
Minnesota Principals of the Year	Page 26

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\$50.00 cash prizes will be awarded to each of the six Honorable Mentions.

- Essays are to be between 500 and 600 words in length.
- A Word document or PDF is preferred. We will be featuring the winners and honorable mentions on our website and in the spring issues of Teaching Today™ MN.
- Entries must include a teacher contact name, what school the student is attending, and grade.
- Deadline for submissions is February 12, 2022 at 5:00 pm! Submit your essay soon!



Deadline for submissions is February 12, 2022 at 5:00 pm! Submit your essay soon!

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A Focus on the Manufacturing & Engineering Career Pathway at White Bear Lake Area Schools



Jenny Moore
Career Pathways Coordinator
White Bear Lake Area Schools

The Engineering & Manufacturing Career Pathway at White Bear Lake Area Schools (WBLAS) is thriving and continues to help students make informed decisions about their career choices, support teachers and staff as an additional resource in their classroom, and aligns educational opportunities with the local workforce needs of the NE Metro.

Unique to WBLAS Career Pathways, students can opt to take a variety of Career Pathway courses. Students who are learning and exploring the Engineering & Manufacturing career field can take Biomedical Engineering, Civil Engineering & Architecture (PLTW), Digital Electronics (PLTW), Introduction to Engineering Design (PLTW), Manufacturing & Applied Engineering I & II (college credit opportunity), Precision Machining I & II, and/or Principles of Engineering (PLTW). These courses are offered for students in grades 9–12 at both White Bear Lake Area High School (WBLAHS) — South and North Campuses.

Brand new this year, students in grades

10 through 12 who are committed to pursuing a career in the Engineering & Manufacturing career field, can now register for the specific Engineering & Manufacturing Career Pathway. Students who register will see the career pathway show up in their school schedule, but will not interfere with any other required or elective courses. WBL Career Pathways is a voluntary, self-select program for students who wish to take the next step in their future.

Benefits to registering for the Engineering & Manufacturing Career Pathway includes, but is not limited to, alumni support, career pathways coaching in addition to support from their assigned school counselor, employability skills workshops, and scholarship opportunities. Registered participants also get first dibs on National Manufacturing Month events, job shadows, industry recognized credentials like OSHA and CPT 4.0 through the Manufacturing Skills Standard Council (MSSC), paid internships, and job placement. During the fall 2021 semester, over 200 students are taking Engineering & Manufacturing Career Pathway Courses and over 50 students have taken the

additional step to registering for the Engineering & Manufacturing Career Pathway.

WBL Career Pathways is excited to offer MSSC Certification to our Engineering & Manufacturing Career Pathway students to become Certified Production Technicians (CPT). Students who complete the CPT 4.0 Certification Program can demonstrate “mastery of the foundational, core competencies of advanced manufacturing production at the entry-level to front-line supervisor through successful completion of the certification assessments” (MSSC, 2021). CTE Teacher, Joshua Dery adds that “MSSC testing helps our district align our curriculum to industry standards and offer concurrent enrollment options to our students. Industry standard tests are an important part of a CTE program.” Last year, WBL Career Pathways had 7 students complete the certification and this year over 60 students are eligible to get certified!

Also during the 2021–22 school year, WBL Career Pathways will be using the generous funds they received from the Gene Haas Foundation to create scholarships for graduating seniors committed to pursuing a career in Manufacturing, as well as, help purchase tools for graduates and even support the WBLAHS Robotics Team!

In addition to on-campus experiences, WBL Career Pathways is blessed by the support of their local community members. Industry partners continue to show up for WBLAHS students. Lunch & learns, paid internships, job site tours, scholarships, job shadows, and innovative job placement partnerships, prove that working with local industry partners is a huge component to the success of WBL Career Pathways.

WBL Career Pathways continues to offer paid opportunities in the Engineering & Manufacturing career field. One such example was the partnership with a U.S. based plastic services company. In an effort to address the workforce demand in their Assembling Department, the company created a 20-hour, part-time Assembler position for high school students. Not only does the job work around a student’s school schedule, it also provides a family sustaining wage, on-the-job training, and a quality resume builder for students interested in the wide world of Manufacturing & Engineering.

WBLAHS Senior, Tyler Thinesen said he loves working at this industry partner’s company. “I get to work inside the company

and see how products are made and how things work inside and out. After I leave the United States Army, I hope to one day own my own Manufacturing Company. This experience will help me reach my goals, learn new skills, and help me decide what route I want to go in Manufacturing.” To date, over 15 students have been hired and the number is growing.

Another great example is highlighting Noah, a WBLAHS Senior who participated in the paid Gen Z Connections internship this summer. Noah rotated through three companies. After completing the minimum hours, not only was Noah offered extra internship hours, but he also accepted a job with MME Group, Inc! Noah is one of many students who are choosing to take the next step in their career path in the Engineering & Manufacturing world. Noah and local employers continue to see the importance of collaborating, bringing work to life, and working together to shape the future.



At WBLAS, we want students to find their purpose, become productive citizens, and see why education matters. All students regardless of their academic ability or post-secondary plans are valued. WBL Career Pathways continues to collaborate with students, staff, and the local community to *work together to shape the future*. If you would like to learn more about WBL Career Pathways, you can visit their website at:

wblahs.isd624.org/academics/career-pathways

or email Jenny Moore at:

jennifer.moore@isd624.org



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- Database Administrators
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- Electrical Engineering Technicians
- Electrical Engineers



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Please note: This represents a broad and not conclusive list of careers within the world of manufacturing.

St. Cloud State University TEC Network



The TEC Network (Technology, Engineering & Careers) is all about building partnerships with school and businesses around the state. Each school selected to be a part of the Technology Network will engage in:

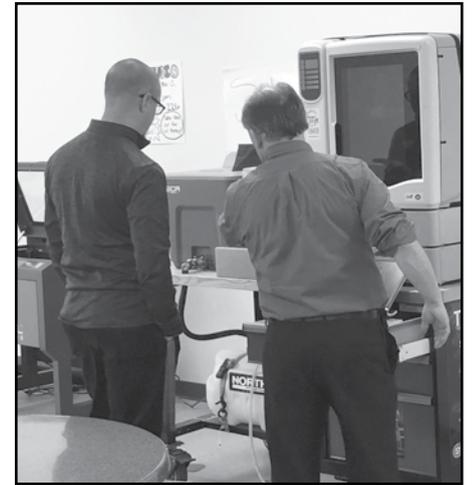
- Equipment access
 - Over \$1,300,000 worth of equipment
 - Supplies and maintenance of the equipment
 - Opportunity to purchase equipment at demo rate
 - New equipment added to meet changing needs of industry
 - Equipment is scheduled for 2-3 weeks at a time throughout the year.
 - Concrete & Masonry tools, equipment and demonstrations
- Professional development:
 - Summer workshops
 - On-site support
 - CTE License
- Graduate courses
- WBL License
- Program review
- Advisory board support



- Program enhancement plan (district will determine items needed) Examples include:
 - Youth apprenticeship plan
 - Career awareness /readiness
 - Recruitment ideas / plan
 - STEM activities / curriculum
- Network meetings of all teachers, administrators, and business partners

Mike from Maple River noted:

“Our local Perkins consortium used funds for the next 5 years to help join the SCSU TEC program. This has been the best thing to ever happen to our program. I always tell local community members it is like joining a blockbuster for shop equipment. The TEC program has allowed our students to experience a CNC router, virtual welder, virtual painter, and later this year and CNC plasma cutter. My first 10 years of teaching no students were able to experience this technology.”



Technical Programs for Today and Tomorrow's Careers

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- Construction Management
- Technology Education
- Technology Management
- Manufacturing Engineering Technology
- Environmental Studies
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Graduate Programs:

- Technology Education
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For additional information:

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MOMENTUM Expands Opportunities for Students in the Trades Continued from Page 1

Spotlight on Manufacturing

The Manufacturing pathway, which is one of five pathways MOMENTUM offers, includes four courses: Metals I, II and III and Metal Sculpture. The Metal Sculpture course is an interdisciplinary offering, allowing students to complete part of the arts credit that is required for graduation. It is taught by an instructor from the art department.

In Metals I, class is run rotation-style. Small groups within each class take turns completing units on metal removal with lathes and mills, metal forming (including Sheet metal, casting and forging) and metal joining with gas and arc welding. “By the end of the semester in using most everything in the Metals classroom,” said Dave Kitzmann, Metals instructor at Minnetonka High School. “In Metals II and III, students are ready to design and build their

own projects using the CNC plasma cutter and MIG and TIG welders.”

Guest presenters from nearby colleges and the ICATT Apprenticeship program meet with students in Metals courses to discuss opportunities for high paying and high demand jobs in the manufacturing field. Students also visit job sites and training facilities periodically throughout their courses to gain real world insights and experiences.

In addition to MOMENTUM courses, students interested in the Manufacturing pathway are encouraged to further their learning through extracurricular activities such as the Robotics Team and the Supermileage Challenge, a fuel economy competition hosted by the Minnesota Technology and Engineering Educators Association each spring. Competing students and clubs build a one-person, fuel-efficient vehicle powered by a single cylinder, four-stroke cycle

engine. In 2021, the MHS Supermileage Team received the award for state runner-up in the modified class. Its car got 313 miles per gallon while competing at the state contest.

New Classroom Space to Enhance Opportunities

The MOMENTUM program will have new, expanded program space beginning in the spring semester of 2022. A 10,300-square-foot addition to the High School’s athletic center will house a four-car automotive shop for students to utilize in automotive maintenance courses, and flexible-use maker spaces will provide dedicated classrooms for other MOMENTUM opportunities.

“We know that a space a class uses can encourage how learning happens, how engagement happens and how students collaborate,” said Erickson. “A dedicated facility for the

skilled trades will enhance the opportunities we can offer at MHS, so we can truly support every student toward achieving personal success.”

The construction of an additional learning space—this time a new, freestanding building that will include classrooms for both MOMENTUM and VANTAGE—was recently approved by the Minnetonka School Board. Though it is still in the planning stages and there are additional approvals outside of District leadership that are needed before moving forward with bids, the goal is for the building to be ready for classes in the fall of 2023.

For more about MOMENTUM, visit www.minnetonkaschools.org/MOMENTUM





You Can't Be "It" Unless You See "It"

DLHS Exposing Students to Careers in Manufacturing

Joshua Omang, Principal
Vern Schnathorst, Work-Based Learning
Coordinator, Detroit Lakes Schools

"You Can't Be 'It' Unless You See 'It'." Nashville Public Schools shared this catchy slogan with us on one of our district's visits to learn more about their career academies. "It" refers to all of the different opportunities available to our students that they aren't aware of when they begin high school. How does Detroit Lakes High School make sure students see and know about "It"?

At DLHS, we feel it's our responsibility that a number of different things take place during our students' four years to ensure they know about the many different "Its." First, we help freshman students learn about their different interests and aptitudes. We want them to determine what they like and, of equal importance, where do they excel? The next step is to expose them to all these different "It" opportunities that are high skill, high wage and high demand. We expose them to many different opportunities in our five pathways. Our pathways were determined by utilizing DEED data, a community business survey and a student interest survey. Finally, we offer them different work-based learning opportunities at each grade level that build on each other. We

start with very broad-based exploration activities during their freshman year and progress toward more focused and defined activities throughout their senior year. This is all based off the students' area of interest and pathway they've selected. We feel by offering these experiences to all of our students, they will leave DLHS with a much better idea of what "It" means for them and how they can most effectively get there.

DLHS is beginning the fourth and final year of its academy implementation process this fall. A large part of the implementation this year is having all seniors complete a semester-long internship or Vantage project (pre-professional studies). Eighty three seniors are currently working for two to three periods a day in that capacity and there will be over 100 students participating in these opportunities spring semester. Student experiences range from working with professionals in the community to running and completing the work for new, student-run businesses.

One of our pathways is Production. A large component of the Production pathway is our manufacturing curriculum. Manufacturing is a large part of our community's business sector with several large and successful businesses located in Detroit Lakes.

These businesses offer great career opportunities with the chance for upward mobility for students that are interested in those occupations. To assist our students and regional manufacturing sector, DLHS offers students some in-depth and quality work-based learning experiences.

DLHS received a Youth Skills Training grant in 2020. One of the areas of focus in the grant is Advanced Manufacturing. During the last three semesters, we have had three DLHS students (ages 16-18) complete paid internships at BTM Manufacturing. BTM is one of the largest custom metal manufacturing businesses in the United States. The students have had internships in welding, tool & die, quality control, engineering and maintenance. Interns spend three to four periods of their day working in a paid internship learning and working in their area of interest. At the end of the semester, students create and deliver a final presentation to BTM management and employees, school district



Continued on Page 13

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Amy Lord, CTE Coordinator
ISD 728 — Elk River, Otsego, Rogers and
Zimmerman

Independent School District (ISD) 728 serves Elk River, Otsego, Rogers and Zimmerman communities as the 8th largest school district in Minnesota. The communities in this area are composed of many manufacturing businesses. Labor shortages are an issue in all industries at this time, but manufacturing has been working to build their pipeline for several years as they saw the baby boomers retiring

and had little interest from the younger generations. Local manufacturers reached out to the high schools to discuss a partnership to educate teachers and students about career options as manufacturing has high tech, high skills careers that provide good wages.

The ISD 728 developed classes based on industry standards and offers 2 years of Computer Aided Engineering & Design classes to introduce students to drafting and design along with 1 year of Welding Fabrication and up to 3 years of Design, Engineering & Manufacturing Courses at the high school level. The trade and industry instructors are amazing and very passionate about what they are teaching their students to ensure they have the skills to help them excel in post-secondary education or the workforce. In these classes, students are learning about the manufacturing industry as a whole, safety on the job, blueprint reading, technical skills, operation of industry standard tools and equipment, quality control and inspection and employability skills. They invite local employers in as guest speakers and offer tours.

In the 2018-19 school year ISD 728 added CTE Internships as the school board and administrators are committed to supporting and funding strong CTE programs. After completing related CTE courses, like listed above, students can register for the CTE internship to provide

hands-on experience in local manufacturing businesses. The changes in legislation to allow “student learners” ages 16 and 17-year-olds to work in manufacturing in partnership with schools and the Department of Labor and Industry created a new opportunity for students and employers. ISD 728 hosts paid internships with over 20 local manufacturing employers in our communities. Some interns have chosen to continue employment after graduation, while furthering their education or pursuing their dreams. Some interns have even made the transition from trainee to trainer in their career path.

ISD 728 is committed to helping all students explore and learn about a variety of career paths. To support the manufacturing pathway, ISD 728 has been awarded a \$100,000 YST Grant, \$10,000 Gene Haas Scholarships, received donations from local employers to purchase equipment, hosted Employer Manufacturing Breakfast, Chamber Sponsored Cool Jobs Tour and even started a small partnership with the local nursery to sell fabricated signs



Mr. Opsahl at Zimmerman High School preparing equipment for students to create products for Nelson's Nursery.

to support the welding program at Zimmerman High School. ISD 728 encourages innovation and new partnerships to educate, inspire and empower our diverse learners, to shape their futures, to accomplish their dreams and to contribute positively to our local and global community.

www.isd728.org



Jacket Manufacturing



Perham-Dent Public School District

Jacket Manufacturing is run by an assortment of people. The office and business managers are Cooper Brasel and Olivia Rosenthal. We both speak on behalf of Jacket Manufacturing, which is a student-run business that is run through Perham High School. We will be explaining some of the products we make, how COVID has affected us and made us grow, and finally some goals and plans that we have for the next year or so.

Jacket Manufacturing performs a wide assortment of jobs. A few of our best sellers are our cutting boards and metals signs.

Some of the other things that we make are stickers, laser engraving, fire rings, wooden flags, and so much more. Most of our business comes from custom designs that people want us to make. We pride ourselves on making these products to the best of our ability and we always have a new project that gets put up. Our workers include three metalshop/welders, four woodworkers, two businesspeople, and our six freshmen who do a little bit of everything. It is good that we have all of these new people because they will be part of the business for a while, and it will be their job to train the new students with the skill sets that they have learned during their time here.

Jacket Manufacturing started in the fall of 2018. The students at the time had to come up with everything. The main goal of this class is to make it into a “job-like atmosphere” and the people who started this did a great job creating this business. What none of them could have predicted was COVID happening and shutting everything down. When school started back up again we had lost

almost everyone, due to most of them graduating. We had a few people that returned but we needed more help. During our first trimester and partially during the second trimester, we went to school two days a week and we were in the shop for 2 hours a day. We recruited quite a few kids but they were just freshmen who didn't have a clue about what to do. When Thanksgiving came we went fully online until mid-January. We all had to come in from 11:15–2:17 on our opposite cohort days. This really was a struggle since most of the kids couldn't drive yet. There also was the problem with having two people in one cohort and everyone else in the other one. A lot of communication was had and we all left a lot of notes hoping someone would find them. When we went through COVID it hit us hard but we all learned that communication is key. All in all, I think everyone was just happy to see people other than their families and to get out of the house.

Goals are something that you need to grow a business. Jacket Manufacturing has had a goal for the last two years. This was to set up a booster club and to get people who worked in it paid, whether through a scholarship or in actual money. We have set up a couple of business meetings to discuss this and we have accomplished quite a bit in these meetings. Our booster club will be made up of our business sponsors. Of course, we still



hope to continue to grow as a business and currently have up to 20–25 kids working in this environment and getting hands-on experience.

Jacket Manufacturing is a student-run program, with everyone having a different skill set but all using them for this business. It is run through the Perham High School and we are very thankful to them for letting us do this.

The 2020–2021 school year was one for the books. Everyone was affected differently and it was especially hard on businesses. Hopefully this program will continue throughout the years and continue to teach students how to persevere in hard times and problem solve their way through difficult times.

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Bemidji Career Academies: New Partnerships and Real-World Experiences



Brian Stefanich, Solway Elementary Principal
Bemidji Career Academies Director
Bemidji Area Schools

Our Youth Skills Training approved programs continue to help our students have meaningful paid internships at local businesses and industry partners and Our partnership with the Boy Scouts of America and Regional Director Brad Olson, continues to flourish as Exploring programs on site at our partners businesses continue to expand!

We currently have 70 business and industry partners in the Greater Bemidji area that financially sponsor our career academy program. Our Bemidji Career Academy was recently awarded a \$25,000 grant to award our career academy students \$1,000 scholarships to attend a Bemidji technical college following their 2022 high school graduation next spring.

Background

The Bemidji Career Academies were created in 2017 with the mission to build learning opportunities for our local businesses and industry partners to help prepare the next generation of employees and community leaders. In doing this, our vision is to create a pathway for every student at Bemidji High School to succeed and thrive in our greater Bemidji community. We wish to train our students and retain

our talent thus strengthening our local workforce.

The Bemidji Career Academies program's goal is to equip students with the skills necessary to obtain high-skilled employment while staying in the community. Rather than sending students out of the community to attend college, perhaps never to return, the Bemidji Career Academies seeks to partner with local businesses, agencies and schools so that students can find an opportunity to earn a vocational certificate or diploma without leaving Bemidji. Through community collaboration and intentional coursework design, Bemidji Career Academies allow students the opportunity to thrive in today's workforce while staying in Bemidji and becoming productive income earners contributing to the economy of the Greater Bemidji area.

The uniqueness of the Bemidji Career Academies lies in the tremendous numbers of collaborating businesses and agencies that support the 15 existing career academies and 22 career pathways. Bemidji Career Academy students are given the opportunity to assess their skills and talents as they pertain to the world of work, build skills transferable to the workplace by taking courses specific to their chosen Career Academy, access free college courses while in high school, and have the opportunity to participate with community businesses who provide invaluable "real world" workplace experience.

Students completing all academy requirements, earn a certificate of completion and a medallion to wear at graduation showing the hard work they have put in during their time at BHS!

The Bemidji Career Academies exist because of our hardworking community and our curious and excited students, and we are thankful for both. You can see a list of our academies below, with more information found on

our Bemidji Career Academy website (bemidjicareeracademies.com), including over 70 community sponsors and partners that we have here in our own backyard!

- Aerospace Technology
- Agriculture
- Art & Design
- Automotive Technology
- Business
- Child Care & Education
- Construction Trades
- Culinary Arts
- Health Careers
- Leadership
- Light, Sound, & Video
- Mechatronics (Manufacturing)
- Natural Resources Management
- Project Lead the Way Engineering
- Public Service

Bemidji High School Career Academies Testimonial

Alya Nimis-Ibrahim

The Bemidji High School Career Academies gave me the opportunity to do internships at two area businesses. and to learn about aircraft with the Bemidji Aviation Exploration Program.

At a local manufacturer, I shadowed the

engineering and maintenance departments, and this gave me a better understanding of what a job in these fields entails. I had the opportunity to learn about the manufacturing process, look at machine code, attend productivity and safety meetings, collect data on the efficiency of one of the manufacturing lines, and even help build and test a prototype for a new machine that would automate the transport of heavy door sections.

At a local heating and refrigeration company, I learned how to turn sheet metal into ducts and how to take apart appliances in order to recycle their copper parts. This hands-on work helped me better understand the way these appliances function.

With the Bemidji Aviation Exploration Program, I am learning about the way that airplanes function through guided lessons in which we look at individual airplane parts and learn about how they fit into the whole. The Career Academies gave me the chance to learn about career paths in engineering, manufacturing, maintenance, and aviation through hands-on work with knowledgeable individuals and to gain skills that will be helpful to me when pursuing my future career.

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Itasca Area Schools Collaborative Starts Manufacturing Internship Program

On Feb. 4, 15 senior high school students from Nashauk-Keewatin, Greenway, and Grand Rapids High Schools began paid, for high school credit, internships with nine local manufacturing businesses in northern Minnesota.

As a result of three years of design work between local high schools, community colleges, and regional businesses — the Itasca Area Schools Collaborative Career Pathways program has begun offering internships to Career Pathway students interested in Manufacturing. This first cohort of students will be working in businesses between Hibbing and Cohasset to get a first-hand insight into the career field they are pursuing. This course is the capstone experience in the Manufacturing Career Pathway. Students in the pathway have taken courses that prepared them for this experience such as welding and fabrication, machining, engineering, CAD, production management and others. Student interns will spend the afternoons either in a career seminar with Nashauk-Keewatin instructor Joe Gabardi or out on placement at their

job site working directly in the field.

The purpose of a career pathway is to provide guidance and experiences to students while they are in high school that helps them have confidence in their decisions in post-high school planning. For Itasca Area Schools, Career Pathways is also about addressing workforce shortages in the region and connecting students interested in these needed fields to local businesses so that they can form their own professional networks. The idea is that students will know the abundance of great career options here and, hopefully, if they decide to stay or come back to northern Minnesota to work, they will already have established relationships to build off of. Career Pathways introduce students to career fields, help them gain the skills to be successful in the career of their choosing, and also provide hands-on experiences like the Internship program so they see first-hand what it's like to work in that field.

On Jan. 15, the Manufacturing Internship students and businesses gathered at Timberlake Lodge in Grand Rapids to com-

plete a workplace workshop where participants discussed what it will take to be successful as an intern and what a good internship experience for an employer and student looks like. After the workshop, students and employers signed training agreements outlining the details of the internship course. The signing event was a celebration for students, teachers, businesses, and the community and marked the start of many more exciting opportunities to come to the region.

This program is made possible due to funding from the Department of Iron Range Resources and Rehabilitation and The Blandin Foundation.

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DLHS Exposing Students to Careers in Manufacturing Continued from Page 9

officials and parents summarizing their experience. Some of the students have continued with BTD in part-time jobs during the year and full-time employment in the summer.

DLHS has also had students that are 18 years old complete paid and unpaid experiences with other manufacturing and trade businesses in the community to explore those occupations as possible future careers. Our goal is to market as many of these opportunities to students as possible before they graduate. We also try to create partnership activities with as many businesses as possible to provide the opportunity for the business and students to develop a relationship. These activities include guest speakers, field trips, classroom demonstration/work activities and one-day job shadows.

Another curricular area we have started this year is the creation of student-run businesses. One of the student-run businesses is Laker Manufacturing. This business has three areas of focus based on the needs and opportunities in our region's business sector: metal fabrication, wood working/construction and clothing production. Students have been tasked with the following business formation activities: goal setting, creating action plans, identifying their target market, surveying potential customers, identifying consumer needs and wants, creating catalog products, cost analysis, accounting set-up, marketing

activities, establishing business relationships, creating sales procedures and scheduling production activities. The initial production of customer products has gotten underway in the past couple of weeks. Students are allowed to choose their role in the student-run businesses. These roles range from accountant to production manager. Over the course of the semester, students will determine their responsibilities through self-directed learning, accessing business mentors and getting periodic direction from their instructors. The business decisions and production activities will primarily be determined by the students, and it will be their responsibility to make sure the tasks are completed. Our goal is to create students that are problems solvers, self-directed learners and creative thinkers.

Providing these career exploration and work-based learning activities in manufacturing will assist our students in seeing and doing "It." With a consistent effort over the next few years, this should provide many of our students with great opportunities in manufacturing and assist our local businesses with their workforce needs.

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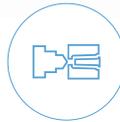
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MAAE Announces State Award Winners

Every year, the Minnesota Association of Agricultural Educators (MAAE) recognizes individuals and programs in the areas of: Outstanding Young Member, Outstanding Middle/High School Program, Outstanding Post-Secondary Program, Outstanding AgriScience Teacher of the Year, Outstanding Teacher-Mentor, and Outstanding Agriculture Education Teacher.

The State award nominees were announced in July at the Summer MAAE Conference held in Moorehead, MN. Each State Award winner will represent Minnesota within the Region III competition, made up of 6 states. Mary was selected to represent Region III and will be recognized at the National Association of Agricultural Educators Conference held in New Orleans, Louisiana November 29- December 4th, 2021.

Agriculture programs prepare students for high-demand careers in cutting edge industries like biotechnology, renewable energies, engineering, food production, and more. They also teach students how to be leaders and prepare them to take on the challenges of the next generation.

For more information see <https://www.mnaged.org>



Outstanding Early Career Teacher

Elizabeth Johnson
Tracy Area High School
Tracy Area Public Schools

"When students step into my classroom, I want them to be able to be successful, I find creative ways to help students be committed to the learning process through engaging activities and topics."

Outstanding Middle/Secondary Ag. Ed. Program

Nathan Thompson
Edgerton Public Schools

"Edgerton's mission is to create career ready students who are passionate about the opportunities agriculture will provide."

Teacher Turn the Key

Joe Ramstad
Staples-Motley High School
Staples-Motley Public Schools

"As a teacher, my duty and calling is to serve my students, community members, and colleagues to the best of my ability, just as my high school agriculture teachers did for me. I strive to promote equity, engagement and excellence in everything that I do as an educator."

Outstanding Teacher Mentor

Mike Miron
Forest Lake Area Schools

"The strength of the Agricultural Education Profession is the network that we

create to support, encourage, and cooperate with one another for the benefit of our students and community."

Outstanding Ag. Ed. Teacher

Mary Hoffmann
Sleepy Eye Public Schools

"You will never know everything, but caring about students, taking interest in the lives, setting expectations high, being a positive role model and showing passion for this career is the best advice I can give."

Outstanding Postsecondary/Adult Program

Kyle Huneke, Jennifer Smith, Rex Quam
Riverland Community College

"The purpose of this program is to assist students in meeting their business and personal goals."



Mary Hoffmann, Sleepy Eye Agriculture Education Program Receives MAAE Outstanding Agriculture Educator of the Year Award



Sleepy Eye Public Schools

Congratulations! Mary was selected to represent Region III and will be recognized at the National Association of Agricultural Educators Conference.

Mary Hoffmann is in her twenty-seventh year of teaching. She taught in Wisconsin for 11 years and then moved to Sleepy Eye in 2006. Mary has grown the Sleepy Eye Ag. Program to include three instructors. She was able to secure community grant funding for five years for the third teacher addition to the program.

Mary has served on numerous committees and boards in her region, state, and at the national level for the Ag. Teacher Associations and currently serves as the Secretary for the National Ag. Ed. Council which stimulates

growth in agricultural education. The Council serves as a common meeting ground for agricultural education and represents organizations and entities representing students, teachers, teacher educators, state leaders, alumni, industry, and government.

The Agriculture Program at Sleepy Eye

The Sleepy Eye Agriculture Program is a really great example of the three-circle Agriculture Education model: classroom instruction, supervised agricultural experience projects, and FFA.

Hoffmann's Ag. Classes range in areas of instruction from Plant & Crop Science to Food Chemistry, Natural Resources to Exploring Agriculture, and from Welding to Construction/Woods. Several courses are articulated for college credit.

Every student enrolled in an Ag. course does an SAE (Supervised Agriculture Experience) out of class project. The SAE project can be their ag. job, an exploratory experience, raising plants or animals, or anything else dealing with natural resources, plants, animals, ag. mechanics, or food. The students keep records, take photos or videos, and complete a presentation to share with the class about their experience. Many visits are conducted each summer for students who want to do extra with their SAE's. Students are keeping extra records on their projects in order to learn and receive degrees in the FFA as well as complete proficiency award applications. Due to these

students' SAE's, their willingness to keep records, and their hard work, Mary has helped FFA members earn 49 American Degrees and 149 State Degrees, 89 State Top 3 Proficiency Awards, 35 State Winning Proficiencies, and 15 National Proficiency Finalist Titles. Three of her members have even achieved the ultimate SAE goal of National Proficiency Winner. It is really great to see so many students want to put in the extra effort to make their SAE's successful. They come in after school, on weekends, and on days off to complete applications that reward them for their hard work and dedication to their SAE projects.

FFA

The Sleepy Eye FFA Affiliated Membership includes 7th & 8th Grade — 97 members and 9th to 12th Grade — 150 members. Total Membership (including out of school members) — 285 members! FFA opportunities are in the areas of leadership, service, educating youth, Career Development Events (CDE's), and agriculture and career exploration. Mary's students are great assets to this community due to their involvement in FFA! Having students participate in many different areas within the FFA is very important for a well-rounded program. At Sleepy Eye, we focus on service to our school and the community, leadership development, ag. skills development, member involvement, and ag. education. This helps to recruit many members by having many different types of activities that are of interest. Sleepy Eye has

been a THREE STAR National Chapter for ten years and been in the Top Ten in Minnesota for thirteen years.

"Living to serve is the last line of the FFA motto, but it is what I want my students to think of first in their own lives! My students and I have been fortunate to be able to conduct so many different service projects in Sleepy Eye in the past 15 years, including coming up with new service projects throughout the pandemic. I never wanted to tell people what we couldn't do because of the pandemic but think of what we could do instead. We CAN help with food redistribution lines, make inspirational signs, we CAN make cards for the elderly, help with the weekend food program, we CAN put up lights at the park, pack school supplies for the United Way, we CAN paint pumpkins and windows at the nursing home, we CAN host a people parade outside all of the nursing home windows in town, send cards to the veterans at the VA Hospital, and we CAN make tie blankets and donate them in our community! I love to show my students what we CAN do for the community and developing an attitude of unselfishly serving others!"

—Mary Hoffmann





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Agriculture at Lafayette Charter School



Tally Clobes
Lafayette Charter School
Kindergarten Teacher/Interim Director

When Lafayette Charter School (LCS) was established back in 1999, it was decided to emphasize (the charters) on Technology and Agriculture. With computers and cell phones beginning to be more widely used, a focus

on technology made sense. Students were going to need to understand how to interact and use the various devices that were emerging. But why Agriculture?

“Our school sits right in the middle of some of the best farmland in the nation,” says LCS director Tally Clobes. “You can see corn and soybean fields from the school, and tractors and other farm machinery drive by often. Children in this part of Minnesota (Nicollet, Brown, and Sibley counties) grow up surrounded by agriculture, and school founders wanted them to understand the vital role Agriculture plays, not just here in Minnesota, but in the world.”

LCS students (grades preK-8) have weekly Agriculture classes. They learn about the life cycles of crops and farm animals, and get a lot of hands-on learning, as well. LCS has a greenhouse and a garden.

In early spring, students plant seeds in milk cartons they have been saving from their lunches. Each week, classes head to the greenhouse to water the plants and watch as the beans, peppers, tomatoes, squash, cantaloupe, watermelon, and other produce, emerge. Some of these plants are sold in May, as a school fund-raiser. The rest are transplanted into the

garden, where they are tended by families during the summer months. In the fall, students help harvest the produce, which is then served fresh for school lunch or at snack time.

“This process is a wonderful way to not only teach students about gardening, but also provide them with nutritious, Minnesota-grown food, that THEY helped raise,” says Clobes.

Agriculture classes also include units on Agri-business. “The world depends on the agricultural products produced right here in Minnesota. Whether that is milk and cheese, or corn that becomes cereal or feed for livestock, to the pork, beef, or turkey that is eaten around dinner tables or served in restaurants,” says Clobes. Agriculture contributes over a trillion dollars to the United States’ gross domestic product (GDP) and provides jobs for about twenty-million Americans.

As farming becomes more high-tech, it also intersects with the school’s other charter: technology. Farmers use some of the most high-tech equipment available, as they plant crops using GPS and aerial imagery and use temperature and moisture sensors to know when to plant and harvest. Artificial Intelligence (AI) can even help farmers better predict the weather.

Each winter, LCS students also get to show what they know by conducting experiments based on agriculture topics, in the

school’s annual Ag Fair. Topics range from testing soil for nitrates to determining which type of artificial light helps seedlings grow. Students gather their findings on display boards and talk to judges (local folks who volunteer and know a lot about ag), explaining their investigation, the Scientific method, and their conclusions. Points are tallied and awards given for the best projects.

“Agriculture is a part of our students’ lives, whether they live on farms or not,” says Clobes. “Our hope is that, as students learn about the many aspects of agriculture and agri-business, they will develop a much deeper appreciation for their families and neighbors. And, maybe, if we can build knowledge and appreciation now, a few of them will go on to ag-related careers.”

Lafayette Public Charter School is a tuition-free public school located in Nicollet County, serving Pre-k-8th grade students from the Lafayette, New Ulm, Gibbon, Fairfax, Winthrop, and Brownton areas. To enroll your student or for more information, families may check out the school website (see link below), send an email to: lcsoffice@lafayettecharter.k12.mn.us, or call 507-228-8943.

lafayettecharter.k12.mn.us



The Academy for Sciences and Agriculture Continued from Page 1



grown by our students in our greenhouse. Along with the plant sale comes the planting of the school’s giving garden. Produce from

the garden is donated to local food shelves. Over the summer months the school participates in many local events. These events are a great way to help us bring science and agriculture to the community, AFSA style. Our Science and Ag on the Go activities were highlighted in a new event this year, the Vadnais Heights Heritage Days Kid’s Morning. AFSA’s FFA officer team and student volunteers shared their appreciation and knowledge of science and ag with the young families attending. Twice a year the student body goes out into the community to volunteer and help local agriculture related businesses with a variety of projects. Our Farm and Community Service Days not only give our students service experience but hands on agricultural experience as well. Students help maintain city parks and rain gardens, prepare blueberry fields for the winter/summer, plant, harvest, and

package fresh produce. Helping in the community helps build the family environment AFSA is known for.

Agriculture opportunities for students continue with AFSA’s FFA affiliation. All students in grades 7–12 are members of the local, state, and national FFA Organization making AFSA the largest FFA Chapter in Minnesota. The partnership with the FFA allows the school to provide additional opportunities such as CDE’s (Career Development Events), SAE’s (Supervised Agricultural Experiences), and the AgriScience fair. AFSA’s FFA Alumni coordinates a Potato Hug each fall which not only serves as a fundraiser, but it is primarily a chance for students to sell wares that they have produced during their SAE. Students have a chance to truly experience being an entrepreneur.

Agriculture is the foundation of everything AFSA. From the youngest grades to our graduates AFSA K-12 is bringing agriculture to urban and suburban communities. We are always looking for volunteers to be Science Fair Judges, Career Day Speakers and more. Please check our website for more information about AFSA K-12 www.afsahighschool.com or contact our Executive Director, Becky Meyer at bmeyer@afsahighschool.com.

The Academy for Sciences & Agriculture (AFSA) engages learners in academically rigorous, student-centered

learning experiences and leadership opportunities within a science and agricultural context. AFSA brings agricultural literacy to urban and suburban populations.

This K–12 public charter school was founded by the Minnesota Agricultural Education Leadership Council (MAELC) in 2001. AFSA began as a 9th-12th grade high school with 41 students. Currently, over 425 students are enrolled and the school will grow to about 600 students over the next three years. AFSA’s locations, in Vadnais Heights and Little Canada, allow inclusion of students from all north/east Twin Cities areas. Currently students from 19 different school districts attend AFSA.

AFSA K–12 prepares students to be wise consumers, savvy decision makers, and successful, career-oriented lifelong learners. The unique curriculum with hands-on and experiential learning drives the success of the students through high school and beyond.

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Joe Ramstad of Staples-Motley High School named 2021 Teacher Turn the Key by MAAE



Staples-Motley Public Schools

The Staples Motley Agricultural Education Program has a rich history of engagement and service on a local, state and national level. Our program is located in rural Staples, Minnesota, and serves students from Staples, Motley, Browerville, Pillager, Verndale and other surrounding communities.

The program includes multiple facilities including a newly-renovated agricultural mechanics shop, classroom, office, greenhouse, school forest and high tunnel and offers a cycle of over 20 rigorous courses to

prepare 7-12 grade students for careers, 6 of which meet state graduation requirements.

When walking toward my classroom, you can often hear us before you see us... we tend to have a lot of fun and I am a firm believer that just because a classroom is loud does not mean learning is not happening. The students and I are frequently up and moving, laughing and using cutting-edge classroom equipment, technology, resources and one another to tackle our tasks each day. I strive to create an environment that students get excited to visit each day, and based on the course evaluation feedback I have received from students, I am doing a good job of this.

Opportunities for leadership development are given to every student in the program in a variety of ways. To start, each course includes service-learning activities that relate to the curriculum. For example, in a typical semester, welding students develop educational materials about general shop safety and present those to elementary-aged students while my middle school students may find themselves landscaping school grounds after finishing the plant science unit. Course projects are also designed in a way that helps students build leadership skills in the classroom, including many opportunities

for students to develop their public speaking, teamwork, collaboration and reflective abilities.

As a beginning teacher, I know that it takes a village to bolster a successful program. This village is largely composed of key partnerships our program has with organizations and influential leaders within our community that I work with to secure opportunities for students. We recognize all of our partners at our annual banquet and through events such as our Stakeholder Appreciation Breakfast during FFA Week.

At the end of the day, what is most important to me is not the accolades my students earn, but rather, that they have grown as people. It has been a distinct privilege to watch my students transform themselves and positively influence those around them. Since I was a student teacher at Staples Motley a few years ago, I have noticed that the same students who were shy freshmen and skeptical to come to their first FFA meeting are now the upperclassmen who are consistently encouraging the new group of shy freshmen to break out of their shell and participate in FFA. It is rewarding and invigorating to watch the growth of each of my students and be a small part of their journey.

As a teacher, my duty and calling is to serve my students, community members and colleagues to the best of my ability, just as my high school agriculture teachers did for me. I strive to promote equity, engagement and excellence in everything that I do as an educator. While no two days are ever the same, I am always trying to improve myself and program and actively demonstrate a growth mindset to grow alongside my students and colleagues each day.



www.isd2170.k12.mn.us

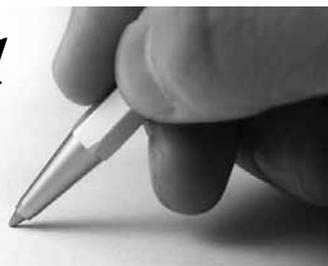


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Apply for a Grant



Environmental Education Grants

The Environmental Protection Agency seeks proposals for environmental education projects that promote environmental awareness and stewardship. Grants are intended to support projects that design and demonstrate education practices, methods, and techniques.

Deadline: Applications due December 6, 2021.

Website: www.epa.gov/education/grants

School Garden Grants

Safer Brand offers School Garden Grants to schools that want to create and start a school garden. Interested schools should explain their reasoning for a school garden and how they would use the grant.

Grants of \$500 are awarded.

Deadline: Applications are accepted September 1 through December 1, annually.

Website: www.saferbrand.com/articles/how-to-start-a-school-garden

Youth Garden Grant

Since 1982, KidsGardening.org has supported school and youth educational garden projects that enhance the quality of life for students and their communities. To be eligible, public and private schools or nonprofit organizations must plan a new garden program or expand an established one that serves at least 15 children aged 3 to 18. The selection of winners is based on the demonstrated program impact and sustainability. Applications must be submitted online.

A total of 50 programs will receive garden award packages valued at \$1,000 to \$1,050 in 2022.

Deadline: Applications due Dec. 17, 2021.

Website: kidsgardening.org/garden-grants

ecoTech Grants

The Captain Planet Foundation (CPF) is offering grants to support inquiry-based projects in science, technology, engineering, and mathematics (STEM) fields that leverage technology or use nature-based designs to address environmental problems in local communities. Ideal projects are youth-led, project-based, and integrate technology to address an environmental problem that results in real, demonstrable environmental outcomes.

Grants up to \$2,500 are awarded.

Deadline: Applications are accepted March 15 through July 15 and September 15 through January 15, annually.

Website: captainplanetfoundation.org/grants/ecotech

H2O for Life Project Minigrants

The mission of H2O for Life is to improve local and global communities by engaging students as change-makers for a better world. Minigrants are intended to kick-start service-learning projects focused on the global water crisis and to benefit partner schools. Grants may be used for service-learning project expenses.

Awards range from \$250 to \$500.

Deadline: Applications are accepted on a rolling basis.

Website: www.h2oforliveschools.org/page/kickstart-your-project-with-a-grant

SCA Grants

Sony Corporation of American and its operating companies offer funding to programs that support education and creative, artistic, technical, and scientific skills that are necessary for tomorrow's workforce.

Deadline: Requests are accepted year-round.

Website: www.sony.com/en_us/SCA/social-responsibility/giving-guidelines.html

Saxena Family Foundation Grants

The Saxena Family Foundation has a particular focus on initiatives that promote US science, technology, engineering, and mathematics (STEM) education and the empowerment of girls, female children, and young women so that they have equal rights later in life. The foundation focuses on empowerment programs to include economic, educational, and political empowerment of women through literacy programs, jobs, and life-skills training.

Average awards range from \$5,000 to \$50,000.

Deadline: Applications are accepted year-round.

Website: saxenafoundation.com/guidelines

McCarthy Dressman Education Foundation Grants

The McCarthy Dressman Education Foundation offers Academic Enrichment Grants designed to develop classroom and extracurricular programs that improve student learning.

Eligible individuals should consider applying if:

- They have a unique idea for a project that will supplement regular classroom curriculum or an after-school activity.
- Their students have ideas for enrichment

Youth Skills Training Program

The Youth Skills Training (YST) program encourages, promotes and supports the development of local partnerships between schools, employers and community organizations. These local partnerships provide students with related classroom instruction, safety training, industry-recognized credentials and paid work experience in high-growth and high-demand occupations in the industries of advanced manufacturing, agriculture, automotive, health care and information technology. Successful applicants will demonstrate the ability to achieve these objectives through various means including outreach, education, training and supportive services for students.

YST@DLI program approval

Programs must be approved prior to students starting paid work experience. Download program approval forms at <https://www.dli.mn.gov/yst>

Programs are not required to be a YST grant recipient to become an approved YST program.

Program guide

The Youth Skills Training Program Guide provides resources to create a new

activities or a need for strengthening their academic experiences.

- They have facilities, expertise, and community endorsement, but need additional resources for materials, time, and transportation.

Grants up to \$10,000 are awarded.

Deadline: Online applications are accepted January 15 through April 15, annually.

Website: mccartheydressman.org/academic-enrichment-grants

American Honda Foundation Education Grants

The American Honda Foundation supports education with a specific focus on the areas of science, technology, engineering, and mathematics (STEM); the environment; job training; and literacy. It engages in grant making that reflects the basic tenets, beliefs, and philosophies of Honda companies, which are characterized by the following qualities: imaginative, creative, youthful, scientific, humanistic, and innovative.

Awards range from \$20,000 to \$75,000 over a one-year period.

Deadline: For new applicants, applications are due February 1 and August 1, annually. For returning applicants, applications are due May 1, annually.

Website: www.honda.com/community/applying-for-a-grant

Education Grants, Verizon Foundation

The Verizon Foundation supports kindergarten through grade 12 education in science,

Youth Skills Training program or enhance an existing program. Find it here <https://www.dli.mn.gov/yst>

The fifth round of Youth Skills Training grants will open Jan. 18, 2022.

- Grant funds can be used for marketing, recruitment, training, transportation, student certifications and personnel to manage a program. Grants cannot be used to pay student wages.
- \$1 million in grant funding available.
- Grants are used for the implementation and coordination of YST programs.

Grant timeline (round five)

- Jan. 18 to Jan. 31, 2022: Letter of Intent accepted
- Feb. 7 to March 4, 2022: Grant applications accepted
- April 12, 2022: Grantees announced
- July 1, 2022, to June 30, 2024: Performance period

Contact Rich Wessels, project manager, rich.wessels@state.mn.us or 651-284-5184 or Katherine Fischenich, program specialist, katherine.fischenich@state.mn.us or 651-284-5341

For more information see <https://www.dli.mn.gov/business/workforce/yst-grant>

education, technology, and mathematics (STEM); and domestic violence education and prevention for youth, women, and older adults. In STEM education, funding supports activities such as summer or after-school programs, teacher training, and research on improving learning in STEM areas through use of technology.

Deadline: Applications are accepted year-round.

Website: www.verizon.com/about/responsibility/grant-requirements

Society of Aviation and Flight Educators Grants

The Society of Aviation and Flight Educators, Inc. (SAFE) is offering four grant awards designed to encourage kindergarten through grade 12 classroom teachers to incorporate aviation-themed lessons into their normal curriculum. Grants may be used to design an aviation-themed classroom unit or complete an aviation-themed project. Two grants are awarded to applicants for kindergarten through grade 7 and the other two grants are awarded to applicants for grades 8 through 12.

Grants of \$550 each are awarded.

Deadline: Applications are due August 31, annually.

Website: www.safepilots.org/programs/k-12-classroom-teacher-grant

Student Contests and Awards

eCYBERMISSION Mini Grants

eCYBERMISSION is a web-based science, technology, engineering, and mathematics (STEM) competition free for students in grades 6 through 9. Teams of students can compete for state, regional, and national awards while working to solve problems in their communities.

Teams must choose a Mission Challenge then identify a specific community problem that can be addressed through research and experiments. Mission Challenges include alternative sources of energy; environment; food, health, and fitness; forces and motion; national security and safety; robotics; and technology. Teams must be composed of three to four student members from the same state and grade. Each team must have one team advisor over the age of 21 who is a teacher, parent, sports coach, club leader, or any other active community member. Team advisor and registrations must be submitted online.

Deadline: Team advisor applications are due November 15, 2021. Team registration deadline is November 23, 2021.

Website: www.ecybermission.com/ImportantDates

Team America Rocketry Challenge

The Team America Rocketry Challenge (TARC) strives to inspire the next generation of engineers and technicians to join the aerospace industry. The challenge is an extracurricular, hands-on, project-based learning program incorporating aerospace-specific science, technology, engineering, and mathematics (STEM). Teams of three to 10 students design, build, and fly a rocket. Each year a unique task is included in the challenge.

A pool of over \$100,000 in prizes and scholarships is awarded.

Deadline: Applications due Dec. 1, 2021.

Website: rocketcontest.org

World Series of Innovation

The Network for Teaching Entrepreneurship's (NFTE) World Series of Innovation, presented by The Moody's Foundation, is a fun, experiential activity that allows students aged 13 to 24 to think creatively and invent new products or services that address everyday opportunities.

Winning students in each challenge category receive \$1,500; second place winners

each receive \$600; and third place winners each receive a \$300.

Deadline: Online submissions are due December 15, 2021.

Website: innovation.nfte.com

Wonder League Robotics Competition

Wonder Workshop, Inc. sponsors the Wonder League Robotics Competition for students aged 6 through 14. The competition is intended to help students develop computational thinking, problem-solving, and creativity by learning to code; encourages growth mindset and twenty-first century skills; and builds teamwork and community spirit. Student teams design solutions to real-world science and technology challenges by programming robots.

Three winning teams receive a cash prize of \$5,000. Each member of the winning team also receives a robot of choice.

Deadline: Registration due Dec. 31, 2021.

Website: www.makewonder.com/classroom/robotics-competition

World of 7 Billion Student Video Contest

Population Education is sponsoring a video contest open to all middle and high school students in grades 6 through 12. Contest entrants create a short video of 60

seconds or less that illustrates the connection between population growth and one of the three following global challenges: (1) agriculture and food; (2) urbanization; and (3) ocean health. All videos must include how population growth impacts the issue and provide at least one idea for a sustainable solution.

For high school, one first prize of \$1,200; one second prize of \$600; and two honorable mentions of \$300 are given for each listed global challenge, for a total of 12 prizes. For middle school, one first prize of \$600 and one runner up prize of \$300 are given for each listed global challenge for a total of six prizes.

Deadline: Entries are due February 25, 2022.
Website: www.worldof7billion.org/student-video-contest

National Engineers Week Future City Competition

Future City Competition is an annual competition for grades 6 to 8 students. Participants complete five deliverables: a 1,500-word city essay; a scale model (or multiple model segments) built from recycled materials; a project plan, a presentation video, and a virtual/online Q&A session with judges. Regional winners represent their region at the international Finals.

Deadline: The registration deadline varies by region.

Website: futurecity.org/about

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\$150.00 cash prizes will be awarded to each of the six winning entries.

\$50.00 cash prizes will be awarded to each of the six Honorable Mentions.

- Essays are to be between 500 and 600 words in length.
- A Word document or PDF is preferred. We will be featuring the winners and honorable mentions on our website and in the spring issues of *Teaching Today MN*.
- Entries must include a teacher contact name, what school the student is attending, and grade.
- Deadline for submissions is February 12, 2022 at 5:00 pm! Submit your essay soon!

SEND ENTRIES TO:
andria@teachingtodaymn.com, or
renee@teachingtodaymn.com

For any questions please contact:

Andria andria@teachingtodaymn.com, 715-360-4875
Renee renee@teachingtodaymn.com, 715-839-7074



Albert Einstein Distinguished Educator Fellowship Program

The Albert Einstein Distinguished Educator Fellowship Program provides a unique professional development opportunity for accomplished Kindergarten through grade 12 educators in the fields of science, technology, engineering, and mathematics (STEM) to serve in the national education arena.

Fellows receive a monthly living stipend of \$7,500, and travel stipends up to \$5,000.

Deadline: Applications are accepted August 16 through November 18, 2021.

Website: science.osti.gov/wdts/einstein

Spirit of Ramanujan STEM Talent Initiative

The Spirit of Ramanujan STEM Talent Initiative is an outreach effort to find and

encourage undiscovered science, technology, engineering, and mathematics (STEM) talent in the United States and worldwide. The program is intended for promising individuals who excel in the STEM subjects but lack traditional institutional support through grants and mentorship opportunities.

Eligible applicants are students worldwide. There are no specific restrictions on age or location.

Grants up to \$5,000 are awarded.

Deadline: Applications due April 30, 2022.

Website: spiritoframanujan.com/home

SunWise Environmental and Health Education Program

The National Environmental Education Foundation (NEEF) supports the SunWise Environmental and Health Education Program to promote sun safety measures at school and teach kindergarten through grade eight students about UV radiation and stratospheric ozone. The foundation distributes free program tool kits containing 50 cross-curricular, standards-based activities.

Deadline: Applications accepted year-round.

Website: www.neefusa.org/sunwise



Nancy Antoine, Northfield Public Schools, Named Minnesota's 2021 NAESP National Distinguished Principal



Nancy Antoine, principal of Bridgewater Elementary in the Northfield Public Schools District, and a member of the Minnesota Elementary School Principals' Association (MESPA) is Minnesota's 2021 NAESP National Distinguished Principal (NDP). MESPA and the National Association of Elementary School Principals (NAESP) present the prestigious award.

"I am very honored to have been

nominated for the National Distinguished Principal Award, and to have been selected as a finalist!" Said Antoine, "Becoming the NDP is just incredible, and I would not be where I am today without the support and input of the amazing leaders that I have had the opportunity to work with over my career. Many of these leaders I have met while being a MESPA member, spending time together learning and growing professionally. I am grateful for my Superintendent, Dr. Hillmann, allowing me to explore professional opportunities to bring back to our district. I am very thankful for my Bridgewater Elementary family who have allowed me to lead while pushing them to become leaders as well. This is a once-in-a-lifetime honor, and I am extremely grateful for this award."

Antoine began her career in education in 1987 as a mathematics teacher in the Pharr-San Juan-Alamo School District in Pharr, Texas. In 1991 she moved to the Minneapolis Public Schools District in Minnesota, where she continued to teach mathematics for a further five years before becoming an instructional assistant at elementary schools in New Hope, Minnesota. In 2001, Antoine

became the Assistant Principal of Prairie Elementary School in Worthington, Minnesota, then served as the school's principal from 2002 to 2007. Antoine has now been principal at Bridgewater Elementary School in Northfield for over 13 years. Antoine received her Bachelor of Science in Mathematics Education from Moorhead State University and her Masters of K-12 Curriculum and Instruction at the University of St. Thomas.

Among her greatest accomplishments as a principal, Antoine is proud of her role in altering the school culture at Bridgewater Elementary. "The year after I came to Bridgewater in 2008, we began grade-level data retreats," Antoine wrote in her application, "Currently, our teachers meet weekly in their Professional Learning Communities (PLCs), and they use data constantly to inform their instruction and/or practices to make the learning environment work for students. The teachers now set up their own data retreats and this has made a significant difference in terms of student achievement while having a positive impact on the social-emotional needs of the students. The teachers are adept with using data, and see the value in using it in their PLCs."

When asked how she balances leadership and management duties to support student achievement, Antoine compared Bridgewater to a piece of music, "The staff are like members of a symphony; without specific instruments, the sound will not be as rich as it could be. Without the conductor (principal), the ensemble would not be in sync with each other, and the complex piece of music would sound more like noise. The symphony needs a diverse set of players. A trombone isn't enough on its own, and it cannot play all parts. There must be room for all of the different instruments to make the final product a successful piece of music that is pleasant to the ears of the audience members. Everyone in the symphony has a common purpose and goal. An effectively led and directed group has the potential to create beautiful music, which are the learning opportunities for the students to be successful."

"Mrs. Antoine has been a vital part of our team engaging the Northfield community about systemic racism," wrote Dr. Matthew Hillmann, Superintendent of Northfield Public Schools, "She has shared her personal story of growing up in Minnesota and persisting despite the racist experiences that she has endured. She has inspired others to commit to anti-racism in tangible ways. She can simultaneously hold space for uncomfortable conversations about race while also supporting others in the process," He concluded, "She is passionate about her job, is

a class act in the way she conducts herself professionally, and models the servant leadership approach."

"MESPA is thrilled to have Principal Nancy Antoine selected by her peers to become the 2021 MESPA National Distinguished Principal," said MESPA Executive Director, Jon Millerhagen, "Principal Antoine's service to educators in the state is remarkable. Nancy represents our members as Chairperson on the Board of School Administrators, Education Minnesota's Teacher of the Year judging panel, and a representative on the National Association of Elementary School Principals' Task Force on Race and Equity. Nancy ushered in a deeper commitment to understanding educational equity as President of our association from 2017 to 2019. She is a strong voice for all families and children in Minnesota. We are proud to have her represent MESPA."

The National Distinguished Principal program was established in 1984 to recognize and celebrate elementary and middle-level principals who set high standards for instruction, student achievement, character, and climate for the students, families, and staff in their learning communities. Each year, NDPs represent Pre-K through grade 8 public schools from all across the country as well as principals in U.S. private schools and those from the United States Department of Defense Office of Educational Activity and the United States Department of State Office of Overseas Schools. All nominated Minnesota principals' applications were reviewed by a statewide selection committee, including representatives from each of MESPA's 12 geographical divisions; 2020 NAESP National Distinguished Principal Bret Domstrand; and selection committee chair, Dawn Brown, Minnesota's NAESP State Representative. On May 7, Antoine and the other two finalists were interviewed by the committee to determine Minnesota's 2021 NAESP National Distinguished Principal.

The other finalists for this honor were: Bobbie Johnson, principal at Jie Ming Mandarin Immersion Academy, St. Paul Public Schools, and Amy Oliver, principal at Monroe Elementary School, Anoka-Hennepin Public Schools.

Courtesy of a MESPA press release

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elementary](http://northfieldschools.org/schools/bridgewater-elementary)



Nominations for the 2022 Minnesota Teacher of the Year are Now Open!

The Minnesota Teacher of the Year program, now in its 58th year, is the oldest and most prestigious recognition program in Minnesota to honor excellence in education. The program chooses one teacher to represent Minnesota's thousands of excellent educators.

Selection Process

A selection panel representing Minnesota leaders in education, business and government chooses the Minnesota Teacher of the Year from individuals who are nominated and who then choose to become a candidate. Panelists review candidate portfolios, review video submissions of semifinalists and interview finalists in person.

The Minnesota Teacher of the Year represents the profession as an advocate for education and spokesperson for teachers. The Minnesota Teacher of the Year makes presentations, meets with policymakers and attends frequent meetings.

Peers, school personnel, parents, community members and students may nominate teachers. Many nominees come from school district-level Teacher of the Year programs throughout the state.

Eligible nominees must meet these criteria:

- Teach in a public or nonpublic Pre-K through 12th-grade school or ECFE or Adult Basic Education program, working at least 50 percent of the time directly with students.
- Hold a bachelor's degree and a Minnesota teaching license.
- Have completed five years of teaching by the nomination deadline.
- Intend to teach for the full following school year after being named.

Once nominated, teachers will receive a packet in the mail containing instructions for moving forward in this process. Learn more about how to become a candidate for MN

2022 Minnesota TEACHER of the YEAR 58th Anniversary

teacher of the year. Note: Nominees only can accept nominations in any two consecutive years.

For more information, call Ashley Behrens at 651-292-4862 or 800-652-9073 or go to <https://www.educationminnesota.org/news/awards/teacher-of-the-year>.

(Natalia Benjamin, a high school English learner and ethnic studies teacher at Century High School in Rochester, was named 2021 Minnesota Teacher of the Year. – See page 23)

75 Teachers Were Candidates for the 2021 Minnesota Teacher of the Year



The 2021 Minnesota Teacher of the Year was chosen from a field of 75 candidates. These candidates accepted their nominations and completed the required materials to become eligible for the honor.

The candidates for 2021 Minnesota Teacher of the Year, listed by their school districts:

Katherine Zuehlke, *Annandale Public Schools*
Paul Heida, *Anoka-Hennepin School District*
Todd Hunter, *Anoka-Hennepin School District*
Joleen Lundin, *Anoka-Hennepin School District*
Jamie Weisz, *Anoka-Hennepin School District*
Stuart Darnell Keroff, *Aspen Academy, Savage*
Nicholas Hupton, *Bloomington Public Schools*

Whitney Bennett, *Buffalo-Hanover-Montrose Schools*
Cassandra Taylor, *Buffalo-Hanover-Montrose Schools*
Jill Magnuson, *Dover-Eyota Public Schools*
Tami Rhea, *Dover-Eyota Public Schools*
Suzette Ehlke Rowen, *Dover-Eyota Public Schools*
Ashley Kruger, *Eagle Ridge Academy, Minnetonka*
Courtney Heinz, *Eden Prairie Schools*
Casey Ostdiek, *Eden Prairie Schools*
Lauren Scherer, *Eden Prairie Schools*
Emily Izen-Labes, *Fairmont Area Schools*
Jacqueline Jarvis, *Faribault Public Schools*
Emily Holley, *Farmington Area Public Schools*
Michelle Thompson, *Farmington Area Public Schools*
Scott Kummrow, *Fergus Falls Public Schools*
Layne Bell, *Hopkins Public Schools*
Autumn Schacht, *Hopkins Public Schools*
Brittany Rogers, *Jackson County Central School District*
Kristen Frank, *Lake Park Audubon School District*
Christine Carlson-Kelm, *Mahtomedi Public Schools*
Brady Krusemark, *Mankato Area Public Schools*
Eric Meyer, *Maple Lake Public Schools*
Kim Marty-Goblirsch, *Medford Public Schools*

Sara Markham, *Medford Public Schools*
Robert Kohnert, *Minneapolis Public Schools*
Lauren Wheeler, *Minneapolis Public Schools*
David Davis, *Minnetonka Public Schools*
Teresa Ketelsen, *Montevideo Public Schools*
Jeff Offutt, *Moorhead Area Public Schools*
James Greenwaldt, *Morris Area Schools*
Jodi Sandmeyer, *Nevis Public School District*
Peter Pearson, *Osseo Area Schools*
Jessica Stewart, *Osseo Area Schools*
Kristin Holsen, *Osseo Area Schools*
Jess Wagner, *Owatonna Public Schools*
Alice Nevins, *Pierz Public Schools*
Ann Hutchison, *Pillager School District*
Christie Dunkley, *Pine City Public Schools*
Renee Pedersen, *Proctor Public Schools*
Kathryn Kneeland, *Robbinsdale Area Schools*
Natalia Benjamin, *Rochester Public Schools*
Kim Czeh, *Roseau Community Schools*
Lisa Langenhahn-Heil, *Rosemount-Apple Valley-Eagan District*
Kaela Jo Sacquitne, *Roseville Area Schools*
Katherine Green, *Saint Cloud Area School District*
Eugenia Popa, *Saint Paul Public Schools*
John Horton, *Saint Paul Public Schools*
Kathy Romero, *Saint Paul Public Schools*
Louise Ziegler, *Sauk Rapids-Rice Public Schools*
Michael Sundblad, *Shakopee Public Schools*
Kathryn Tabke, *Shakopee Public Schools*

Shawna Wilson, *Shakopee Public Schools*
Jillian Goods, *South Washington County Schools*
Kristine Iturrino, *South Washington County Schools*
Sandra Stephens, *South Washington County Schools*
Wright Braudt, *Southwest Metro Intermediate District 288*
Lisa Cartwright, *St. Anthony-New Brighton School District*
Kristine Friesen, *St. James Public Schools*
Alicia Farmer, *Stillwater Area Public Schools*
Robyn Hassani, *Stillwater Area Public Schools*
Hannah Reyes, *Stillwater Area Public Schools*
Monica Maloney, *Triton Public Schools*
France Roberts, *Wayzata Public Schools*
Calleigh Forcier, *Westonka Public Schools*
Beth Hausladen, *Westonka Public Schools*
Aaron Thorpe, *Westonka Public Schools*
Kristin Wallace, *Westonka Public Schools*
Jayne Oachs, *Wheaton Area Schools*
Shannon Helgeson, *Winona Area Public Schools*
Courtesy of Education Minnesota press releases



Rochester Educator is 2021 Minnesota Teacher of the Year



Natalia Benjamin, a high school English learner and ethnic studies teacher at Century High School in the Rochester school district, is the 2021 Minnesota Teacher of the Year.

Benjamin is the 57th recipient of the prestigious award, the first from the Rochester district and the first Latinx teacher to be named Minnesota Teacher of the Year. An independent selection committee representing Minnesota leaders in education, business and government chooses the Teacher of the Year from individuals who are nominated and who then choose to become a candidate.

“Learning languages has been a part of me for all of my life,” said Benjamin, who was born and raised in Guatemala, in an essay submitted to the Minnesota Teacher of the Year selection panel. “My personal experiences with languages created a passion and appreciation for multiple languages and cultures. Many of my students are navigating new cultures and places. I hope that I can be a small part of their journey in succeeding as they follow their dreams.”

A native Spanish speaker, Benjamin also grew up speaking, reading and writing French

while attending a French school in Guatemala City. Later, she learned English in middle school and high school. She says the exposure to different languages prepared her to better understand a child’s language acquisition process.

“Natalia sets her students up for success by fostering a safe, positive and welcoming learning environment for every child,” wrote Molly Murphy, assistant principal at Century High School, in a letter supporting Benjamin’s nomination. “She has an ability to vary instruction and adjust lessons to meet student needs. Natalia creates an open, supportive environment with mutual respect among the students.”

Benjamin has been an EL teacher at Century since 2015. Before that, she had been a substitute teacher and a paraprofessional in the district for two years, and had taught language acquisition and foreign language classes for young learners in Idaho. She has held numerous leadership positions within Century High School and the Rochester district, in her local union and with statewide and national issues for Education Minnesota and the National Education Association. She holds a bachelor’s degree in molecular biology and a master’s in language acquisition and teaching, both from Brigham Young University in Utah.

Education Minnesota, the 86,000-member statewide educators union, organizes and



underwrites the Teacher of the Year program. Candidates include pre-kindergarten through 12th-grade teachers, ECFE and ABE teachers from public or private schools.

Courtesy of an Education Minnesota press release





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Minnesota Association of Secondary School Principals

2021 High School Principal of the Year



Scott Gengler,
Wayzata High School

Scott Gengler has been a school administrator for 20 years and served as Wayzata High School principal for the past seven years. Scott considers school culture to be his greatest responsibility and that culture is shaped by the school's purpose. Wayzata High School's focus is that every student graduate is prepared for post-secondary success, regardless of race, class, gender or ability. This purpose has become known as the "Wayzata Promise" over Scott's tenure. The promise is a commitment shared by all staff to ensure that each student is afforded an opportunity to learn and grow in a safe, secure, nurturing and supportive environment. "We are here for you" is part of the school's motto.

Scott has fostered innovation and creativity by creating the "WHS HUB". This user-friendly, student-focused web-based tool that helps staff communicate, innovate and collaborate. In 2019 the Wayzata HUB was awarded a Local Government Innovation Award by the University of Minnesota Humphrey School of Public Affairs. Students share that the creation of the Honors Mentor Connection (HMC) greatly impacted their learning. "HMC" is a class that allows students to pursue research in a field that interests them and are instructed on how to reach out to principal investigators at local labs/colleges to seek a research position.

Staff share that Scott's core belief is that "each and every student deserves an opportunity to thrive, and staff are encouraged to develop learning opportunities that immerse students in hands-on and real-world learning. Mr. Gengler realizes our school's role in society's broader network for students, and he seeks opportunities for staff and students to plug into that network".

An initiative that has impacted many learners at Wayzata is that of Courageous Conversations. Scott sought ways to amplify student and staff voices on a variety of issues both in,

Minnesota Principals of the Year

and out of the school. These monthly meetings give students, teachers and staff an opportunity to see and hear each other in ways that break down communication barriers and the constraints of an academically packed, skills-driven class session. This initiative moved some teachers to tears and to action because of the honesty and insight of student voices.

wayzataschools.org/whs

2021 Middle Level Principal of the Year



Shawn Andress,
Park Rapids Century Middle School

Shawn Andress has been a school administrator for nine years and principal of Park Rapids Century Middle School for the past five years. Shawn shares that culture and climate have been a main focus point at Century for several years. The creation of The Panther Pride Matrix around Respect, Responsibility and Relationships (3Rs) has guided staff development in preparing our learners for tomorrow's challenges.

"Shawn is a very visible presence in our school", shares a staff member. "Students receive fist bumps and high fives everyday along with knowing nods and verbal encouragement like, have a great day". Shawn believes in "old school" communication and staff still send families CMS postcards three times a year (for refrigerator posting) reminding students of their strengths and staff support.

Staff share that students are put in roles of leadership often including daily announcements and pledge readers. One particularly innovative program includes Panther Ambassadors. These students greet new students and often meet with them in the summer months to ease fall transitions as well as being a familiar face at lunch once school starts.

Another impactful program includes Camps and Cabins where student-led teams help with leadership and peer development across grade levels. Students address peer interaction

issues such as bullying and academic achievement. Students share that Ms. Andress always puts students first and "is our best cheerleader!"

www.parkrapids.k12.mn.us



2020-2021 Assistant Principal of the Year



Angela Charboneau-Folch,
Big Lake High School

Angela Charboneau-Folch, Assistant Principal at Big Lake High School, has been named this year's recipient of the Minnesota

Assistant Principal of the Year and is now eligible to be considered for the National Assistant Principal of the year honors. Angela has been an administrator for 15 years, the past 10 at Big Lake High School.

Angela shares that positive student relationships have been a key focus in her work. An example of which is the Reason I Come to Work video that was created by staff to build community and positively impact learners and the Being Your Own Champion initiative to open communication lines with families.

Students share that they feel safe and secure at Big Lake because of programs and leadership created by building leaders. "I feel strongly that I can speak for the entirety of the Student Board that every staff member knows us deeply whether in class or not", added a student leader. Staff members added that Angela's leadership in training such as the Sting program and Discipline with Dignity have created an inclusive environment for all students and staff.

Awards given by the Minnesota Association of Secondary School Principals (MASSP). <https://massp.org>

biglakeschools.org



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Abdul Wright '16 MA-Education, 2016 Minnesota Teacher of the Year

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