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Park Lawn Elementary Teacher Completes Comprehensive National Board Certification



Oconomowoc Area School District

Park Lawn Elementary 4th grade teacher, Gwen Muehlbauer earned teaching profession's top credential by achieving National Board Certification. Muehlbauer was recently honored at the Oconomowoc Area School District (OASD) School Board Meeting for earning her certification from the National Board for Professional Teaching Standards (NBPTS).

The founding mission of the NBPTS is to advance the quality of teaching and learning. Recognized as the "gold standard" in teacher certification, the National Board believes higher standards for teachers means better learning for students.

Director of Curriculum and Instruction, John Flannery said, "The most important indicator of a child's success is a highly effective teacher. There is no curriculum tool, there is no digital tool that has more impact than our indi-

viduals who are in front of kids every day. We also have an opportunity to celebrate teachers when they take it upon themselves to go after professional developments in some of the most rigorous manner. On behalf of the entire Teaching and Learning team, I want to congratulate Gwen for her outstanding achievement through this National Board Certification process."

In fact, earning the certification is no easy task. It can take up to three years to complete and includes four components that the educator must show mastery of including content knowledge; differentiation in instruction; teaching practice and learning environment; and effective/reflective practice.

Muehlbauer reflected on her journey, "National Board Certification is extremely rigorous, time consuming and stressful. I completed a three-year process in a year. I am very proud of myself and know for a fact that this was worthwhile. I am able to delve into standards with more understanding and can implement ways to teach my students. I can analyze and reflect on the results to improve but most importantly, it taught me how to really understand what I am going to teach the students beforehand and allow me to utilize UDL (Universal Design for Learning) and differentiation strategies to help the students find success. This process has helped me with analyz-

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Brown Deer — A Rich History of Teaching in the Trades

Courtney Krueger,
Communications and
Community Coordinator
School District of Brown
Deer

Change and growth are the common themes for Brown Deer High School's Career and Technical Education (CTE) program. BDHS prides itself on growing its program based on the current demand of the trades industry. For the 2021-2022 school year we have 181 middle and high school students signed up to take a CTE course in our 800 student Middle/High School. While there is no guarantee that all 181 students will enter the trades, our program allows our students an opportunity to experience the possibilities of a local, highly skilled career. Our CTE program at Brown Deer is set up to help graduating seniors prepare for today's job demands. While exposing students to different trades and industries, they will be able to choose a career path that fills them with



joy and provides a comfortable income.

Brown Deer has always had a rich history of teaching in the trades. Our high school began with traditional woodshop classes centered around carpentry. Years later, an automotive shop was added to the high school. The high school auto shop thrived as many community members and staff serviced their vehicles through our shop. We started our first partnerships with local auto shops as they hired our students as interns and who later became employees or colleagues in the automotive industry. Brown Deer at the time offered ten courses to high school students in automotive, woods, construction and carpentry.

As the need for tradespersons in manufacturing increased, our then superintendent, Dr. Deb Kerr, created a space for a metal fabrication lab in the 2018 referendum. In this lab, students are trained in various metal fabrication machinery. This lab is where our students learn to weld and even build motorcycles. The addition of this program has also created part-



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Waupun High School is home to Wisconsin's Outstanding Agricultural Education Teacher



Congratulations Tari!

Tari Costello, agricultural educator at Waupun High School, has been awarded the Outstanding Agricultural Education Teacher Award from the Wisconsin Association of Agricultural Educators (WAAE). This prestigious award was presented at the WAAE Professional Development Conference held last summer in La Crosse.

The Outstanding Educator Award recognizes teachers who conduct the highest quality agricultural education programs. These individuals provide excellent classroom experiences, community and professional service and are lifelong learners.

With over 450 ag students and FFA members in the Waupun TEAM program she says she is "blessed" to be able to teach with Ryan Seichter, Kris Beaver, Ryan Christian, Sheri Hicken, and Mackenzie Chitko. For over 32 years with the last 25 in Waupun, Tari has gained amazing community support that has invested millions of dollars in new and updated facilities including 2 greenhouses, an animal lab, an aquaponics lab, ag mechanics shop and so much more.

Students in the Waupun High School agriculture education department gain life skills not only in the field of agriculture but in leadership, community service, and employment skills. Classes in this program include Veterinary Science, Large Animal Science, Dairy Science, Companion Animals, Horticulture, Advanced Horticulture, Landscaping, Advanced Landscaping, Farm to Table, Employability Skills, Agricultural Mechanics, Wildlife and Natural Resources

Management, Crops and Soils, Introductory classes, and more.

This chapter has been recognized as a National Chapter Program each year plus more than 100 State FFA Degrees, Star Farmer Finalists, Star in Agribusiness Finalists and winner, State Proficiency winners, to name a few.

Ms. Costello was a Kohl Fellowship recipient, Wisconsin High School Teacher of the Year, and Agri-Science Teacher of the Year. Her program has been featured in Outdoor Wisconsin, the WAAE promotional videos, World Dairy Expo's featured Chapter video, Culver's Thank A Farmer program video, and in the FFA New Horizon's magazine.

In the Waupun Agriculture Education Department, some of their major FFA

programs include 10 weeks of Ag Product Giveaways totaling more than \$80,000, implementing and maintaining a Clothes Closet for the school, being the largest contributor to the community Holiday Help program, and providing thousands of pounds of food to the community food pantry each year.

Last spring, the 8th-grade agriculture class partnered with the Agriculture Maintenance class to build six raised beds behind the greenhouses. In these beds, they raised cucumbers, tomatoes, peppers, peas, and carrots. Products were donated to the Waupun Food Pantry in the summer and when school started, they were donated to the school lunch program.

But Tari doesn't stop there. While she loves being an agriculture education instructor with an amazing team of instructors, in a community that supports our program that includes the best students in our school, she goes on to say "my biggest pride and joy is being a mom to my two amazing sons, I'm truly not sure how I got so lucky to be their mom!"

Cameron Pokorny (Senior, Valedictorian, FFA President) — *The Waupun FFA allows students to set their own bar. Whether you're brand new to the department or a 6-year FFA member they have something for everyone! Personally, this organization has been absolutely crucial in developing my confidence, speaking ability, and accountability which has prepared me to find success in high school, my college education, and beyond.*

Samantha Horning (Senior, FFA Officer) — *I joined FFA because I have*

always dreamed of becoming a veterinarian when I grow up and I knew they were involved with animals and it sounded like fun. I stayed in the FFA because I felt welcomed and wanted. If you would have told me in seventh grade that I would become an officer I never would have believed it. I was timid and shy. If it wasn't for the advisors pushing me out of my comfort zone, I would not have even considered running for an officer position. I learned responsibility and accountability when I became a chapter officer.

Makenna Kunz (Senior, FFA Officer) — *When I am asked about how the FFA and the experiences that it has brought me, have influenced my life I falter a bit. Not because the FFA hasn't influenced me enough, but because the FFA has influenced me so much that without it, I would not be the person I am today. In the six years of my involvement, the FFA has led me to find a greater sense of purpose and more self-confidence, a vast range of opportunities and networking possibilities, and most importantly lifelong friendships and memories that I will cherish for the rest of my life. I have Waupun FFA to thank for all of my accomplishments.*

Lucas Bresser (Freshman, FFA Member) — *The agriculture instructors are very caring*

and encouraging. Plus it is a good way to make friends.

Connor Kuhn (Freshman, Incoming FFA Officer) — *I joined FFA because of the great opportunities it gives, not just ways to work on a farm, but also to help me become a leader in our school and in our lives. You also get to meet a lot of people and make a bunch of new friends!*

Cameron Borth (Junior, Incoming FFA Officer) — *I'm part of the Waupun Agriculture program/FFA because no matter what I know there will always be someone there for me I can talk to. I love that everyone treats each other like family. One of the biggest reasons I'm part of it is because it has taught me leadership, and discipline, and because of the amazing opportunities, it offers. I love it because there is this constant drive to do great things within the department and everyone is always striving to do things better than they had done, to begin with, is amazing. This is why I choose to be a part of the Waupun Agriculture Education program and the FFA.*

Marcus Kuhn (Freshman, Incoming FFA Officer) — *I joined the Waupun FFA because*

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Wisconsin's Outstanding Middle/Secondary Agricultural Program



Congratulations Jordan!

The Stanley-Boyd Area School District, in west central Wisconsin, is home to Wisconsin's Outstanding Middle/Secondary Agricultural Program.

The award was presented to Jordan Donnerbauer, Stanley-Boyd's Agricultural Education Instructor & FFA Advisor, by the Wisconsin Association of Agricultural Educators (WAAE). The Outstanding Secondary/Middle School program award recognizes agricultural education programs and their instructors who have excelled in membership, as well as participation in W.A.A.E. and other professional associations, through classroom instruction, FFA involvement, and community service.

Jordan's first priority is teaching his students about agriculture. "I take great pride in offering effective classroom and laboratory instruction to ensure that all graduates of the program will be better prepared for career success and informed choices in the food, fiber, and natural resource industries."

He takes personal responsibility that all of his students receive quality instruction in a variety of subjects. "All my students conduct research projects and labs to ensure they are getting true "hands on" experiences." Examples include leaf collections, water testing, pollution studies, population studies, plant growth labs, taxidermy, agribusiness commod-

ities, marketing plans, and livestock, dairy, and horse management practices.

Stanley-Boyd owns 80 acres of land adjacent to the school called the Stanley-Boyd Outdoor Education Center. Jordan utilizes this whenever possible to conduct soil samples, forestry measurements, and crop yields to name a few. His students manage both an orchard and Christmas tree plantation where students make management decisions.

The following Agricultural Education courses are offered: Introduction to Agriculture, Forestry, Fish & Wildlife, Landscaping, Environmental Science, Animal Science, Dairy Science, Horse Care, Horticulture, and FFA Leadership. Dairy Science, Animal Science, and Horticulture are offered as transcripted credit with CVTC.

The Stanley-Boyd Agricultural Education Department now offers work-based learning through Youth Apprenticeship. Students are enrolled agricultural job sites in the surrounding community. These students are learning on the job 21st century career skills to help them succeed in the future.

All agricultural education students have numerous experiential learning opportunities as agriscience research projects are required in all courses above the introductory agriculture course as well as numerous labs to enforce what is being learned. All high school agricultural education students are required to have a

Supervised Agricultural Experience Program. Many of these students continue their SAE's beyond the classroom and apply for FFA Proficiency Awards. Jordan works with FFA Alumni members and the Stanley Businessman's Association to find students jobs in agriculturally related careers. The school district also offers a summer internship position, filled by my students, working on the Stanley-Boyd Outdoor Education Center.

Stanley-Boyd FFA members have a myriad of opportunities to develop leadership skills. Members are encouraged to compete in a Career Development Event and/or a Leadership Development Event. FFA members have the privilege to attend various Chapter, State, and National Leadership Conferences and Conventions. Over half of our FFA membership strengthens their leadership skills by presenting or planning our Food for America and Earth Day Programs with our Elementary students. Specific examples of FFA successes include: one National Proficiency Finalist, nine State Proficiency winners, 100+ Gold Rated Proficiencies, 25 State Degree recipients, nine American Degree recipients, 13 FFA State winning Career Development Event Teams, three State winning Leadership Development Event winners, County Dairy Judging Champions nine times, and being awarded the Award of Excellence at the University of Wisconsin River Falls Ag Tech Contest eight years in a row with over 50 FFA members participating in a CDE for ten consecutive years. Nationally they have been named a Three Star National Chapter for eight years running and in 2012 the Stanley-Boyd FFA was a National Chapter Award finalist for the Model of Innovation in Community Development.

To ensure the stability and success of the Agricultural Education Program, Jordan put an emphasis on forming partnerships. One such partnership is with the local garden center in which they work together to beautify the city by planting and caring for flowers throughout the city. Another partnership is with the City of Stanley's Recreation Department in which the AEP donates corn and alfalfa hay to feed deer and elk at the City's Park. They work with the Lions Club and Stanley Businessmen by giving tours of the School's Outdoor Education Center and helping at the Business Expo and partner with the Chamber of Commerce by volunteering at the Stanley Rodeo and Stanley Truck Pull. They also partner with the FFA Alumni, assisting with their Toy Show, Sub-Sandwich Sale, and Dairy Fun Show.

The partnerships don't end with the com-

munity. Jordan and his students partner with school leaders as FFA members often serve as tour guides during Open House. Their Parliamentary Procedure Team conducts an annual workshop for the Stanley-Boyd School Board. Furthermore, they partner with the Student Council during the Holiday Season to participate in Adopt a Family. They select a family in need and help them by shoveling snow, house cleaning, and gift cards.

The Stanley-Boyd Ag Program promotes their program by sending out a bi-monthly newsletter to parents, businessmen, and school board members informing readers of all the events, activities, and accomplishments of the program. They have an up-to-date website and are actively promoting the program through various social media like Twitter, Facebook, Instagram, and Snapchat. Posts are made



weekly at minimum to keep our FFA members, parents, school staff and administrators, as well as members of the community up to date on what is happening and to showcase their successes.

"Collaboration with my colleagues allows me to improve my teaching strategies as well as stay informed and up to date on current topics and issues in agriculture. I served on the WAAE Board for four years and am actively involved in the State CDE Committee as well as the chairman for the Section 2 Sponsors and Exhibitors Committee. I have served as a mentor to new agricultural educators and am proud to see their successes. In addition to WAAE and NAAE, I attend various workshops offered at our Cooperative



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In this issue we are featuring more winners from our annual Middle School and High School "Dream Career" essay contest. You can read all winning essays on our website at: www.teachingtodaywi.com.



Essay Contest HIGH SCHOOL WINNER

Greenhouse Business

Khloe K.
Cornell High School

In the Garden

As a child, I remember working in the garden with my grandma. Together, me and my brother would pick pumpkins, receiving tiny pricks on our fingers as a reward. In the spring, I would gather down the driveway to spread seeds in the fertile rows of her garden. The biggest reward of it all was seeing the beautiful flowers, fruits, and vegetables that grew in return for my hard work. Eventually, I fell in love with this past-time.

Growing up helping my grandmother in the garden was very difficult at times. Running off of the bus, I could see Nonny (my grandmother) waiting for me to walk up the driveway with her. I could feel the hot sun shine on my skin, and I knew it would be lots

of hard work that day. Pulling my boots on and getting into a change of clothes, I was dreading the day of work I knew was ahead of me.

Complaining, I said, "Nonny, do you really need help in the garden today?" I never realized just how much my Nonny treasured our time together. Enduring the pain, I pitifully walked outside with my grandmother and picked up the hose to start watering the garden.

Through the years, I have always helped Nonny with her garden, and I have finally learned to enjoy the opportunity to spend time with her. Finally, I've realized that I could spend a lifetime doing this. The art of spending so much time with something for so long, taking care of it, and eventually seeing it blossom is so beautiful. Then, the bloomed plant gets to go away to somebody who appreciates it and will take care of it. I long to make this process into a career, driven by my grandma's love for plants and life.

My grandma has always been an inspiration and important figure in my life, and owning my own greenhouse and plant nursery would be my appreciation for her. I wish to put her love back into the world for everybody else and the earth's benefit.



When asked about just what my dream job would look like, I think about owning my own business. Owning my own greenhouse and plant nursery would bring me so much joy. I would raise flowers and limited fruits and vegetables, selling them to people. Along with the plants, I would sell pots and soil to help people with their plant-raising journey. My number one thing to keep in mind while owning this business is to keep my plants

healthy and do everything that is best for their growth and health instead of my time saved.

I have always loved the earth and putting back in our time and love we have received back into it. Raising plants would bring me so much joy just for the pure enjoyment of helping others and the earth. There will always be a part of my grandma in everything I do, and her love will help me thrive in my career and life.

Wisconsin's Outstanding Middle/Secondary Agricultural Program

Continued from Page 5



Educational Service Agency (CESA) on topics such as Differentiated Instruction, Disciplinary Literacy Strategies, Professional Learning Communities, and Implementing the Common Core Standards. I also am the Career and Technical Education Leadership Team Chairman and active in our District's Professional Learning Communities Team."

"My mission as a teacher is to instill the belief in my students that they can achieve anything. I will show them compassion and fairness while holding them accountable. I

strive to treat all my students as individuals and try to meet their intellectual and emotional needs."

— Jordan Donnerbauer

Source — Wisconsin Association of Agricultural Educators, Jordan Donnerbauer

stanleyboyd.k12.wi.us



Tari Costello

Continued from Page 4

I had a ton of family members in FFA, but I gained way more than I expected. I gained leadership skills from being a Junior High FFA Officer, and High School FFA Officer. It means a lot to help people in our community with all of the community service we do, and just to be part of a fun group of people. FFA is a great thing not only for present experiences but also for the future. It helps you get ready for current and future jobs, going to college, teamwork, and leadership skills. This is a great organization that helps with so many aspects of your life.

FYI, The upcoming Waupun High School Plant Sale is May 7, from 9:00-noon. There will be about 400 beautiful hanging baskets, 4 1/2" pots, and 6 packs of annuals, plus tomatoes, peppers, and some herbs.

Source — Wisconsin Association of Agricultural Educators, Tari Costello, and her students

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GREEN GRANTS & AWARDS



Emeril Lagasse Foundation Grants

The foundation makes Small Grants to support schools, and community organizations partnering with schools, that have an existing school garden or a culinary education program. Grants up to \$10,000 are awarded.

Deadline: Concept Papers are due February 1 and August 1, annually.

Website: emeril.org/small-grants

Outdoor Education Grants

The James E. Dutton Foundation awards grants for projects that enhance human life through nature-related activities and education, and those that positively impact the environment, wildlife, and animal life. Proposals must specify how educational and other goals will be met and how a project aligns with the foundation's mission.

Deadline: Applications are due March 16, June 30, and October 12, 2022.

Website: www.jamesduttonfoundation.org/grantmaking-guidelines

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

E2 Energy to Educate Grants

The E2 Energy to Educate grant program offers students opportunities to problem-solve today's and tomorrow's energy challenges. Grants fund projects designed to enhance students' understanding of science and technology and to inspire them to think differently about energy. Successful projects should be hands-on, engage at least 100 students, and align with one of three energy knowledge and innovation focus areas: Smart Home, Electrification, and Clean Energy and Zero Waste.

Education grants up to \$25,000 each are awarded for grades 6 through 12. Higher education grants up to \$50,000 each are awarded for two- and four-year colleges.

Deadline: Applications due Oct. 1, annually.

Website: www.constellationenergy.com/sustainability/community/e2-energy-to-educate.html

Goddard Prize for Environmental Conservancy

The New Leaders Initiative, a program dedicated to identifying, supporting and sustaining young environmental leaders is honored to administer the Goddard Prize for Environmental Conservancy. The Goddard Prize will be awarded multiple times a year to enterprising young people who are pursuing environmental projects, and who are looking for funding to bring their ideas to the next level.

Deadline: Applications accepted on a rolling basis.

Website: <http://bitly.ws/qqGE>

U.S. Department of Education Green Ribbon Schools and District Sustainability Award

The U.S. Department of Education's Green Ribbon Schools (ED-GRS) award is intended to recognize those schools taking a comprehensive approach to greening their school. A comprehensive approach incorporates and integrates environmental learning with maximizing positive environmental and health impacts. The award criteria are intended to focus on measurable outcomes wherever possible.

Green & Healthy Schools Wisconsin is the gateway to ED-GRS nomination. Interested applicants must submit the Green & Healthy Schools Wisconsin annual survey between August 15–October 31. Qualified applicants will be invited to submit additional narratives

by November 15 for consideration.

For questions about this information, contact Victoria Rydberg (608) 266-0419

Websites: www.ghswisconsin.org
www2.ed.gov/programs/green-ribbon-schools/resources.html
dpi.wi.gov/environmental-ed/green-ribbon-schools

YSA Everyday Young Hero Award & Grant

Everyday Young Heroes are young people, ages 5–25, who are improving their communities through service to others and making significant progress in achieving the UN's Sustainable Development Goals. Each week, the YSA Team selects one young person to receive this honor.

The young person and their nominator are notified via email upon being selected as an Everyday Young Hero. The Hero receives a congratulatory letter, a certificate of recognition, and is highlighted in YSA's newsletter and on social media, raising the profile of his or her good work.

This year, thanks to generous support from Newman's Own Foundation, YSA will also select 12 winners — one per month — to receive \$250 grants to continue and expand their project.

Deadline: Nominations are accepted on an ongoing basis.

Website: ysa.org/awards/eyh



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Essay Contest HIGH SCHOOL HONORABLE MENTION

Nurse

Nina A.
Arrowhead High School

Being a child, sure I may have wanted to be a superhero but we all know that wasn't really going to happen . . . I was fascinated by these fictional characters who could make such a great impact in the lives of other people. As I later found out, I don't need superpowers to make a positive difference in people's lives. So, in addition to looking up to superheroes, I also looked up to nurses.

Ever since then, I have always wanted to be a nurse. Now why did this sound so appealing to me? Long days, difficult patients, stress, physical demands, and feeling undervalued. To most people this does not sound like their dream career, still, I wanted to help people when they were at their lowest. My grandmother had a stroke during her open heart surgery when I was about nine years old. Our whole family was devastated by how

much this surgery had taken a turn. This surgery was supposed to fix her heart but only made her life so much more difficult. When she woke up from surgery, we realized she was not the same person as before. She relearned all of the things we take for granted every single day. The doctors even said that she would never be able to walk again. After so many long and frustrating days with Grandma in the hospital and rehabilitation, I realized that these nurses are everything to her. Yes, I could choose to be a doctor, with more schooling and responsibilities, but the nurse is the one standing by the patients' side and bringing them back to good health. They are there for their patients' highs and certainly their lows. I watched this team of doctors and nurses bring my grandma back to the sweet grandma who took me to Dairy Queen before school started each year, sent me cards in the mail for each holiday, and always said "I love you more." This dedication and sincere concern the nurses had provided left a huge impact in my heart.

For the past year, I have worked in an assisted living facility as a certified nursing assistant where I care deeply for my resident and the staff I work alongside. This opportunity has shown me what a career in healthcare will look like in my future, and how much it strengthened my desire to pursue it.



I have begun to learn that little things such as a hug or saying "Good night, sleep tight" to a patient can have such an impact in their lives. Watching my grandmother go through rehab, I knew that some residents did not get visitors every day like she did. So as the nurse, you truly are able to change these people's lives. This provides a sense of comfort when they are not somewhere they particularly choose to be. Not only do nurses have to treat the patients physical

needs and demands, but their mental and emotional ones as well. While I don't know if nursing is the right choice for me yet, like Grandma always said "We'll follow you wherever life takes you."

Seniors! A career in healthcare is a GREAT option and it's not too late to start this fall!

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Essay Contest
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HONORABLE
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Doctor

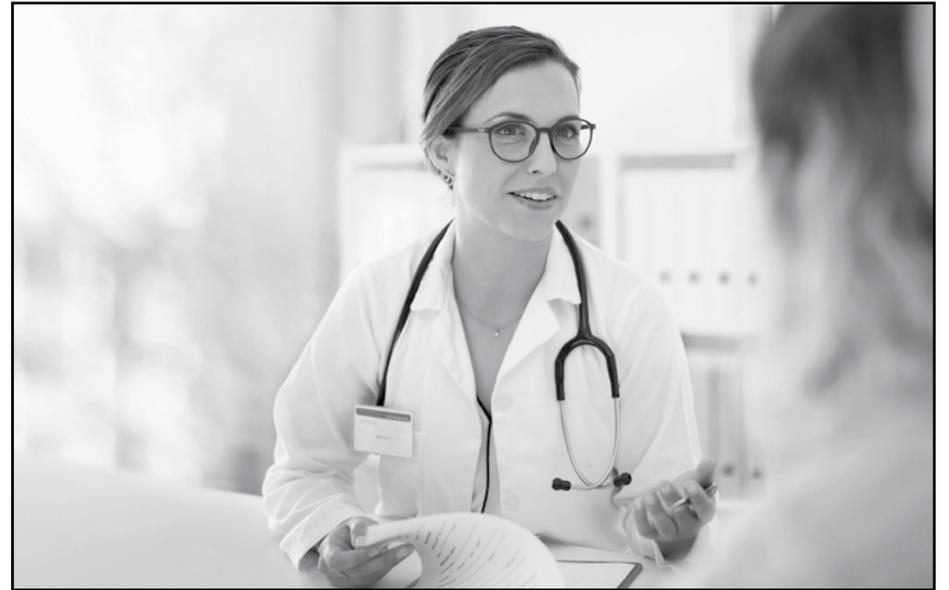
Jadyn G.
Prairie du Chien High School

The gift of empathy was granted to me at a very young age. One of my earliest memories includes myself, my little brother with a scraped knee and tears running down his face, and the sidewalk outside of my mom's house. I fondly remember racing into the house, to the medicine cabinet in the bathroom, and back out with hydrogen peroxide and a band aid. Considering I was about six years old, I had only known what to do from my own past experiences when my parents had aided me. Holding his hand to prepare him for the sting of the hydrogen peroxide and the warm hug that followed opened my eyes in a way so significant that words can hardly express. My passion to help others, to feel the warm embrace of their thanks, to "fix" anybody no matter my own expense, has not faltered since that day. It would be my dream to become a

doctor and to save people.

I'm well aware of the long road that I have ahead of me to achieve my dream. However, I have always excelled in school. I'm a 4.0 GPA student attending Prairie Du Chien High School in Prairie Du Chien, Wisconsin, involved in many various sports, clubs, and other extracurricular activities. Personally, I've always enjoyed school and my passion to become a student involved in health and medicine is significant, so I'm not worried about the arduous road of college ahead of me. I hope to attend the University of Madison, Wisconsin in the future, and I'm ready to be held to their standards to achieve my dream.

I want to specifically specialize in the emergency room. I'm often told by my friends and family members that I work well under pressure. Working under pressure as a doctor, specifically a surgeon or emergency room physician, is one of the most fundamental skills. I have no interest in being a surgeon at all, specifically because I don't enjoy the idea of cutting into things. More than anything, I know that the people that need the most help come into the emergency room first. Working in this field obviously comes with mental and physical consequences. Long shifts can go up to forty-eight hours or longer, and with fatigue comes error. I've been told that



working in the emergency room can be both the most mentally rewarding and the mentally deteriorating. Having somebody's life in your hands is one of the most pressuring situations, and you realistically can't save everybody. My goals are to learn to block out fatigue and guilt as early as possible so that I am prepared for the medical field.

My life has revolved around helping the people around me as much as possible. By keeping my passion, by holding myself

accountable and responsible for my own decisions, and by planning for the future, I am preparing myself in the best way I know how in order to achieve my dream. I will achieve my goals. I will save people. I will be the best doctor I can be. Most importantly, I will use the gift of empathy to achieve my dream career.



Essay Contest
HIGH SCHOOL
HONORABLE
MENTION

Criminal Justice, and Psychology

Annie B.
Arrowhead High School

Growing up, I was always pressured to think about what I want to do when I get older. Most commonly I was asked during family holidays, Thanksgiving, Christmas, birthdays. We would gather around a table. The adults talking about their jobs and their lives. The children sitting and listening. Sooner or later, the adults would add me into the conversation. They would proceed to ask the famous question, "What do you want to do when you grow up?" My most common response: "I don't know." Me, a six-year-old little girl playing with Barbies and watching cartoons was now attempting to lay out my future.

With that question constantly on my mind, I wondered, what do I want to do? Teacher? Detective? Nurse? Veterinarian? Movie Star? Lawyer? The answers were endless. A never ending spiral of thoughts. Although the world gives me so many options, my mind was always set on one field. Criminal justice, politics, and psychology. Why these?

This type of work has run in my family for years. My dad, a former DA, police officer, and lawyer. Brother, a lawyer. Sister, a lawyer. Mom, a political journalist. Even though these fields destroyed my family, I want to be living proof that you can do something you love and be able to love others at the same time.

I know the consequences. I have seen it first-hand. PTSD, depression, anxiety. It slowly takes control of your life, only if you let it. The toll it took on me and my family was drastic. I do think if my dad had been in a different career, things would be different. Everything happens for a reason, and that's why I want to choose this path. To make a change. To show I can be different.

Growing up I was forced to hear about all the bad guys and all the bad things in our world. I learned so much at such a young age; it forced me to put up a shield and to constantly see the negatives over the positives. From watching my dad in court defending people, to watching him become the DA and all the backlash that comes with it, to knowing almost every piece of information about any major event that happens, due to my mom.

I grew up thinking that everyone has some ulterior motive. For the most part, that is true. Throughout my life so far, I have learned that everyone has a big, bad wolf inside of them. No one is fully good and everyone questions themselves. The tasks they do, the people they meet,



the ideas they have. The big question that wanders my mind is, why? I want to solve crime, yes. I want to help families get closure, yes. But I want to know why. Why do people do the things they do, and how can I make a difference?

I want to see change. I want to feel change. Whether that's the nation as a whole, or one individual. The feeling that you helped someone and kept someone safe, is one of the most positive feelings. The mind is the most powerful thing. It makes decisions that can affect your life forever. Lead you down a good path, or a bad path. Giving an answer to the most

important question, determines everything in your future. In my head I have that answer.

But I continue to wonder if I can do it. Am I motivated enough? Am I strong enough? Is it possible? Now that I am older, I tend to question myself much more frequently. One thing I know for sure is that the 6-year-old little girl who played with Barbies and watched cartoons would say yes.



Essay Contest MIDDLE SCHOOL WINNER

Children's Therapist

*Zoey N.
River Ridge Middle School*

Sitting on a chair while someone unloads all their thoughts and worries onto you. I've dreamed of being a therapist for a few years now. I always help my friends when they're in need. Of course, that isn't going to work in the professional world, but it's a start. I've always felt a happy feeling after helping friends through a dark time. If I could do that for a job it'd be wonderful.

I realize how many years of schooling I'd have to go through but I think it's worth it. It would take at least eight years. Jobs in therapy are in high demand and are expected to go up even more by 2030. I've had dark times in my life with no one to help me and it's not fun. I

can't even begin to imagine how many people have to go through that every day, and I want to be there to help.

If we were to get into specifics I'd love to be a children's therapist. I feel like children are sometimes overlooked when it comes to mental health, and I'd love to help them. Children can go through so much at a young age, and they deserve a guide through it. My little brother has anger issues and I'd like to help other children with the same issues. My brother has affected what I want to be when I'm older since he's my little brother and I hate seeing him get so upset and not have a good time.

Even though I'd like to be a children's therapist, I'd also want to help adults and teens. It's just a preference which I'd wanna do more often. Everyone needs someone to talk with through rough times. I have never had someone trusted to help me with that. Of course, there are your parents but not everybody feels safe talking to them.

One of my friends told me that I might even need therapy. The reason? They think I will get mental issues from helping others with it. I realize that these events that people



would tell me could be traumatic for them, but I want to teach these people different coping mechanisms. I know that is what I'm signing up for. I know that these people could've gone through the most traumatic experience they'll

ever have. I know that this can cause and has caused depression in therapists. I am willing to go through the troubles that I might face in this job, all to help others.



would love to work with babies but I don't want to be in the birth room or anything like that. Watching them develop in the mom's stomach would be just right for me! Did you know ultrasound technicians scan more than just babies? They also examine other body parts including the abdomen, reproductive systems, the heart and blood vessels. They often work together with other doctors in the medical field. For example, if someone has a clot in their blood vessels they would have to contact a hematologist.

Next, I want to share some interesting facts that made me choose this as my dream career. When the mom is pregnant for only 18 weeks the baby's heart is a size of a dime, yet they still have to take 7 different images

to gather information to detect any problems early on. Also another fact, when a patient is experiencing abdominal discomfort, the ultrasound technician can quickly scan the outside of the body to get a visual to find out what is happening inside.

In conclusion, if you enjoy working with people, wish to work in the medical field, have a good personality and strong communication skills then an ultrasound technician would be a great career for you! If you don't feel an ultrasound technician is the career for you, the medical field has many different options. My dream is to become an ultrasound technician in the future!



Essay Contest MIDDLE SCHOOL HONORABLE MENTION

Ultrasound Technician

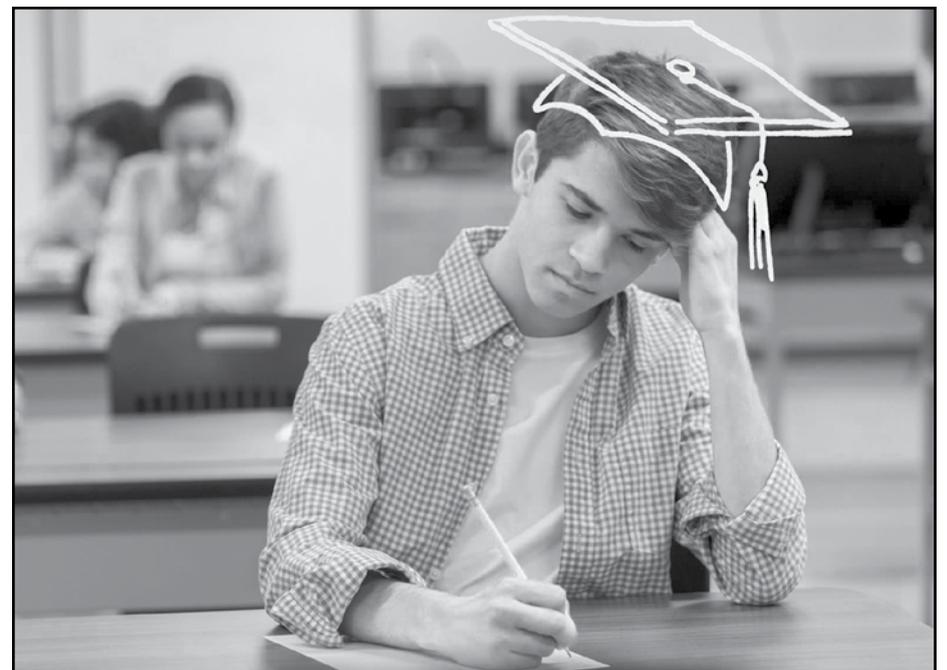
*Ella M.
Bay View Middle School*

Do you want to explore the medical field? Do you enjoy helping people? I know that is what interests me. My dream career is to be an ultrasound technician. A few skills ultrasound technicians need are to be good at monitoring the patient's reports, to be an active listener, communicating clearly, and critical thinking. I believe I already have some of these skills and

plan to continue working on improving them.

First, my education to become an ultrasound technician will require me to go to school for 6 years. This includes 4 years of regular college education and 2 years of sonography school. I think that 6 years is not bad compared to other medical careers where the programs require 8+ years of schooling. Now you may ask what type of school you'll need to become an ultrasound technician? About 34% of people with their Bachelor's degree and about 38% of people that have their Associate's degree have received an ultrasound technician job. As an ultrasound technician, currently the highest dollar amount of money you can make in Wisconsin is \$107,310 and the lowest dollar amount you can make is \$68,380. Which is not a bad paying job.

Second, a goal I have during my career is to help my patients live their best lives. I





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Oregon School District Named 2021 Climate Champion



In December, Dane County officials toured Oregon School District's Forest Edge Elementary, the first net-zero energy school in Wisconsin, as part of an event celebrating Dane County's 2021 Climate Champions. In its first year of operation, the school produced more electricity than it used for all school activities, including heating and cooling.

The Climate Champions program, through the Office of Energy and Climate Change (OECC), recognizes local entities that are leading on climate action.

Forest Edge Elementary opened in September of 2020 as the first net-zero energy school in Wisconsin. According to the New Building Institute it is the largest verified Net Zero School Educational building in North America. The school features a geo-

thermal heating/ cooling pump, over 1,700 solar panels, and does not require the use of natural gas. This past year the facility used 713,275 kWh and with the on-site solar systems while producing 737,530 kWh of electricity, which is 24,255 kWh more than it consumed. For reference, a typical Wisconsin home uses 8,500 kWh/ year. This means Forest Edge produced enough electricity to cover its own usage plus enough to power a typical Wisconsin home for almost 3 years!

The Oregon School District has a long-standing history of prioritizing long-term sustainability, especially with respect to energy efficiency. Oregon School District's Director of Communications, Erika Munding adds, "Our district has always had a vision for the future. Our school board members are continually engaged in strategic planning efforts and are committed to having great spaces for the kids as well as a focus on sustainability." At their 2014 referendum they committed, and since installed, three solar arrays and two geothermal systems at schools in their district. And in 2016 the school board approved a position paper that emphasized the importance of educating students in the context of an evolving world. This guiding document affirms the need to provide students with the tools they need when it involves energy



solutions and sustainability.

The central theme throughout Forest Edge Elementary's facility is "energy grounded in nature." Learning opportunities are embedded throughout the building, such as educational environmental graphics in the hallways and classrooms that evoke discussions about sustainability with students. The school features a viewing area to showcase their solar arrays and are in the last stages of

installing interactive monitors that display the school's energy use in real-time. The monitors will be yet another learning tool for the students. "Students in our district get to learn about net-zero and geothermal, which is a unique opportunity, so it's of great value to our students," notes Kerri Modjeski, the Principal at Forest Edge.

Continued on Page 13

CAREER OPPORTUNITIES*

- Engineering
- Telecommunications
- Legal Services
- Organization Change Mgmt
- Vegetation Management
- Building & Grounds
- Fleet Operations
- Human Resources
- Finance



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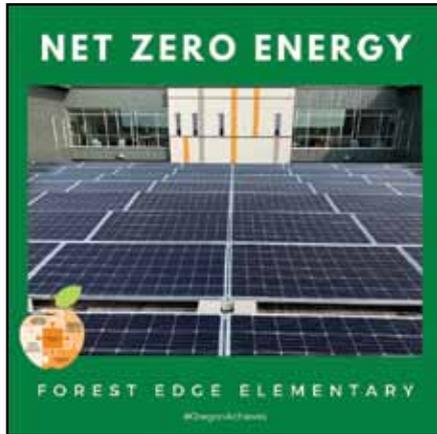
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Oregon School District Named 2021 Climate Champion Continued from Page 12



The school's Business Manager and lead visionary for Forest Edge Elementary, Andy Weiland, has worked in the Oregon School District for over 22 years. He cares deeply about the children in the community and always has their best interest in mind. Munding mentions, "Andy is kid-centered and always sees it through the student's eyes . . . we build schools for kids and our community values doing the right thing."

The school features learning opportunities within the building and outside, including a community garden, a pollinator garden, and outdoor learning spaces for the students to explore. The school also offers

an after-school program where a naturalist facilitates activities with students, like building bat houses, collecting owl pellets and snowshoeing.

From its inception, Forest Edge has been supported by the school board, faculty and community members. Everyone was enthusiastic about the vision for the elementary school and its sustainable features. Munding emphasizes, "We did this together with our community. We had lots of listening sessions and community input. It was really a community effort."

Weiland and others in the district have prioritized making small improvements in schools, leading to big strides for sustainability in the Oregon School District. Although Forest Edge is a great example, a number of improvements are happening throughout the district. Weiland mentions, "I like to say: we have to crawl, before we walk, before we run." Munding adds, "Andy takes every opportunity he can to make enhancements to other schools by adding solar arrays and other technologies . . . constant continual improvement is a key part of our culture."

As a net-energy school with a highly engaged and motivated school board, Forest Edge Elementary is an excellent model for future sustainable schools.

Weiland and Munding regularly give facility tours to school districts in Wisconsin who are looking to build new schools from the ground up. And further, Forest Edge is inspiring other types of sustainability-focused public buildings in the Oregon area in addition to schools. With exemplary schools and new public buildings in the works, Forest Edge Elementary is setting an example that will continue to be noticed throughout Oregon, Wisconsin and beyond.

Reprinted in part from the Dane County Office of Energy & Climate Change/ article by Alyssa Engebretson, and Oregon School District

www.oregonsd.org



Nice Job!

Sun Prairie Area School District achieved 2021 Climate Champion status for two schools:

- Sun Prairie's Creekside Elementary School features a geothermal heating and cooling system and uses less than 25% of the energy consumed by a typical elementary school. (3 Star/Energy Use)
- Sun Prairie East High School features a geothermal heating and cooling system and uses about 30% as much energy as a comparable high school. (2 Star/Energy Use)

Middleton High School Green Team received recognition for their efforts to help Middleton residents replace their fluorescent and incandescent lightbulbs with LED lightbulbs. They worked in partnership with the Middleton Sustainability Committee and St. Bernard Catholic Church Green Team to distribute almost 2,000 LED lights and recycle more than 2,300 CFL light bulbs. This year, they are seeking to reduce fast fashion in the student body, visit elementary schools, put sustainability tips on the TV screens, and recycle writing utensils, single-use masks, batteries, and plastic bags. (Catalyst) Catalysts — for entities who help others take climate actions.

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2022 Herb Kohl Foundation Excellence Scholarship, Initiative Scholarship, Fellowship, Leadership Award Recipients Announced



Herb Kohl
Educational
Foundation, Inc.

The selection committee for the Herb Kohl Educational Foundation Student Scholarship, Teacher Fellowship and Principal Leadership program has announced recipients of the 291 Herb Kohl Foundation awards for Wisconsin students, teachers, and principals. Awards of \$6,000 are being made to 100 teachers, 17 principals, and their schools, and \$10,000 scholarship will be given to 174 graduating high school students.

The Kohl Foundation award program was established by Herb Kohl, philanthropist, and businessman. Since 1990, the foundation has awarded more than \$28.3 million to Wisconsin educators, principals, students, and

schools. "Education is the key to the future of Wisconsin and our nation," Kohl said. "I am very proud of the accomplishments of these students, teachers, and principals and look forward to the great contributions they will make in the future."

Teacher Fellowship recipients are educators who have been chosen for their superior ability to inspire a love of learning in their students, their ability to motivate others, and their leadership and service within and outside the classroom. The Herb Kohl Teacher Fellowship recipients are used as the candidate pool from which Wisconsin's four Teachers of the Year are selected.

Congratulations to the 2022 Herb Kohl Educational Foundation Teacher Fellows!

CESA 1

Lorri Adriano-Amin, Milwaukee — *Salam School, Milwaukee*

Adam Beyer, Racine — *Racine Alternative Learning, Racine*

Anthony Braun, Hartford — *eAchieve Academy Wisconsin, Waukesha*

Bridget Brown, Wauwatosa — *Greendale Middle School, Greendale*

Willie Bynum, Milwaukee — *Milwaukee Lutheran High School, Milwaukee*

Candace Costa, Glendale — *Whitefish Bay High School, Whitefish Bay*

Jennifer Cullen, Nashotah — *Pewaukee Lake Elementary, Pewaukee*

Hillary Czernicki, Muskego — *Hales Corners Lutheran Schools, Hales Corners*

Patrick Detmer, Waukesha — *New Berlin Middle/High School, New Berlin*

Patrick Doherty, Muskego — *Hales Corners Lutheran Schools, Hales Corners*

David Dolnick, Milwaukee — *West Allis Central High School, West Allis*

Erin Dreske, New Berlin — *Irving Elementary, West Allis*

April Ellery, Wauwatosa — *Nathan Hale High School, West Allis*

Angie Gehred, Whitefish Bay — *Holy Family Parish School, Whitefish Bay*

Jaclyn Hagenow, Sussex — *Swallow Elementary, Hartland*

Julie Hahm, Wauwatosa — *Greendale High School, Greendale*

Katie Herrmann, Pewaukee — *Arrowhead High School, Hartland*

Brian Hirtz, Waukesha — *Muskego High School, Muskego*

Shlomi Ishak, Fox Point — *Milwaukee Jewish Day School, Milwaukee*

Bridget Jimmerson, West Bend — *Marcy Elementary, Menomonee Falls*

Kristin Kamenar, Mukwonago — *Waukesha North High School, Waukesha*

Jennie Katrichis, Brookfield — *Brookfield Central High School, Brookfield*

Victoria Kopidlansky, Sussex — *High School of Health, Wales*

Sarah Kopplin, Shorewood — *Shorewood Intermediate, Shorewood*

Continued on Page 15

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2022 Herb Kohl Foundation Award Recipients Announced Continued from Page 14

Margaret Lannoye, Wauwatosa — *Orchard Lane Elementary*, New Berlin

Suzanne Loosen, Wauwatosa — *Milwaukee School of Languages*, Milwaukee

Rachel Lustig, Milwaukee — *Saint Coletta Day School*, Milwaukee

Gina Martinelli, Milwaukee — *Oak Creek West Middle School*, Oak Creek

Anne Mass, Muskego — *University Lake School*, Hartland

Lisa Merritt, Greenfield — *Silver Spring Intermediate School*, Sussex

Katy Morrow, Wauwatosa — *Oak Creek West Middle School*, Oak Creek

Brittany Nohl, Milwaukee — *Reagan High School*, Milwaukee

Cindy Nolette, Milwaukee — *Washington Elementary*, Wauwatosa

Michelle Pingel, Port Washington — *Saint Paul Lutheran School*, Grafton

Elizabeth Siewert, Milwaukee — *Nativity Jesuit Academy*, Milwaukee

Jacki Thering, New Berlin — *Elmwood Elementary*, New Berlin

Lisa Vega, Waukesha — *Eisenhower Middle/High School*, New Berlin

Barry Weber, Milwaukee — *Highland Community School*, Milwaukee

CESA 2

Tressa Bauer, De Forest — *De Forest Area Middle School*, De Forest

Emma Becher, Madison — *Middleton High School*, Middleton

Candice Franks, Whitewater — *Badger High School*, Lake Geneva

Sarah Heatwole, Sun Prairie — *De Forest High School*, De Forest

Ashley Ingish, Mukwonago — *Waterford High School*, Waterford

Brenda Kallies, Madison — *Hawthorne Elementary*, Madison

Jessica Martins, Madison — *Windsor Elementary*, Windsor

Matt Nie, Burlington — *Burlington High School*, Burlington

Kyle Oksiuta, Fitchburg — *Oregon High School*, Oregon

Whitney Updike, Janesville — *Washington Elementary*, Whitewater

Heidi Wisniewski, Madison — *Conrad Elvehjem Primary*, McFarland

Penny Yanke, Burlington — *Burlington High School*, Burlington

CESA 3

Alexa Chiefari, Fennimore — *Fennimore High School*, Fennimore

Kirby Kohler, Eastman — *Bluff View Middle School*, Prairie du Chien

Cynthia Nothem, Mineral Point — *Mineral Point High School*, Mineral Point

CESA 4

Merranda Boardman, Stoddard — *De Soto Area District Office*, De Soto

Jennifer Friedman, La Crosse — *Southern Bluffs Elementary*, La Crosse

Melissa Haas, West Salem — *West Salem High School*, West Salem

Amber Hackman, Holmen — *Arcadia High School*, Arcadia

CESA 5

Dustin Anderson, Wisconsin Rapids — *Grant Elementary*, Wisconsin Rapids

Joshua Capodarco, Lake Mills — *Portage Community District Office*, Portage

Traci Crouse, Baraboo — *Al Behrman Elementary*, Baraboo

Laura D'Agostino, Columbus — *Lodi Elementary*, Lodi

Amanda Levzow Seichter, Pardeeville — *Pardeeville High School*, Pardeeville

Kelly Look, Wisconsin Rapids — *Washington Elementary*, Wisconsin Rapids

Paula Tonn, Lodi — *Lodi Middle School*, Lodi

Connie Wampler, Portage — *Portage High School*, Portage

CESA 6

Alicia Armstrong, Little Chute — *Little Chute Middle School*, Little Chute

Mary Beth Connors, Oshkosh — *Oshkosh West High School*, Oshkosh

Anne Ferge, New London — *New London High School*, New London

Kaelee Heideman, Oshkosh — *Traeger Elementary*, Oshkosh

Gillian Pakula, Oshkosh — *Oshkosh West High School*, Oshkosh

Heather Schaefer, Combined Locks — *Kimberly High School*, Kimberly

Annie Stanton, Appleton — *Gegan Elementary*, Menasha

Jayne Vosters, Freedom — *Kimberly High School*, Kimberly

CESA 7

Pamela Carlson-Gugel, Sheboygan — *Bethlehem Lutheran Grade School*, Sheboygan

Addie Degenhardt, Port Washington — *Etude High School*, Sheboygan

Jennifer Hahn, Howards Grove — *Sheboygan Area Lutheran High*, Sheboygan

Tracy Heinbuch, Kiel — *Plymouth High School*, Plymouth

Lindsay Ohlfs, Sheboygan Falls — *Sheboygan Area District Office*, Sheboygan

Melanie Shimek, Manitowoc — *Lincoln High School*, Manitowoc

Ruth Stenz, Sheboygan — *Sheboygan North High School*, Sheboygan

Crystal Trejo — *New Franken Luxemburg-Casco High School*, Luxemburg

Continued on Page 17

Viterbo University Alumni Spotlight Let's Change Our World



**Meaghan Gustafson, Superintendent
Kickapoo Valley Forest School**

Kickapoo Valley Forest School: Classrooms as big as the great outdoors

On the coldest of winter days, young hands and minds stay warm with physical

movement, enthusiasm, and curiosity. At the Kickapoo Valley Forest School, a child-centered outdoor charter school, children in pre-k and kindergarten are fully immersed in nature. Imaginations take flight with the sights, sounds, and discoveries they make in their classroom, the 9,000-acre Kickapoo Reserve in southwest Wisconsin.

Families, students, and teachers say the outdoor forest school that started in September 2021 in La Farge is a success. It's currently one of two operating in the state. "In addition to the benefits we expected to see in terms of hands-on learning and language development, we are finding that children are making amazing strides in strength, resiliency, and cooperative skills," says Meaghan Gustafson, superintendent.

Viterbo assisted Gustafson in discovering her leadership style

Meaghan grew up in Madison and graduated from the University of Minnesota. She wanted to pursue a rural lifestyle and career. She was Head Start Director for the Grand Portage

Band of Lake Superior Ojibwe before she and her family landed in La Farge.

Meaghan earned both her Principal and Director of Instruction licensures at Viterbo University. "Their commitment to having active practitioners as instructors and the collaborative learning helped prepare me for leadership in the ever-changing circumstances of education," she says. She credits the structure and content of Viterbo's programs as being instrumental in forming her leadership style and says that even today she refers back to influential experiences and coursework.

Tuition-free, outdoor charter gains momentum, receives national attention

The forest school has attracted attention from around the country. National Public Radio, CBS Evening News, and the Wisconsin State Journal have featured the Kickapoo Valley Forest School. Meaghan says there is interest and support for expanding the school to include additional grade levels each year.



Meaghan and the Outdoor School Model is Changing the world for students

"Children are hiking miles through forests and fields, and their imaginative play is flourishing. On a recent excursion, one teacher captured video of children collaboratively problem-solving how to efficiently transport some sticks and logs to a different location where they were building structures to play in."

Meaghan is committed to the growth and success of the outdoor forest school, where she can see first-hand that the hikes, imaginative play, and problem solving are changing the world for these early learners.

Wisconsin Teachers Receive National Recognition for Inspiring Students in STEM

Elementary teachers from Milwaukee, Waupun honored by White House

Two Wisconsin teachers were recognized by the White House for their role in encouraging and supporting students in science and mathematics.

Lois Womack, mathematics teacher at Marvin E. Pratt Elementary School in Milwaukee Public Schools, and **Leigh Kohlmann**, science teacher at Rock River Intermediate School in the Waupun Area School District, were named 2020 recipients of the Presidential Awards for Excellence in Mathematics and Science Teaching by The White House on Feb. 8, 2022. Womack and Kohlmann, along with three other teachers, were named state finalists for the PAEMST in December 2020.

First presented in 1983, PAEMEST is considered the highest K-12 award teachers in the mathematics and science (including computer science) fields can receive from the United States government. The 2020 awards honored teachers in kindergarten through sixth grade. The application process asks nominees to demonstrate their content knowledge while showing their ability to adapt to different learners and teaching environments. Each recipient receives \$10,000 and a certificate signed by The President.

Congratulations Leigh and Lois!



Leigh Kohlmann
K-6, Science
Waupun Area School District

Leigh Kohlmann brings over 30 years of dynamic teaching experience to the Waupun Area School District. Her passion—and pedagogical strength—is teaching science to Rock River Intermediate School students. She particularly enjoys working with sixth graders because she thrives on their energy and pliable sense of discovery. She began her career at Waupun Middle School and then taught two years at Waupun Area High School before joining the staff at Rock River Intermediate 12 years ago.

Leigh transforms “I notice and I

wonder . . .” statements into purposeful learning by leveraging the curiosity-driven ‘dot-dot-dots’ to promote student exploration and develop the scientific explanations embedded in the ellipses. Leigh is consistently grounded in her purpose: to guide all students and fellow teachers toward reaching their highest potential by embracing each individual learner and maximizing the experiences and knowledge they bring with them.

Leigh promotes science as a way of knowing by facilitating local, state, and national workshops. Her advocacy for education extends into the greater community where she has led multiple referendum committees, wrote and received over \$40,000 in grants to fund the Oakfield Community Foundation, and spearheaded a districtwide well water-testing project. Leigh’s educational excellence and innovation was recognized in 2004 when she was awarded a Kohl Fellowship.

Leigh is a devoted Wisconsin Badger and holds a B.S. in elementary education. She continues to serve her alma mater as the scholarship chairperson for her local Wisconsin Alumni Association board. She also holds a M.A. in teacher development and educational technology. Leigh attained National Board Certification in 2018.

www.waupun.k12.wi.us



Lois Womack
K-6, Mathematics
Milwaukee Public Schools

Lois A. Womack has been a fourth and fifth grade mathematics teacher at Marvin E. Pratt Elementary School for the past five years. Prior to that, she worked at Starns Discovery Learning Center for 11 years, six as the school’s Mathematics Teacher Leader

and five as a fifth grade teacher. Lois was an Elementary Mathematics Assistant Coordinator and Mathematics Teaching Specialist, supporting mathematics teaching and learning districtwide, for five years. She spent six years at Hi-Mount Community School, where she began her teaching career.

Lois is passionate about teaching mathematics and building relationships with students. Her goal each day is to make the mathematics concepts and skills explicit in order to enhance students’ understanding. Building relationships with students allows her to focus on their strengths and weaknesses in mathematics to improve achievement. Watching students develop and mature, both socially and academically, is her inspiration.

During her tenure at Marvin E. Pratt Elementary, Lois was appointed the Math Champion; was the chair of the Mathematics Committee for three years; and provided professional development for staff. Additionally, she conducted professional development sessions on working with



advanced learners in mathematics and creating equitable and accessible mathematics classrooms for teachers and administrators throughout the district. In March 2021, she received the Excellence in Education award from the Milwaukee Board of School Directors.

Lois holds a B.S. in education and an M.S. in curriculum and instruction. She is certified in elementary and middle grades education, elementary through ninth grade mathematics, and mathematics education.

www5.milwaukee.k12.wi.us/school/pratt



Information courtesy of PAEMST (National Science Foundation) and the WI DPI

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Four Wisconsin Educators Named Finalists for National Award

Teachers nominated for success in teaching math, science, and STEM

The Wisconsin Department of Public Instruction today announced four Wisconsin educators have been named finalists for the 2022 Presidential Awards for Excellence in Mathematics and Science Teaching. The PAEMST is considered the highest honor given by the U.S. government for science, technology, engineering, mathematics, and/or computer science teachers.

The four teachers were nominated for their pedagogical and content knowledge, and for leadership in their field. Wisconsin finalists for the 2022 PAEMST are:

- **Mark Bussian**, second grade mathematics teacher, Token Springs Elementary School (Sun Prairie)
- **Jessica Meacham**, 4K–grade five STEAM teacher, Southern Door Elementary School (Brussels)
- **Alice Severson**, 5K–grade five science teacher, Huegel Elementary School (Madison)
- **Suzanne Zietlow**, third grade science teacher, Discovery Charter School (Columbus)

Applications from Wisconsin's finalists will be judged at the national level by a committee organized by the National Science Foundation, which administers PAEMST on



behalf of The White House Office of Science and Technology Policy. One awardee in mathematics and one awardee in science may receive a \$10,000 award from the National Science Foundation and professional development opportunities, along with being honored at an award ceremony in Washington, D.C.

Nomination

Anyone—principals, teachers, parents, students, or members of the general public—may nominate exceptional individuals who teach science, technology, engineering, mathematics, and/or computer science in grades K–6 for this award year.

Nominations may be submitted for more than one teacher. Teachers may also initiate the application process themselves at www.paemst.org.

www.paemst.org.

For complete details go to www.paemst.org/about/view

WI DPI contacts:

Kevin Anderson, Science Consultant, 608-266-3319 kevin.anderson@dpi.wi.gov

Mary Mooney, Mathematics Consultant, 608-267-9368 mary.mooney@dpi.wi.gov

Julie Bormett, Mathematics Consultant, 608-266-7921 julie.bormett@dpi.wi.gov

dpi.wi.gov/cal/presidential-awards

Information courtesy of PAEMST (National Science Foundation) and the WI DPI

Gwen Muehlbauer Completes National Board Certification

Continued from Page 1

ing my data and improving my performance and implementation for my students.”

A voluntary process, teachers who earn this advanced teaching credential are among the best qualified in the nation to improve instruction, raise student achievement, and improve teaching practices in their classrooms, schools, and districts.

“The National Board is looking for you to constantly and consistently be reflecting on how what you did impacted students and their learning. I can tell you already that through common planning and conversations with Gwen, that the students she’s had in her classroom for the last couple of years that she’s gone through the process, it has worked,” Park Lawn Elementary Principal Jen Jones said. “She has achieved that

level of reflection that we all seek and desire. It’s an honor to be able to celebrate Gwen and to congratulate her because we all know what a difficult process this is.”

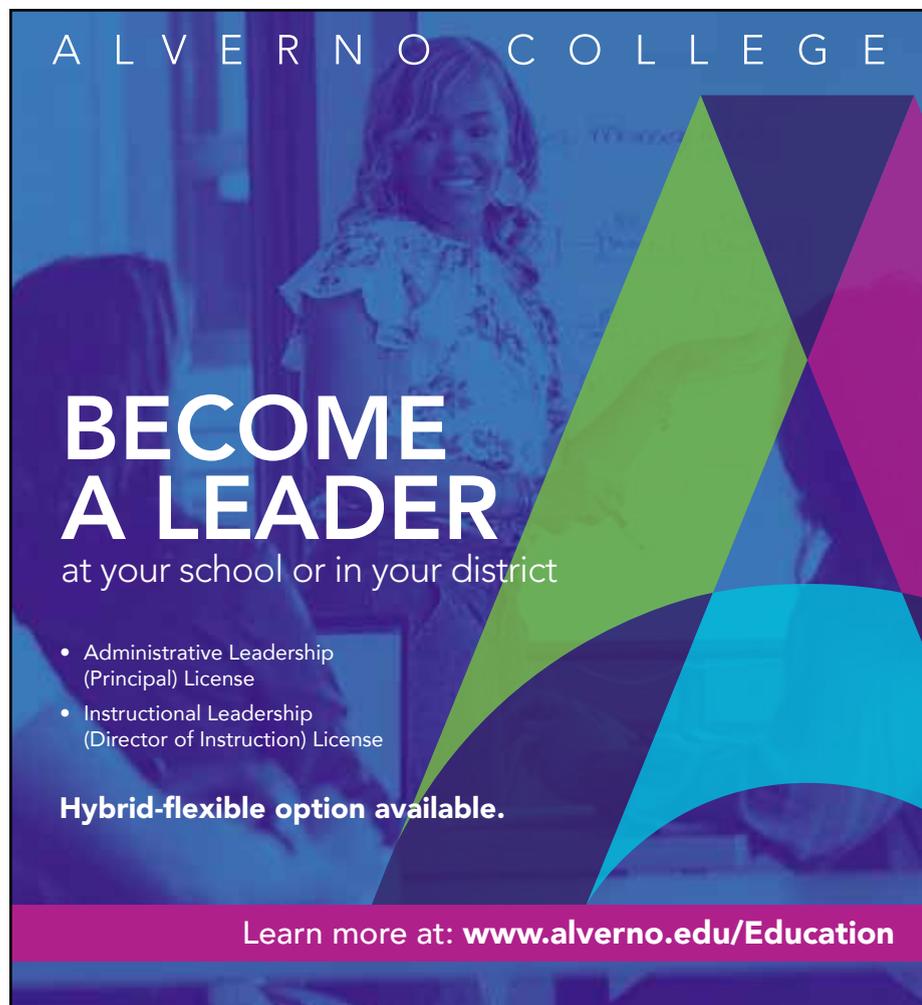
The staff of Park Lawn Elementary, the OASD School Board and the entire district would like to extend their congratulations to Gwen Muehlbauer, for her outstanding achievement in education, earning her National Board Certification!

Courtesy of a press release from the Oconomowoc Area School District

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Herb Kohl Foundation Award Recipients

Announced Continued from Page 15

Natalie Weeks, West Bend — *Random Lake High School, Random Lake*

Tara Wildenberg, Green Bay — *Holy Cross Catholic School, Green Bay*

CESA 8

Suzzann Bessette, Shawano — *Longfellow Elementary, Clintonville*

Jessica Brown, Waukesha — *Saint Dominic Catholic School, Brookfield*

Michele DeBauch, Coleman — *Gillett District Office, Gillett*

Jessica Keao, Argonne — *Crandon High School, Crandon*

Mary Seils, Argonne — *Crandon Elementary, Crandon*

Tressa Votis, Argonne — *Crandon High School, Crandon*

CESA 9

Peggy Billing, Minocqua — *Lakeland High School, Minocqua*

Jennifer Leis, Eagle River — *Northland Pines High School, Eagle River*

Adam Matyska, Harshaw — *Northland Pines Middle School, Eagle River*

Paula Norman, Tomahawk — *Tomahawk District Office, Tomahawk*

CESA 10

Paul Richards, Eau Claire — *Mondovi District Office, Mondovi Celena*

Smith Reuter, Eau Claire — *Memorial High School, Eau Claire*

CESA 11

Maria Gjovig, Dresser — *Saint Croix Falls Elementary, Saint Croix Falls*

Ralph Haas, Menomonie — *Menomonie Middle School, Menomonie*

Chandra Stafford, Spooner — *Spooner Elementary, Spooner*

CESA 12

Lori Danz, Solon Springs — *Superior High School, Superior*

Zach Larson, Cable — *Bayfield Elementary, Bayfield*

Courtesy of an Herb Kohl press release

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Everest Enterprises Course at D.C. Everest Senior High is an Exercise in Running an Actual Metal Fabrication Business



Evergreen Enterprises crafted a custom welding table for the Bridge Street Mission to help the organization launch a welding training program for the people they serve.

Michelle Rothmeyer
Coordinator of Communications
D.C. Everest Area School District

In 2020, the D.C. Everest Senior High launched a new hands-on learning opportunity for students — running a student-operated custom metal fabrication business as part of a year-long course. The DCE Enterprise course was developed by Technology Education instructor Steve Kmosena who has a background in welding and machining. “The course is designed to give students a full-scale experience in running a small business. They form a business plan and carry it out for the school year,” notes Kmosena. “Students are exposed to every aspect of a small business. They order raw materials, manage receiving, bookkeeping, billing, production and fabrication, finishing, and shipping. I try to ensure every aspect of the class mimics what is happening in the industry today.”

When the course was first offered two

years ago, students assumed a leadership role in launching the business — known as Evergreen Enterprises — itself. Besides creating a business plan, they designed a company logo, built a presence for their business on social media, and developed a website. Two years in, the student-led marketing efforts and high levels of customer satisfaction have created a robust school-based business enterprise that produces everything from custom metal signs, decorative garden waterfalls and fire pit grates to picnic tables, trailers, benches and aluminum truck topper cargo hauling baskets for organizations, families and businesses across the nation.

One of the most compelling aspects of the course is that students can concentrate on advancing their skills in a particular portion of the business that is of most interest to them. While all students learn about the entire enterprise, “each of them will get a different takeaway from this course because they’re all focusing on something different. Each will have an experience unique to them,” he adds. Students can focus on product design, CNC manufacturing, finishing and coating, welding and fabrication, shipping and receiving, website development, advertising, marketing and finance.

The inaugural run for the course took place in 2020, which presented unique challenges due to COVID. That first year, students were only in the metal fabrication lab twice a week. “2020 was a challenge,” remembers Kmosena. “Given our limited time in the lab that year, week-long projects could often take three weeks.” That said, Mr. Kmosena and his students remained hopeful — and grateful — despite the challenges. “We all were just happy to be in class. Given the circumstances of 2020, the kids had

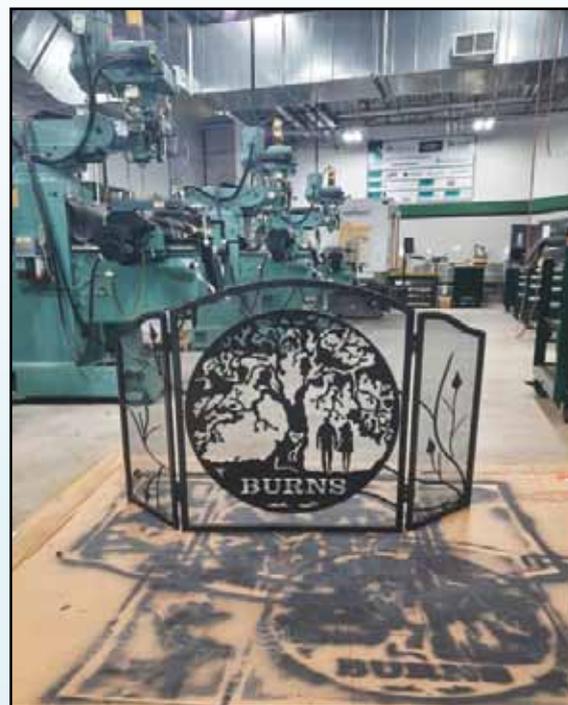
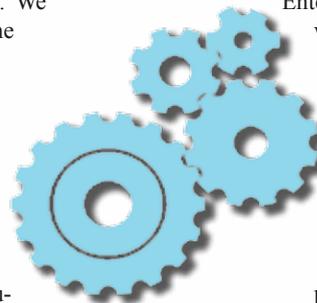
every reason in the world to be negative and complain. But they didn’t do that — they remained positive and kept working.”

As for year two of the program, Kmosena eagerly notes: “New year, new students, new opportunities. We are off to a good start. The biggest change is that we have added steel fabrication services and a machine shop to produce custom machine parts.” This expansion has broadened their clientele and the product design and manufacturing opportunities for students. With those opportunities, of course, come new challenges. As the enterprise has expanded beyond custom metal signage, students have had to address the problems posed by repairing trailers on behalf of clients, designing custom aluminum cargo hauling baskets for trucks, building utility trailers and more. When students produced their first truck cargo hauler Kmosena observed, “It took a bit of learning and trial and error, but it turned out great. That’s the whole point of this course — to create learning opportunities where they make an end product. If students just stand in a booth and learn how to weld, they begin to question ‘why am I here?’ But when they learn the skill and can apply it to something, it’s a very different experience.”

Another benefit of the student-led enterprise is the relationships built with local manufacturers and businesses. In 2020, Merrill Steel donated 60 welding helmets to the program. Since then Kmosena has built additional partnerships. Most recently, Evergreen Enterprises

assisted the Bridge Street Mission in their efforts to launch a welding training program for those they serve. Kmosena assisted them in tracking down the materials they needed to launch the program and the Everest Enterprise students built a custom welding table and donated it to the Mission. “It was our way of helping the Mission promote welding and manufacturing, and help individuals gain employment skills.”

When Kmosena launched Evergreen Enterprises in 2020 he noted, “It will take us a couple of years to finesse the course and figure out what our business capacity is.” Asked for his thoughts on the progress the student enterprise has made since 2020 he adds, “I’m really pleasantly surprised that it’s going as well as it has. The enterprise has gotten off the ground much faster than I expected and every aspect of the business is running well. It’s a credit to our students because





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Student Product Showcase

On this page and the next are just a small sampling of products from student-run manufacturing businesses and technical education programs in schools across the state of Wisconsin.



Three Lakes School District



At left and below:
Kickapoo High School



Window entry tool for the Green Bay Police Department S.W.A.T. team.
Bay Link Manufacturing, Green Bay Area Public Schools



Sensory Safe Space Bus — A project combining the efforts of DC Everest Area School District, Eleva-Strum School District's Cardinal M manufacturing and No Boundaries Tiny Homes



iPad Stand
Bay Link Manufacturing, Green Bay Area Public Schools



Mayville Manufacturing, Mayville High School



Red Raider Manufacturing,
Sheboygan Area School District



Everest Enterprises,
D.C. Everest Area School District



Wabeno Area School District



Black Granite Gifts,
School District of Mellen



Custom Engraved Coasters
Spartan Manufacturing,
McFarland High School



Collapsible Metal Fireplace
Warhawk Manufacturing,
Arrowhead High School



Viking Industrial Products,
Frederic School District



Hodag Fab Lab, Rhinelander School District





Cardinal Manufacturing



The Shop at Eleva-Strum High School in 2005

School District of Eleva-Strum

In 2006, the shop at Eleva-Strum High School, laid in much the same state that many school shops have struggled in. Under-equipped and out of date, the shop needed to catch up with the times. The machinery that was there needed a tune-up. Some pieces needed cleaning; others, replacing, and many pieces weren't even there. The lighting was awful, heating was questionable, and air conditioning was unheard of.

This was the scene Craig Cegielski took in the day he accepted the job as Tech Ed Teacher. It was humbling, to say the least. But Cegielski had a mission. He'd come to plant an idea in this place, and with dedication, effort, and a love of getting his hands dirty, he would spur this program to new heights. Cegielski spent many extra hours bent over a worktable late in the night to meet deadlines. At other times, he was out in the community building partnerships with the local businesses. It's all

paid off for him, though. Today, his program has become a nationwide epitome of what can happen in any school shop, with the right blend of work and ingenuity.

Cegielski's aim hasn't strayed from its mark. His mission is still the same as it was the day he first stepped through those garage doors. "(The intent was always) to run a higher-end manufacturing program, to close the skills gap, and to teach how a business works."

Cardinal Manufacturing, as this student-run business was christened, is a glowing example of Tech Ed success. Today, the shop runs like a well-oiled machine. Jobs flow in at a steady rate. Students are stepping up to leadership responsibilities. The younger students are getting excited earlier about Tech Ed class, hoping that they, too, will make it into the program. This excitement has boosted both attendance and grades across the board.

Every year, Cardinal Manufacturing



The Shop Today

seniors are graduating with priceless experience that can't be taught in a classroom. These seniors enter college with the experience of running a business under their belt.

"Students in Cardinal Manufacturing are the cream of the crop," Cegielski states. "We only take the best. People wanting to get in need to go through an interview process, just like at a real business, and our admittance is limited."

This rigorous admission procedure may seem like a chore to some, but one student sees them much like the Pearly Gates. "It's like judgment time, to see whether you make the cut. Do you get in or don't you? I mean, once you make it, it's like any shop student's dream. To work during school . . . for a paycheck." It's true. Students do get a part of the profit. After all the figures have been totaled, the shop expenses cut out, and reserve money set aside, the rest goes to the students. Cegielski's payment system is based not only on total hours, but also performance reviews. That means if a student has kept his tardy and sick days to a minimum, they might just find a bonus in their paycheck.

It's clear why only the best get into this prestigious program. Responsibility is key. "(These projects) are not just something they're turning in for a grade," Cegielski explains. "They've got the paycheck to work for. If they mess it up, they're the ones in the truck going for more material, they're the ones staying after to get it finished, and in the end they'll have to look that customer in the eye whether they finished his work order or not."

Today's Cardinal Manufacturing

- In 2007, Cardinal Manufacturing began with 9 students and 1 instructor. There are currently 22 students (including 5 office staff), 2 instructors, and 1 student teacher

Different current positions include welders, machinists, floaters, engineers, maintenance, project manager, marketing manager, office manager, and production manager.

- In 2007, there were 75 students throughout the entire tech ed. Department. Now, 240 students, in 15 different classes, ranging from beginner to advanced end woods, welding, machining, construction, automotive, CAD, CAM, engineering, middle school exploratory, and Cardinal Manufacturing populate the department.
- Cardinal Manufacturing has established connections and sponsorships with a variety of companies; local, national, and international.
- In the summer of 2021, the entire shop was remodeled thanks to corporate and personal donations.
- May 4th, 2022 Cardinal Manufacturing is hosting an Open House. There will be free food and drink, raffles, a silent auction, live demonstrations and more.

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Brown Deer — A Rich History of Teaching in the Trades Continued from Page 1

nerships creating more opportunities and career paths for our students.

During the referendum, equipment and classroom spaces were reconfigured to maximize hands-on learning and to ensure space for added machinery in the future. We also upgraded the HVAC system to increase the exhaust capabilities. With reconstructed classrooms and tech spaces, the facilities were able to accommodate more classes, including middle school. Brown Deer added 7th and 8th grade tech ed courses allowing younger students to be exposed to the manufacturing equipment.

The goal of adding real life manufacturing experiences came with the need to add machinery. Brown Deer was the recipient of two (2019 and 2020) state grants totaling \$50,000 to fund new fabrication laboratory (fab lab) facilities funded by The Wisconsin Economic Development Corporation (WEDC). Fab Lab grant in 2019 has supported the purchase of start-up equipment within the Fab Labs including 3D printers, a 3D Milling Machine and a laser engraver. The District provided matching funds to purchase: zSpace Laptops and software (AR/VR laptops that can be used in Science and Trades/Manufacturing); a CNC Machine; Vinyl Cutting Machines; a 3D Scanners. The 2020 award allowed Fab Lab equipment to purchase to support student-driven, hands-on inquiry-based learning. Additionally, the dis-

trict invested in a Knee mills with ProtoTRAK conversational CNC controls, engine lathes ProtoTRAK conversational CNC controls and a hydraulic sheet metal shear. This new equipment was purchased and supported through industry partner donations, district funds and DWD's Fast Forward Grant. Students are able to take an idea from design to finished product in this space with industry relevancy at each of the process.

Building high quality facilities offered students a higher level of curriculum. After the 2018 referendum, the high school added several manufacturing courses including Metal Fabrication I, Metal Fabrication II, and Falcon Enterprise. Falcon Enterprise is a capstone course designed as a student-run business, where student machinists, welders, woodworkers and entrepreneurs regularly collaborate with community members to manufacture the parts, equipment, and products based on community needs.

While these changes provide tremendous opportunities for students, the most critical factor in the current and future success of the Brown Deer High School manufacturing program lies in its relationships with the community. We have worked with many local companies that support our program. These companies provide the district trade professionals to assist with classroom instruction and

career exploration, facility tours, donations, and interview/hire youth and registered apprentices.

Partnerships like these help the district match our students to an apprenticeship/work-based opportunity in the trades career of their choosing. Every year we invite 50 local partners or potential partners to join us for our Industry Advisory Breakfast. This breakfast provides the chance for our partners to tour our facilities and meet with our CTE students who discuss their current projects as well as their future aspirations in the trades industry. Industry Advisory Breakfast helps us build these relationships and exposes our high school students to advanced opportunities in hopes of increasing Youth Apprenticeships, Registered apprenticeship opportunities and participation in work-based experiences in Manufacturing.

The School District of Brown Deer will continue to blaze trails and provide leadership to close opportunity gaps and create a pipeline through K-12 education to strengthen the skills trade workforce. Every student will be prepared to leave the School District of Brown Deer in pursuit of his or her career choice. Starting in 2022-2023, Brown Deer High School will be adding Advanced Metal Fabrication as a manufacturing regional career pathway. The Pathway goal is to provide students with the skills necessary to earn an entry level position, in manufacturing, upon graduation. With the



evolution of our manufacturing and trades programs, Brown Deer is forging ahead full force in the local trades industry.

brownderschools.com



Cardinal Manufacturing Continued from Page 24

- | | |
|---|--|
| <p>IV. Get Along — Play together nice in the sandbox</p> <p>V. Pay it Forward — Do more than is expected today, and you will receive more than you expected</p> <p>VI. Be Flexible — Willingly take on different tasks</p> <p>VII. Figure It Out — Be a problem solver, not a problem asker</p> | <p>VIII. Join the Club — Be proud to be a part of your organization</p> <p>IX. No Whining — Communicate positively and well, don't be high maintenance</p> <p>X. Keep Learning — If you don't keep up, you will become obsolete</p> |
|---|--|



The team works to continuously improve various aspects of their program facility, equipment, culture, technical skills, capabilities, quality, professionalism, career and retirement planning, and overall employability skills of students.

They say that they owe much of their success to their community's help and support through donations of money and equipment, job orders, and goodwill towards the endeavors of their business ventures.

The support of the administration has been key. From the beginning when the ideas were first presented to the administrations, to the present day, there has been encouragement and assistance provided by them.

It takes the heart to love your students enough to build programs like these for their education.

It takes the brains to figure out how to accomplish this feat.

And it takes the determination to see it through to completion — never giving up



even when it takes late nights, stress, and great effort.

For more information or to contact:

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Technical Education Equipment Grant Program

Expanded Wisconsin Fast Forward Program

Announcement Award Amount \$5,000 to \$50,000

Applications are due by 3 p.m. CST on Tuesday, May 10, 2022. Email Applications to WisconsinFastForward@dwd.wisconsin.gov

The Wisconsin Fast Forward (WFF) program is a state-funded grant program that provides employer-led worker training grants. The Office of Skills Development (OSD) at the Department of Workforce Development (DWD or Department) administers the grant program. OSD works to encourage the development of innovative solutions at the local and regional level that bring together employers, educators, workforce development entities, and economic development organizations to meet area workforce needs and increase the economic capacity of its residents.

DWD is now accepting applications for WFF Technical Education Equipment grants. This opportunity is open to Wisconsin school districts that can demonstrate that the career and technical education program for which they will be purchasing and installing advanced manufacturing equipment:

- meets the needs of employers in their region
- leverages partnerships and matching funds
- optimizes regional training capacity
- increases the supply of skilled workers in advanced manufacturing fields
- builds on proven programs
- includes mechanisms for sustainability

Technical Education Equipment Grant Program Announcement Summary: The purpose of this grant opportunity is to train high school students in advanced manufacturing fields to help address Wisconsin's skilled worker shortage. This grant is also intended to accelerate the transition of students into the workforce by preparing them for stable careers and to provide students and their families the means to reduce higher education costs by providing dual enrollment credits, industry-endorsed certificates, and technical endorsements on high school diplomas.

School districts are required to:

- (1) Track outcomes related to the vocational and technical education programs for grant supported equipment purchases
- (2) File an outcomes report with DWD by September 1 of each of the three fiscal years after receiving the grant. In each report, the grantee shall do the following:
 - a. Describe how the grant funds were expended
 - b. Describe the outcomes achieved as a

result of receiving the grant

- c. Share the best practices employed by the grantee regarding training of pupils in the use of the equipment acquired with the grant funds
- d. Include a plan for sustainability of the training described in par(c)
- e. Provide such other information as the Department may require in the GPA

Recipients of previous awards from this program may apply but must demonstrate how the proposed project differs from the project funded by a prior award.

Grant Program Highlights

Total Grant Program — Approximately \$1.14 million is available with \$1 million allocated for awards after July 1, 2022.

Individual Awards — Minimum \$5,000 up to \$50,000

Eligible Applicants — Wisconsin school districts

Use of Grant funds — Reimbursement of costs for the acquisition of equipment that is used in advanced manufacturing fields in the workplace, together with any software necessary for the operation of that equipment, and any instructional material necessary to train pupils in the operation of that equipment.

Goals:

- Train high school students in advanced manufacturing fields to help address Wisconsin's skilled worker shortage.
- Accelerate the transition of students into Wisconsin's workforce.
- Provide students and their families with a way to reduce higher education costs by providing dual enrollment credits, industry endorsed certificates, and technical endorsements on high school diplomas.

Terms of Award — Grants will be awarded as cost reimbursement contracts with an anticipated contract start date of June 20, 2022. All grant expenditures must be completed by June 30, 2024.

Match Funding — Applicants are required to provide funds equal to 200% of the awarded grant amount. Match may be in the form of money or the monetary value of donated equipment that is contributed from private sources, the school district, or both. Documentation of the type(s) and source(s) of leveraged funds should be submitted with the application.

Important Dates:

- Applications are due by 3 p.m. CST on Tuesday, May 10, 2022. Application packages must be emailed to WisconsinFastForward@dwd.wisconsin.gov.
- GPA Released — April 12, 2022
- Projected Grant Awards Announcement — June 2, 2022



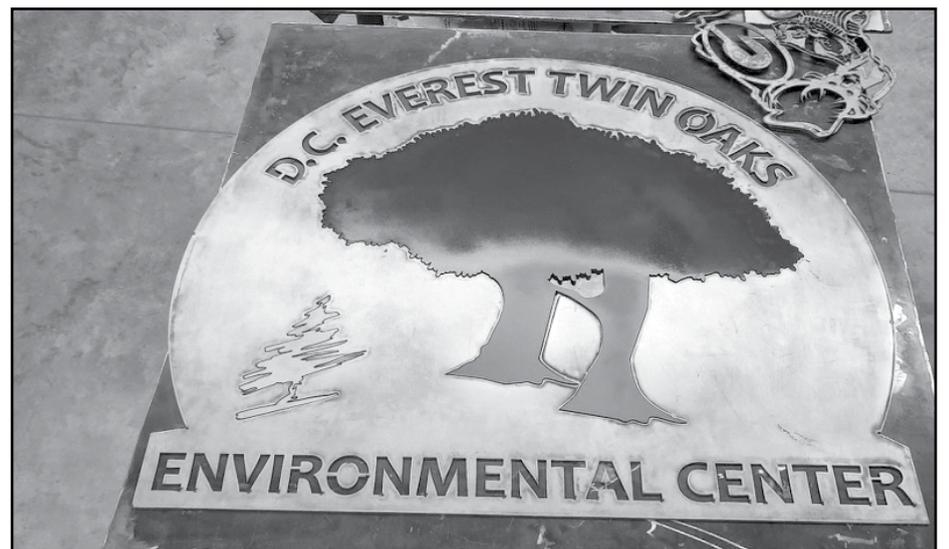
- Anticipated Contract Start Date - June 20, 2022
- Funding Disbursement - Reimbursement basis (upon verification and approval of submitted documentation of purchases, purchase orders, invoices, related project expenses and proof payment for all expenses)
- Contract End Date — June 30, 2024

GPA and Application Process Questions & Answers:

Any questions or clarifications related to this Grant Program Announcement may be submitted in writing via email to WisconsinFastForward@dwd.wisconsin.gov.

We will respond to your inquiry promptly. Responses will also be posted at http://www.wisconsinfastforward.com/wff_standard.htm.

Everest Enterprises Continued from Page 19



they handle every single aspect of this business — working in the office, managing our finances and IT, creating our advertising and marketing, overseeing shipping and customer service, and producing the custom designs for our customers.”

A sample of Evergreen Enterprise products is available on the DCE Enterprise website and customers are encouraged to submit custom product ideas as well. “If we can make it or fix it, we’re going to do it,” notes Mr. Kmosena.

For more information, visit:

- Facebook:** [DCE.Enterprise](https://www.facebook.com/DCE.Enterprise)
- Twitter:** [@Dce.Enterprise](https://twitter.com/Dce.Enterprise)
- Instagram:** [DCE.ENTERPRISE](https://www.instagram.com/DCE.ENTERPRISE)
- Website:** <https://dceenterprise.weebly.com>

www.dce.k12.wi.us





Warhawk Manufacturing



Technology and Engineering Education Dept.
Arrowhead Union High School

Warhawk Manufacturing is located in Arrowhead Union High School in Hartland, Wisconsin. This student-run business is a “small job” shop that makes products for the school, the community, and its business partners. At the completion of the senior-level capstone course, students are given a manufacturing scholarship to use for the next level of education or tools for the workforce. This course is unique to Arrowhead as it allows for students to experience business from different perspectives as they work throughout the year for the student-

run company and for themselves.

Like most who experienced the shutdown of 2020, we were forced to adapt and use different methods to produce work and educate our students. The instructors, Anthony Christian and Jeff Luetschwager coached the students to develop their own businesses through the platform of Etsy. Each student created their own product that could be made from their home, marketed, and sold through their Etsy website.

The students launched their businesses in late October of 2020. Several students found great success in this model. Their drive, passion, and dedication to their work were clearly evident

and it provided powerful teaching opportunities for the instructors.

One of the students, Jack, launched his site on a Friday afternoon and by Monday had 3 orders for his firewood rack. At the time, he was virtual and asked Mr. Christian for advice through Zoom. “Mr. C. I have some good news! I have three orders!” “Really! Where to?” Mr. Christian said. “My neighbor, Indiana, and New York!” “That is awesome! What’s the problem?” “I don’t know how to ship them there?” What a great learning experience! After re-engineering his original design and coaching him through the shipping process, he took his original design which cost \$924 to ship to NY, his knockdown version shipped for \$56 and allowed him to make a profit. This is one of several success stories they have had. Students have seen this opportunity, and the potential it has. They have taken ownership of it.

Not only do they work for themselves, but they work for the student company as well. They research, design, produce, market, and sell items such as garden art, outdoor furniture, and seasonal items. They also plan, schedule, engineer, order materials, provide customer service, package, ship, and do all of the accounting for the business. They run as much of the business as possible and are overseen by the instructors who act as CEOs, mentors, and advisors.

They also work with business partners to produce low-volume, non-sensitive parts.

One of the students, Kyle, who is a laser

operator just completed his first order of 1000 parts for D&H. The part is a supplement to their crosswalk panels that they produce. “We can’t thank them enough for providing the opportunity to bid on a job, back-plan production, produce and meet deadlines, and fulfill the order. Real work is the best way to teach some of these real business skills.” said Anthony Christian. Timelines, schedules, routings, communication, and teamwork all come into play in order to meet the demand. “This has been a wonderful opportunity for our students as they are learning things that I cannot replicate or simulate in the classroom. They are experiencing it first-hand and working through the day-to-day challenges a business has.”

Arrowhead’s administration has been very supportive by dedicating two tech ed teachers to this course. Each instructor has their own expertise and are able to mentor and coach students to be successful employees as they tackle the projects presented to them. This aids in supervision as some students go off-site, work in different labs and require machine training. That expert can work one on one with them to get them up to speed so they can work independently.

Warhawk Manufacturing Website: <https://warhawkmanufacturing.ecwid.com>

arrowheadschoools.org



Fab Lab at Wabeno School District Offers Opportunities

Brian Van Eperen, Fab Lab Director
Youth Apprenticeship Coordinator
Wabeno Area School District

Wabeno’s Fab Lab was established in 2017, when area voters passed a one-time referendum to fund it. All renovation and equipment installation was complete in January of 2018. In 2019, Wabeno High School was awarded our first Wisconsin Economic Development Committee (WEDC) grant. This grant was used to purchase a 65 ton Ironworker, a five-in-one heat press machine, an acrylic bender, a band saw, a drum sander, a belt/disc sander, a box and pan brake, a welder, a metal drop saw, and five iPad Airls. All of this equipment, along with our existing equipment, created a professional manufacturing setting that enables the students and community the ability to make almost anything.

On May 5, 2021, WEDC awarded the Wabeno Area School District’s Fab Lab a second Fabrication Laboratories Grant. As a recipient of the WEDC grants, Wabeno is able to offer community members and students manufacturing and technology opportunities they would otherwise not have. The Fab Lab has weekly classes and workshops available to community members for a small membership fee, while students can participate for free. While taking the classes, students learn the engineering design

process, 2D and 3D CAD software for creating G-code used by the CNC equipment, and how to use CNC equipment. Our students and community members are able to create and test products they may want to sell without having to purchase all of the equipment needed for product development. Others benefit by using the lab to explore interest in a potential career.

All students in our district are benefitting from the Fab Lab. Elementary classes participate in STEAM based projects and a summer school workshop. Junior High, grades 6-8, participate in a 6-week introductory Fab Lab class each year. High School, grades 9-12, are able to enroll in elective Fab Lab classes. These tiered classes include HTMAA (How To Make Almost Anything), Fab Explore, and Fab Lab Marketing. Our entry-level class, HTMAA, instructs the students about how to use the design process, various programming software and all of the equipment. Our Fab Explore class allows students to refine their skills with more freedom to create personal projects based on their interests. This class also collaborates with local community members and businesses to create products to sell, to design and produce signage for local non-profit groups, to design and manufacture items needed at the school, and to customize items for the school store. The intent of this class is for the students to gain a better understanding of manufacturing,



build a working relationship with our community, and promote creativity.

Our newest class, Fab Lab Marketing, is the most affected by the 2021 WEDC grant. Wabeno is purchasing a Roland LEF 300 UV flatbed printer, a Roland 54 inch large format printer, and a grommet machine used by the marketing class to study the next step in manufacturing which is the sale of their product. The students will design products, determine pricing, and, using the large format printer, create packaging and banners for advertising. The UV flatbed printer will place our logo and information on product displays and advertising pieces such as

golf balls and key chains.

Without the grants received from WEDC, the District of Wabeno Area voters, the Wabeno Area School District School Board, and local business partners, these opportunities would not be available to our small, rural communities. We are proud to expand our lab and curriculum to teach modern engineering and manufacturing practices.

www.wabeno.k12.wi.us



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Bay Link Manufacturing®



Green Bay Area Public School District

Bay Link Manufacturing® is a manufacturing learning lab for students located in Green Bay's West High School. Bay Link is equipped to complete projects for local companies in the areas of industrial welding, machine fabrication and metals. Juniors and seniors at any Green Bay Area Public School District school are eligible to apply for entrance into the program. Students receive high school credit as well as college credit from NWTC upon completion of the program.

Based on how well the Bay Link Manufacturing® business does each year, students are eligible to receive a profit-sharing scholarship for their work in the program. "The student scholarship component of Bay Link really teaches our kids responsibility, and the cause and effect of a job well done," said Belongia.

Bay Link Manufacturing® opened for business in October of 2014.

This spring, Bay Link Manufacturing®



students were again, working on completing orders for metal garden stakes. Each stake costs \$3.00. They are produced for a variety of garden plants – Zucchini, Tomatoes, Rosemary, Parsley, Peppers, Oregano, Cucumbers, Beans, Basil, Dill, Mint, Thyme, and Lavender. Sales of the garden stakes help support the program and are used for program equipment, materials and student scholarships.

In addition to the garden stakes, students

have been working on completing jobs for local companies. (See photos below.)

Belongia expressed his excitement for a new laser engraver purchased through grant funds for the West High School Technical Education Department. "The laser engraver will be a great learning tool for our students," Belongia said. "Companies typically like to have their part numbers engraved directly on the part, and this piece of machinery will allow us to do that for our customers."

Prior to the COVID-19 pandemic, Bay Link students built standing desks for students at Edison Middle School. Bay Link students had to do an abundance of research to determine the best design and height for the student desks.

Belongia hopes to connect with more local companies to show them what Bay Link Manufacturing has to offer. "Sometimes when company representatives tour our shop, they are surprised

at the equipment capabilities, the machines we have, and the abilities of our students to complete real-world work," said Belongia. "Our shop contains quality industrial equipment which allows us to produce products efficiently, accurately and at a competitive cost."

Students enrolled in Bay Link Manufacturing® are typically prepared to attend a 2- or 4-year college to pursue education in the field of manufacturing and engineering or may be prepared to enter the world of work in an entry-level position. To learn more about Bay Link Manufacturing®, visit gbaps.org/baylinkmanufacturing. To contact the shop regarding a business opportunity, email sales@baylinkmfg.org.

www.gbaps.org



Above: MobileModular™ Electro-Mechanical Training Units for NWTC.
Below: Welding jigs for a shipyard implements company.



Above: Drain covers for covers for Georgia-Pacific.

Preble Receives Excellence in Tech Education Award



Congratulations to Preble High School and instructor Wes Berndt for receiving the Excellence in Technical Education Award. Local 400, Mechanical Contractors Association, and Miller visited Preble on February 14, 2022 to acknowledge Preble High School for their commitment to welding and trades education. The school received a Miller 255 Multi-matic Welder to be used in class.

Preble was chosen to receive this recognition out of 128 high schools in Local 400 jurisdiction.

In addition, Preble alumnus Grant Vander Loop came back to speak with students about careers in the trades. Grant is a 2nd year steamfitter apprentice. Grant secured his job two days after graduating from Preble, and had multiple job offers.



ATECH's Mission is Manufacturing

Kylie Harwell
Communications Coordinator
Appleton Area School District

ATECH, or Appleton Technical Academy, is a 9–12th grade Appleton Area School District (AASD) public charter school located within Appleton West High School in Appleton, Wisconsin. It was created in 2014 in response to a need for workers to fill the growing demand for skilled manufacturing positions in Northeast Wisconsin. The Office of Economic Advisors/Wisconsin Department of Workforce Development reports that approximately one-quarter of all employment in our region is in manufacturing.

In ATECH's first year enrollment was 61 students and has increased to 84 students for the 2021-22 school year. Next year we will have a total enrollment of just over 100 students. ATECH's original capacity was 120 total students, roughly 10% of Appleton West's student population and a small fraction of the roughly 4,000 high school students in the AASD. Given the number of jobs available in manufacturing in the state right now, we certainly have room to continue to grow well into the foreseeable future.

As baby boomers retire, there will be an increased demand for highly skilled advanced manufacturing talent. According to the North-

east Wisconsin Manufacturing Alliance 2015 Manufacturing Vitality Index, 72% of companies expect to have difficulty finding talent, and 3 out of 5 hard-to-find workers are in production-related occupations. ATECH provides high school students with a jump-start toward successful and rewarding careers within modern manufacturing that are needed and are in high demand right now.

ATECH offers a unique blend of academic content focus and skill development in a highly engaging hands-on learning environment. ATECH also partners with FVTC and local business/industry to prepare students for in-demand, high-paying occupations in high-growth industry sectors within the area of technology/manufacturing. The ATECH Advantage delivers customized education and specialized training to students through in-depth, hands-on projects, and real-world experience to prepare them for a meaningful technical career.

Using a project-based, hands-on learning approach, the school day features a mix of manufacturing-related courses (Welding, Machining, Mechanical Design, Automated Manufacturing) and a mix of traditional core classes (Math, Science, English, Social Studies). Students learn practical skills that get applied to real-world situations, such as math



skills to determine the proper angle for a specific laser cut or weld, writing skills to prepare a standout cover letter and resume, and science skills to understand the chemistry behind the materials they're working with. Each student's education track is tailored to his or her interests, resulting in more individual attention.

ATECH labs mirror what the students will see in the industry. We have eight welding booths with 16 welders that will expose the students to MIG, TIG, and stick welding. We also have six new lathes and four new mills with digital readouts. Our fabrication equipment includes a HAAS CNC mini mill, a CNC plasma cutter, and numerous metal forming pieces of equipment that will allow students to create meaningful projects.

Students in ATECH learn about the world of work in a variety of ways. They are exposed to the basics of machining, welding, mechanical design, automation, math for the trades, reading blueprints, project-based learning, and other classroom experiences designed to reflect the world of work. They get to learn what a career in manufacturing is really like. It's like taking a test drive before buying.

ATECH students can earn nearly one-third of the college credits needed to receive an associate's degree at FVTC (the equivalent of about one year and about \$3,000). ATECH graduates gain an advantage over other applicants entering the workforce. They'll already have hands-on experience in a variety of trades and skilled labor, making them attractive to potential employers.

Hands-On Learning in a Virtual Setting

In March 2020 when schools were closed by state mandate, the Appleton Area School District (AASD) went fully virtual. We know the importance of ensuring our students are college and career ready and that isn't done without real-world, hands-on, and life experiences. Giving our students, especially those enrolled in hands-on, STEM-aligned charter

schools, the experiences they had come to know and expect was no longer possible. We had to ask ourselves, how can we provide virtual, high-quality learning with content and curriculum that was meant to happen in shops and labs? We had to think differently during virtual instruction, research new approaches, and rely on the support of our business partners to ensure we could work to provide these relevant and engaging experiences to our students.

Paul Endter, the ATECH lead teacher, says that in the virtual environment it was challenging to educate students who were expecting to engage in hands-on learning with the same level of instruction and with the same types of projects to inspire them while they were away from the classroom as they would have encountered being in person.

AASD's business partners, including Werner Electric and CMD, donated time and resources to assist with electronics kits and with a project for our HAAS mini mill for students to work with. All of these efforts to adapt our curriculum to a new style and mode of learning were developed, in most cases, by our team of instructors with help from our industry partners.

Even though fully virtual learning wasn't ideal for many, our students continue to realize the importance of sticking with their studies and with the completion of their focus areas in their chosen career clusters. The short-term difficulties are certainly no match for the rewards and benefits the students will enjoy as they become educated and enter the workforce in careers that are in high demand and provide beyond competitive wages in the Fox Valley.

Connections to Business and Industry and our Partners in the Community

ATECH appreciates the involvement of manufacturing professionals giving classroom presentations, providing demon-

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Continued on Page 33



Kickapoo Teacher, Students Find Passion in Tech Ed



As a technology education teacher, Ken Krings enjoys finding innovative ways to reach his students.

Krings, in his 21st year of teaching at Kickapoo High School, said one of the things he likes most as a teacher is to facilitate learning through a hands-on approach.

"I want my students to be problem solvers and free thinkers," Krings said. "I hope that the exposure to these skills piques an interest that leads to further exploration and subsequent skill development. This can some-

times culminate in attending further training at a technical college or a four-year university, and sometimes straight into the workforce."

It's that same teaching goal that has not only helped his students learn, but also grow as learners.

"Tech ed has given me leadership abilities that I can utilize in other classes," Kickapoo junior Helen said. "I've learned great measures of independence that come into play in other aspects of my life. When working in the shop, you are expected to both rely on Mr.

Krings when necessary, but also learn things on your own and grow individually."

For Krings, being a teacher is more than a profession. He said he takes pride in observing students start with an elaborate design, and witnessing them work to create something unique.

"Some students I work with hate school, but they love tech ed and being in an environment that allows them to use experiential learning to make real world connections," Krings said. "I like the fact that we can take ideas, turn them into drawings and learn the tools and skills needed to make it a reality. In this process, kids learn to research and identify a problem, plan solutions, create prototypes, test and evaluate, and improve the final product. Most students who give shop classes a try really find joy in making a product from a drawing."

From using different techniques to make metal signs, to edge and end grain cutting boards, to a wooden desk, Krings' students are never bored or short on learning experiences.

"It's a great way to be hands-on and learn about the real world," Kickapoo senior John said.

Krings once found himself in a similar situation as many of his students. Unsure about what he wanted to do with his career, Krings attended the University of Wisconsin-



Stout, but realized after a year that he wasn't sure about his future. Taking the advice of his uncle, and art teacher at the time in Antigo, Krings switched programs to technology education, and the rest is history.

"Being a tech ed educator allows me to expose students to these different vocations that they may have never thought about pursuing," Krings said. "We need these skilled tradespeople to come into schools and do presentations to our students."

Article courtesy of WI DPI

kickapoo.k12.wi.us



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Tech Ed Classes Filling Up Fast in Three Lakes



*Al Votis
Three Lakes School District*

This year has seen big changes in the Tech Program here at Three Lakes. With the changing of personnel, we have seen a tremendous change in the curriculum and programming for our students. Our tech ed teacher retired last year, and instead of hiring a new teacher, our three Fab Lab staff members took over the program in addition to their regular class loads.

A few things happened right away. The

first is our numbers in the program grew dramatically, from junior high electives all the way through the high school classes. Where some classes had only had 1-3 students in them the last few years, this year we were seeing 15-16 in the same classes. Why? Because students knew they were going to get a different experience and be able to do more and different projects.

Starting with our junior high classes, which would be a block class, and a Drafting/Construction class, new manufacturing projects were introduced. They constructed and designed step stools, metal toolboxes, and mini-cornhole boards to work on drafting/design and then become familiar with the shop tools

and construction techniques. The classes are also in the process of designing and building a chicken coop, as well as a storage shed for the school. These projects are a great introduction for the students into the trades and designing aspects of tech ed.

In high school, the woods classes have changed as well. They are no longer just making furniture. They are using technology, mass producing objects and making other custom items. Some projects they have com-

pleted and are still working on include, making full-size cornhole boards, which are being finished with vinyl stickers on the surface to make them very custom oriented. They worked with one of our 6th grade classes to make Mankala board games using CNC router and other shop tools to complete. The students in these classes also created 3D house signs and baseball trophies for customers. They are currently in the process of designing and then building custom cabinets for our new FORK (Feed Our Rural Kids) program that will be placed in the school to hold and distribute food for students.

We are also working with our local technical college in our welding program. We are partnering with them to offer their welding curriculum to our students so that they receive dual credit for the classes. The students have been working through the curriculum, spending most of their time welding. Besides doing the weld prints for the classes, they have also been doing their own manufacturing projects, which include an ATV rack, a dog box rack for a truck, racks trucks. Just recently, our welders won a welding competition at Nicolet College, bringing home a new welder for our shop and a mountain of gear for the participants!

And finally, our CNC class is using our CNC routers and Tormach milling machine to create and produce products as well. They have worked to digitally recreate an old-fash-



ioned log sled from our Historical Museum, and they will be cutting and assembling it yet this spring. We are also working with our town parks board to re-design and replace memorial tree signs in the Memorial Park. And they have also done some sign work for customers to make custom signs.

All in all, our students have really changed what and how they are learning, and as we are starting the scheduling process for next year, we hope to see even more growth in the programs!

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Appleton Technical Academy

Continued from Page 31

strations, and businesses opening their doors to allow students to tour their production facilities and to do job shadows with experienced workers.

Our capstone activity involves students working as a Youth Apprentice at a local business. Students accumulate 450 hours of on-the-job training in a career area of interest to them in the manufacturing industry. These student opportunities would not be possible without the support of our business partners and the mentors they provide to nurture these students and support them along the way.

We also have businesses who are able to provide either materials, equipment, or direct financial support to ATECH. Our current financial partners include: Eagle Performance Plastics, Miller Electric, New Manufacturing Alliance, Nicolet National Bank, and Valley Tool. We are always looking to grow this list of our business partners who recognize the need to assist us in our efforts to grow the future workforce in manufacturing through our efforts in ATECH.

If you're interested in learning more about ATECH or supporting our mission of graduating students who possess the knowledge and skills necessary for successful entry into the career pathways of modern advanced manufacturing, check out our website at atech.aasd.k12.wi.us.

www.aasd.k12.wi.us



Technology Education Growing and Succeeding in Fall River



Shop Area "Before"



Shop Area "After"

*Brian Anderson
Technology Education Teacher
Fall River School District*

I have been the Technology Education Teacher at the Fall River School District since August of 2000. When I took the position with our district, we had a two thousand square foot shop area that housed our woodworking, welding, and small engine programs. In addition to the shop area, we also had a classroom that was straight out of the 1960s.

In the first 15 years, we slowly added engineering software on ten computers. We secured the donation of a metal lathe and milling machine to expand our program to machining as well as welding and fabrication. We also purchased a computer numerical control (CNC) wood router, and CNC plasma cutter to give students experience in programming CNC machines. In addition to the renovated shop areas, the district did purchase the community's retired fire station. We then were able to utilize part

of that building to move our small engines and automotive workshop to this new space which increased our square footage for our manufacturing area, but we were still in need of a dedicated shop area for wood fabrication.

The major turning point was in 2017–2018 with the passing of a school wide referendum which allowed us to complete the transformation and totally renovate and update our Technology & Engineering Education spaces and then were able to move our wood manufacturing and construction into a new one thousand square foot shop space. To fit the classroom into what we term our "Fab Lab" we installed 20 computers loaded with updated engineering and CNC software, purchased a laser printer, six 3D printers, and a vinyl cutter. We were also able to add and upgrade welding units, so that our students could gain experience in SMAW, GMAW, and GTAW welding processes. We also were able to purchase Bluco fixturing tables to give students real world fabrication experi-



Classroom "Before"



Classroom "After"

ences. In addition to referendum funding, we also applied and were awarded \$25,000 for a Fab Lab grant which we used to purchase a HAAS CNC Milling machine.

As we continue to update and improve our school facilities, we are also working hard to build a curriculum that allows students to experience as many manufacturing processes as possible. Whether it is designing and producing awards for athletics

or academics, rocket parts with the eighth-grade science class, or individual student projects, the goal is always to excite students about manufacturing and its possibilities.

Recently, we had a unique honor to partner with EK Machine Inc. to produce the "Coolest Thing Made in Wisconsin" Trophy. Our job was to design and produce

the acrylic Wisconsin state shape to fit into the frame that EK Machine Inc. had already designed. The task was a real-world challenge that consisted of producing a part to a company's specifications. We succeeded at our task and were invited to be part of the ceremony when the trophy was presented to the winning Wisconsin manufacturer. This was truly an exciting experience for both my students and myself!

In technology education, updating equipment and technology brings about many challenges, especially as the only technology education teacher in the school district. I have learned to trust and rely on my students for assistance, and we work through these challenges side by side, which are great learning opportunities. We strive each day to challenge our students to improve their understanding of each process and piece of equipment. Our goal for the future is to continue successfully partnering with local businesses and building our program to fit the growing manufacturing needs of the future.

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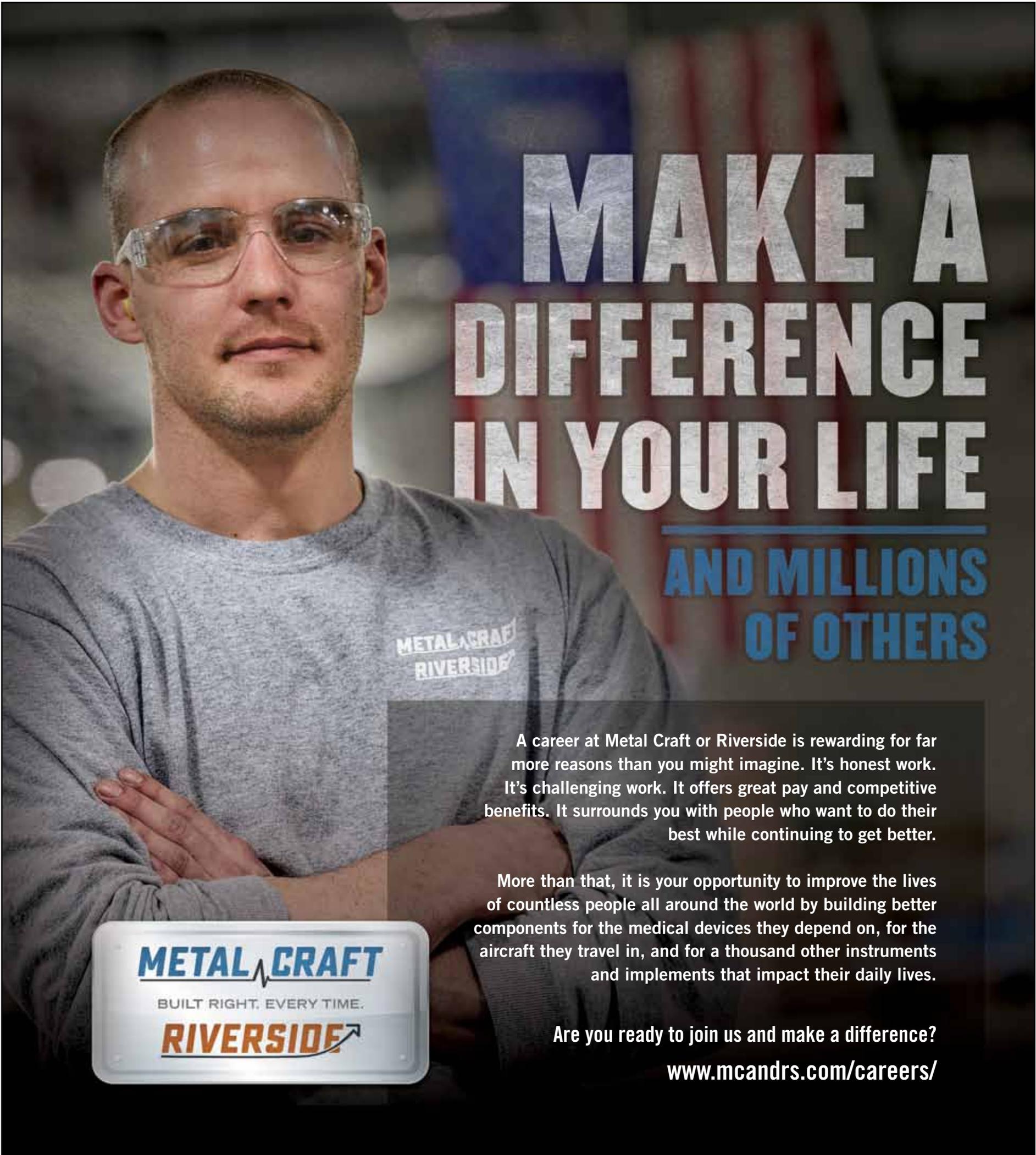
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