

INTERFACE

Volume 64 • No. 2 • Winter 2024-25

Journal of the WTEA

WORKFORCE READY



SPECIAL FEATURE:

- ◆ WTEA Spring Conference

Other Highlights:

- ◆ Makerspaces: Could They Transform Education?
- ◆ Industry-Recognized Credentials





INTEGRATE ROBOTS WITH PLC'S AND MECHATRONICS

We can bring this unit to your
classroom for a demo!

CALL US TODAY

THE RTS-200 TRAINING SYSTEM PROVIDES:

- mobile platform
- hands-on robotic operations
- flexible design for use with collaborative and non-collaborative robotics technology
- expands beyond simple pick & place functions
- configure the didactic equipment to suit your needs



See these products in action!



-&-



UNIVERSAL ROBOTS

**Support Our
 Interface
 Advertisers!**

Big Systems
 First Technologies
 Gateway Technical College
 Goodheart-Willcox Publisher
 H2I Group
 Inkworks
 LAB Midwest
 Machine Tool & Equipment
 Wisconsin Technical
 College System

*Cover Design
 by Sarah Wagner,
 Sussex Hamilton HS*

TABLE OF CONTENTS

Feature Article

14 WTEA Spring Conference

Sectionals,
 Make & Take,
 Trade Show &
 Full Itinerary



Other Highlights

16 Makerspaces

Could They
 Transform
 Education?



**18 Industry-Recognized
 Credentials**

More
 Than Just
 Certifications



- 2 WTEA Board of Directors
- 3 President's Message
- 4 Board Minutes & Calendar
- 5 V. Pres. & Advis. Board Chair Messages
- 7 President-Elect Candidate
- 8 MATC Articulation & Past Pres. Message
- 9 MS Spotlight & SkillsUSA Calendar
- 10 ASE Education & Training
- 11 Golf Outing & Foundation Raffle
- 12 Make & Take at State Conference
- 13 Conf. Registration & Project Showcase
- 14 State Conference Preview
- 15 State Conference Itinerary
- 16 Makerspaces - Transform Education?
- 18 Industry-Recognized Credentials
- 20 Jefferson HS Tech Ed Upgraded
- 22 Ashley for the Arts Event
- 23 WEWC Mobile Learning Lab
- 25 Voltage Ladder
- 27 Retiring Teacher Perspective
- 28 WTEA Supporters




IRIS™ Camera



- Overhead Cameras With Live Views
- Drag and Drop Artwork on Screen

- Easy Setup and Positioning
- Quick Onscreen Camera Layout




800.787.9717 | INFO@FIRSTTECHED.COM | FIRSTTECHED.COM | EPILOGLASER.COM

2024-2025 WTEA Board of Directors



PRESIDENT - Mike Paquette
(W) 715-582-3711 ext. 4380
president.wtea@gmail.com
Peshtigo Middle/High School



WEBMASTER
Michael Beranek
(C) 715-579-2273
webmaster@wtea-wis.org



DISTRICT E DIRECTOR
Alan Mamerow
(C) 262-957-6022
mameal@hamilton.k12.wi.us
Hamilton School Dist., Sussex



V. PRESIDENT - Anna Vitale
(W) 920-262-1480
vitalea@mywusd.org
Riverside MS, Watertown Schools



UNIVERSITY REPRESENTATIVE
Ed Wiegman
(W) 608-342-1187
wiegmane@uwplatt.edu
420 Pioneer Tower
Platteville, WI 53818



DISTRICT F DIRECTOR
Eric Sutkay
(W) 262-359-8155
esutkay@kUSD.edu
LakeView Tech. Academy, Kenosha



SECRETARY/TREASURER
Michael "Mac" Chopin
(W) 920-478-3633 Ext 4158
machopin.wtea@gmail.com
Waterloo High School



UNIVERSITY REPRESENTATIVE
Mike Mills, Ed.D
(W) 715-232-5306
millsmi@uwstout.edu
342 Heritage Hall
415 10th Ave E.
Menomonie, WI 54751



DISTRICT G DIRECTOR
Stephen Hadfield
(W) 715-884-6412 Ext. 310
HadfiSte@pittsville.k12.wi.us
Pittsville Area School District



PAST PRESIDENT
Doug Dimmer
(C) 262-388-0660
ddimmer@cedarburg.k12.wi.us
Cedarburg High School, Cedarburg



TECHNICAL COLLEGE REPRESENTATIVE
Roger Stanford
(W) Phone: 608-785-9100
StanfordR@westerntc.edu
400 7th Street North
Administrative Center 208
La Crosse, WI 54601



DISTRICT H DIRECTOR
Art Pronschinske
(W) 608-943-6312 Ext. 2017
apronschinske@igs.k12.wi.us
Iowa-Grant School District



EXECUTIVE DIRECTOR
Joe Ciontea
(C) 920-904-2747
jc.wtea@wtea-wis.org
WTEA Office, P.O. Box 373
Hazelhurst, WI 54531-0373



WTEA ADVISORY COMMITTEE CHAIR
Mike Cattellino
(W) 920-832-3040
mcattellino@piercemfg.com
Pierce Mfg.
2600 American Dr., PO Box 2017
Appleton, WI 54912



DIRECTOR AT-LARGE
Mason Pautsch
(C) 715-651-1028
pautschm@milton.k12.wi.us
Milton High School



OPERATIONS COORDINATOR
Jesse Domer
(W) 920-262-7500 x6339
domerj@watertown.k12.wi.us
Watertown High School



DISTRICT A DIRECTOR
Emily Fransway
(W) 715-684-3321 Ext. 4137
efransway@bwsd.k12.wi.us
Baldwin-Woodville High School



DIRECTOR AT-LARGE & AWARDS CHAIR - Matt Schultz
(W) 608-690-5100
matt.schultz@tlabeloit.com
The Lincoln Academy, Beloit



EXHIBIT COORDINATOR
Tom Barnhart
(W) 920-492-2955 Ext. 2089
tb.wtea@gmail.com
Ashwaubenon High School



DISTRICT B DIRECTOR
Brian Schiltz
(W) 715-453-2106
schiltzb@myhatchets.org
Tomahawk School District



DIRECTOR AT-LARGE
Ryan Ubersox
(W) 608-246-6743
rubersox@madisoncollege.edu
Madison Area Technical College



PROGRAM COORDINATOR
Steven Johnston
(C) 608-386-1310
sjwtea@gmail.com



DISTRICT C DIRECTOR
Brennen Mickelson
(W) 920-863-4262
mickelsonb@denmark.k12wi.us
School District of Denmark



DIRECTOR AT-LARGE
Heather Kiefer
(C) 262-707-0112
heather.kiefer@slingerschools.org
Slinger Middle School



DPI REPRESENTATIVE
Jake Mihm
(W) 608-665-9254
jake.mihm@dpi.wi.gov
T & E Education Consultant
Wis. Dept. of Public Instruction
Wis. SkillsUSA State Director



DISTRICT D DIRECTOR
Jon Larson
(W) 920-788-7600
jlarson@littlechute.k12.wi.us
Little Chute High School



INTERFACE EDITOR
Duane Apel
(C) 262-707-1044
interface.wtea@gmail.com



CESA REPRESENTATIVE
Tom Martin
(W) 608-822-2154
tmartin@cesa3.org
CESA #3, 1300 Industrial Dr.
Fennimore, WI 53809

Mark Your Calendar!
56th Annual WTEA
State Conference
March 5-7, 2025

PRESIDENT'S MESSAGE

Confession: I'm A Chocoholic!

By Mike Paquette, WTEA President



Well, here we are in the midst of things. As I write, I, like many of you, am in the midst of the holiday shuffle. We are making plans, to visit family, buying gifts for friends and making lots of chocolates. This makes me think ...why do I make so many chocolates?

Tradition. For as long as my kids can remember, we make chocolate concoctions. We usually start with a ridiculous purchase, but let's back up here for a moment. When I was 40 years younger one of the things I remember doing with my parents was making chocolates. We would buy the expensive block chocolate from the store that was only around during the holiday season. We would break it, then melt the chocolate, eating bits along the way. When we were finished we would have chocolate cherries, almond bark and yummy pretzels. Oh how I loved the pretzels.

Skip forward 30 years and I am doing the same thing. Buying the block chocolate at the store and making chocolates. But I was not happy, it wasn't the same. It was time for a change, the chocolate didn't cut it. Luckily, I just heard a special about chocolate on the radio. So, with this new found knowledge, I went shopping for some superlative chocolate. With this new found confectionery dream our family has been making 10 pounds of chocolate goodness.

This year we continued the tradition of chocolate. In fact my daughter, who is now at college, wrote (a text) specially to me just to remind me to get chocolate. Then she followed up and said I could not make chocolates without her.

So, Mike why are you blabbering on about chocolate?? Well, first off chocolate is delicious, and I plan to make 10 lbs. of chocolates and eat much of it. Really, though, we all have routines in our home life, work life, and classroom. We have built our routines over time. We do what we know. We do what we have been taught. We do what feels comfortable. I have been buying chocolate online for 10 years. That first year, finding a store, finding a chocolate to buy, that was scary. Am I getting scammed? Would the chocolate be good? Is 10 lbs. of chocolate enough to meet all of my confectionery dreams?

Traditions are great. They give us direction, we know what to expect and generally we like the outcome. I love making chocolates like I love teaching. The routine, the traditions we have started in my classroom the kids look forward to. These are fantastic things. But, like my choc-

olate endeavor, sometimes we need a twist on what we are doing to make it great. A little change to spice things up, or up the quality with some superlative chocolate with more

“But, like my chocolate endeavor, sometimes we need a twist on what we are doing to make it great. A little change to spice things up... ”

cocoa and less sugar or fillers. Every year I look forward to the WTEA Conference to find that little spice for my classroom. It is an opportunity to talk to many educators and learn about the cool things going on around the state. In addition to this I get to learn about new tools and curriculum being offered. It's that opportunity I need to connect with friends and remember traditions,

and make those little changes to make everything better. See you soon at the WTEA Spring Conference!

IMPORTANT: ALL MEMBERS!

Update Your Contact Info & Number of Years Teaching, etc.

Use “Member / Log-in” on Our Web Site: wtea-wis.org



CONTACT DETECTION PROTECTS YOUR BUSINESS

THERE IS A TABLE SAW ACCIDENT EVERY 9 MINUTES IN THE UNITED STATES. WHAT IF THE NEXT ONE IS IN YOUR SHOP?
PROTECT YOURSELF TODAY.

MACHINE TOOL & EQUIPMENT, INC. **SawStop**

145936 COUNTY ROAD U WAUSAU, WI 54401
P: (715) 675-6300 • F: (715) 675-9547 • WWW.MACHINE1001.COM

WTEA BOARD NEWS & 2025 CALENDAR

WTEA Board of Directors - Fall Meeting Minutes

By Mac Chopin, WTEA Secretary/Treasurer

Fall 2024 Board Meeting Summary

1. Call to order: 7:00pm, Pres. Mike Paquette;
6 in person, 10 Virtual
2. **Reading and approval of the minutes:**
 - 2.1. Reading of the winter minutes - Approved 16-0
 - 2.2. Fall meeting agenda - Approved 16-0
3. **Reports:**
 - 3.1. President's report - Mike Paquette
 - 3.2. Executive director report - Joe Ciontea
 - 3.3. *Interface* update - Duane Apel
 - 3.4. Conference update - Steve Johnston
 - 3.5. Trade Show updates - Tom Barnhardt
 - 3.6. Elections - Doug Dimmer
 - 3.7. Foundation update - Joe Ciontea
 - 3.8. Ambassador program - Anna Vitale
 - 3.9. Awards Committee update - Mike Paquette
 - 3.10. DPI update - Jake Mihm
 - 3.11. SkillsUSA update - Jake Mihm
 - 3.12. Project Showcase - Stephen Hadfield
4. **New business:**
 - 4.1. Appointments
 - 4.1.1. Project Showcase director - Steve Hadfield
 - 4.1.2. New UW-Platteville representative - Ed Wiegman
 - 4.1.3. New UW-Stout representative - Mike Mills
 - 4.1.4. Awards Chair - Co-chair Alan Mamerow

4.2. Looked at theme ideas for 2026 conference

5. Adjournment

For additional information contact any member of the Board of Directors. Complete minutes are available from Mac Chopin at machopin.wtea@gmail.com

⌘ Mark Your Calendar ⌘

SkillsUSA Regional Competitions

Jan. 17-Feb. 28, 2025 See Page 9

WTEA 56th Annual State Conference

March 5-7, 2025..... Wis. Dells, WI

Spring *Interface* Articles Due

March 21, 2025to Duane Apel

SkillsUSA 52nd State Conference

April 1-2, 2025Madison, WI

ITEEA National Conference

April 2-5, 2025..... St. Louis, MO

WTEA Foundation Scholarship

Application Deadline..... May 15, 2025

SkillsUSA National Conference

June 23-27, 2025Atlanta, GA

WATDA Summer Teacher Training Institute

July 8-10, 2025Madison

WTEA Foundation Charity Golf Outing

July 31, 2025 Wisconsin Dells

NEW

Desktop CNC Milling Machine

The new EDU Mini-Mill is a powerful, compact desktop CNC machine with industry-standard FANUC controls.

- ✓ Industry's go-to CNC control: FANUC
- ✓ Industrial machining capabilities
- ✓ Desktop size & price

It's the newest product in a strong lineup of CNC machines for education from LAB Midwest!



Scan the QR code to learn more about the EDU Mini-Mill and request a quote



Only available through LAB Midwest | info@labmidwest.com | (414) 258-6415 | www.labmidwest.com

VICE PRESIDENT'S REPORT

Starting Over...and Feeling Awkward

By Anna Vitale, WTEA Vice President



This school year I did 'a thing' that I can count as only my second time in 20 years of being an educator. It felt awkward. I changed districts.

Many teachers have had the experience (perhaps several times) of changing to a new school district, so it's old territory that many are able to navigate easily. Strangely enough, knowing that gave me a sense of assurance that, "It will be okay!" That assurance stemmed from knowing that many of my fellow Tech Ed colleagues have been through this and have been successful, thrived, proving they are more than capable in any district.

I had felt hesitant about going from a small, rural district to a larger, urban district: Am I good enough? Can I do this?

What helped me through the first few months was thinking about you all. Yes, you, the Tech Ed teacher in _____, Wisconsin. I knew that, if I had any questions or qualms, I am fortunate to have a vast resource of incredibly skilled, experienced and (thankfully!) kind colleagues whom I could seek help from.

I feel so fortunate and grateful to be a part of the WTEA. Whether at the annual conference or through learning and networking opportunities, I have discovered the amazing things you all do, regardless of the physical place and space. You inspire me. This has been a beacon and guiding light to me as I have ventured into new territory.

There has been a solid sense of calm knowing that I am able to reach out to our association with questions. I feel a sense of relief that I have incredible colleagues I can count on to help with any dilemma that may come my way.

I know there is a vault of knowledge, information,

guidance, project ideas, and lesson plans (on the website) that I have access to through the WTEA. (Did you know that you have access to past conference presentations, including project plans, ideas, lesson plans and more? Check out the website!)

From talking to other teachers, I'm not sure there are any other comparable professional associations that do as much as the WTEA for their members.

From all that...I became excited about my first year in a new school! My brain was rolling with planning and I was so glad when the time finally came when I could "get 'er movin'!" Project ideas, how to reinvent the classroom on a budget, how to encourage non-traditional participation in Tech Ed, classroom management with a whole new crew of kids who don't know "Vitale," how

to..... You get the idea.

If anyone has had success with middle school projects why not post it on the WTEA Facebook page to share for all?! Or, attend the Middle School Round Table at the state conference? Or, connect with Heather Kiefer, our new director at-large, who is spearheading a new middle school support plan. (See article on page 9 of this issue).

Hope you have had a great first semester!

"I feel a sense of relief that I have incredible colleagues I can count on to help with any dilemma that may come my way."

56th Annual WTEA Spring Conference

"Workforce Ready"

March 5-7, 2025

Make room reservations at Chula Vista by Feb. 21 for conference rates!

See p. 13 to register

FROM THE ADVISORY BOARD CHAIR

Meet Our Committee Members

By Mike Cattelino, WTEA Advisory Committee Chair; Manager – Organizational Excellence, Pierce Mfg.



**In each of the upcoming issues of the Interface we will be introducing you to members of your WTEA advisory committee.*

James Bouché, of Wausau, is the Region 5 Director. Jim started his professional career in education as a teacher and coach in 1977. He taught and coached at UW-Platteville, as well as the school districts of Park Falls, Dodgeville, Wausau, and Eagan, Minnesota, where he served as assistant principal and athletic director. In 2008, Jim was hired as principal at Lakeland Union High School in Minocqua, where he later became superintendent. He retired from that position in the spring of 2019.



After returning to Wausau in 2019, Jim was elected to the Wausau School Board. He brings a wealth of experience and expertise to the board. In addition to a B.A. and M.S. in Education from the UW System, he holds a Master of Arts in Education Administration from Marian University and an Ed.S. in Technology Enhanced Curricula from Argosy University in Eagan (Campus), Minnesota.

Jim is married with three adult children and three grandchildren. Jim can be reached at jbouche@wasb.org.



WTEA TECH-ED WINTER DEALS

H2I Group delivers top-quality products with professional installation, training, and ongoing support to ensure your success. From 3D printers to robotics and CNC tools, we're here to support hands-on learning opportunities in Wisconsin. See you at WTEA in March!



BAMBU LAB 3D PRINTERS
EASY, COLORFUL, AND FUN!
[CONTACT US FOR A QUOTE](#)



FOREST SCIENTIFIC
CNC ROUTERS & PLASMA CUTTERS
[CONTACT US FOR A QUOTE](#)



INFENTO
ENGINEERING EDU KITS
[CONTACT US FOR A QUOTE](#)



Introducing our user-friendly robotic automation bundle package by Niryo Robotics. It's designed for easy setup and is straightforward to learn and teach to your students. The package includes the programming software, NiryoStudio.

[CONTACT US TO SCHEDULE A DEMO](#)

Stratasys 3D printers provide access to a nationally recognized Additive Manufacturing certification from NOCTI, paving the way for your students to explore opportunities with organizations like NASA and Boeing.

[CONTACT US TO LEARN MORE](#)



CONTACT US

Phillip Papadantonakis ppapadantonakis@h2igroup.com 773-720-4359

Alan Mamerow Steps Up for President-Elect Position



Personal Information:

Alan J. Mamerow
Sussex Hamilton High School
W220 N6151 Town Line Road, Sussex, WI
(262) 957-6022 (cell) (262) 246-6471 x1762
mameal@hamilton.k12.wi.us



Education & Certification:

- B.S. Technology Education – UW-Stout, 2016
- M.S. Career and Technical Education – Concordia University-Portland, 2019
- Haas Basic Mill Operator Certified

Professional Experience:

I am currently in my ninth year of teaching Technology and Engineering Education, all of which have been at Sussex Hamilton High School. Throughout the course of my career I have taught woodworking, graphic arts, architecture and construction, and metals machining, although my current course load for the past few years has been entirely construction and machining. In addition to teaching, I advise the Hamilton ChallengeUSA Supermileage Racing Team and co-advise Hamilton's SkillsUSA chapter with three of my department coworkers.

Leadership, Awards and Recognition:

- WTEA Director at-large (2017 to 2019)
- WTEA District E Director (2019 to present)
- WTEA 6-time Sectional Presenter
- SkillsUSA Advisor (2016 to present)
- ChallengeUSA Advisor (2016 to present)
- SkillsUSA SLSC Tech Chair (2019 to 2023)
- SkillsUSA NLSC Tech Chair (2019 to 2024)
- SkillsUSA NLSC Cluster Chair (2024 to present)
- ChallengeUSA Secretary (2016 to 2019)
- ChallengeUSA Electrathon Coordinator (2019 to present)
- Precision Metalforming Association Educational Program Director (2018 to present)
- Sussex Area Service Club Member (2024 to present)

Position Statement:

As WTEA President, I would like to focus on increasing excitement and participation in Wisconsin Technology and Engineering Education. One of my goals is to help facilitate more "high-tech weekend" events, as a way to help share project ideas beyond the annual conference. I also hope to extend that goal to feature at least one project in every edition of the *Interface* magazine. The state of Wisconsin has an amazingly strong Tech Ed community, as evidenced by our annual conference and the wide variety of breakout sessions that we have each year. But sometimes it can be difficult to share project ideas after the conference is over or find time to implement new ideas in our programs. By having more high-tech weekends and an increased promotion of what you all are doing in your classrooms and shops, we can take the excitement that we feel each year in early March and carry it into our teaching year-round.

Notice

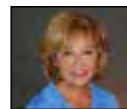
The deadline for submitting nominations for WTEA President-Elect has closed. According to our bylaws, if candidates run unopposed, a unanimous ballot is cast by the Board and no paper ballots are mailed.



Foundational Content and Numerous Hands-On Activities



Aligned to the ITEEA's Standards for Technological and Engineering Literacy



Scan to learn more



Please contact Kathy Moehle
kmoehle@g-w.com • 708.821.6545

NEW ARTICULATION AGREEMENT

Madison Technical College Students Can Now Pursue TE Teaching Degree in Partnership with UW-Stout & UW-Platteville

By Karena Curtis, PhD; Math Instructor, Education Advisor - MATC

Madison Area Technical College has some incredible news to share. With the high demand for Technology Education teachers, we have finalized articulation agreements with UW-Platteville and the UW-Stout for students to earn their bachelor's degree in Tech Education.

Students will enroll here, at Madison College, in the Liberal Arts Transfer - Science, Math, and Technology Pre-Major Pathway. They will earn their Associate of Science Degree and have a guaranteed admission into a bachelor's degree at either UW-Platteville or UW-Stout. Upon transferring to UW-Stout, it can be completed entirely online.



We hope this gives students an opportunity to explore the potential in teaching Technology Education. First semester they will take our Introduction to Education and Teaching, which will give them the opportunity to reflect on how they see themselves as future educators.

At Madison College, they will benefit from our low tuition, flexible course options, and the incredible facilities Technology and Trades have on our Truax Campus. When they transfer, they will complete their studies in professional education to become certified to teach in a middle or high school setting.

PAST-PRESIDENT'S MESSAGE

Thank You Teachers!

By Doug Dimmer, WTEA Past-President



To all of the Wisconsin Technology/Engineering Teachers, as my term as president/past president ends, I want to express my gratitude and admiration for you, and a note of thanks. It has been an honor to serve as your president and board member, and thankful for the opportunity to work alongside such dedicated professionals across our great state.

Throughout my time on the board, I have been continually inspired by the passion, creativity, and commitment you all bring to the classroom every day. Whether you are guiding students through the complexities of machining, teaching the fundamentals of wood/plastics technology, or preparing them for future careers in cutting-edge fields, you are shaping the future of Technology Education in Wisconsin. Your work has far-reaching impacts that extend beyond the classroom, influencing the next generation of innovators, thinkers, and leaders.

The challenges we face as educators are ever-evolving, but

your ability to adapt and innovate in the face of change is nothing short of incredible. From taking on the challenges of new technologies to retaining an inclusive and hands-on learning environment, you demonstrate time and again that Technology Education is not just about mastering tools but about developing critical thinking skills, creativity, and problem-solving abilities in students.

While my time as president has come to an end, I urge you to continue working together, sharing your ideas, and pushing the boundaries of what is possible in the world of Tech Ed. I am confident that the future of technology in Wisconsin is bright, thanks to your efforts and dedication.

Thank you for allowing me to lead during this time, and for your ongoing commitment to the students and communities we serve. I look forward to staying connected and seeing you at the yearly conferences. Prost.

A THANK YOU FROM MADISON To All Technology & Engineering Educators



Dear Wisconsin Technology & Engineering Professional Educator:

We are writing to express our heartfelt gratitude for your dedication, passion, and tireless efforts as a Professional Educator in Wisconsin. Your impact on both students and the state is profound, and we wanted to take a moment to acknowledge the incredible work you do each day.

Your ability to transform complex concepts into engaging, hands-on learning experiences is nothing short of remarkable. Whether it's guiding students through design, thinking, problem-solving, or hands-on fabrication, you equip them with the critical skills and confidence they need to thrive in the modern workforce. Your commitment to fostering creativity, innovation, and technical excellence is evident in every lesson.

Beyond the technical skills, you teach students resilience, patience, and a love for learning. They walk away from your classroom with not just knowledge, but with the belief that they can solve real-world problems, overcome challenges, and achieve greatness. Your mentorship extends far beyond the classroom as you inspire your students to pursue careers in architecture, construction, engineering, manufacturing, and technology — fields that are vital to our economy.

Your hard work does not go unnoticed. From organizing projects and competitions to staying ahead of industry trends, you give your all to ensure students have every opportunity to succeed. Your passion is contagious, and it has left a lasting impression on your students, your colleagues, and the entire state.

Thank you for being a professional educator, mentor, and role model to so many. Your influence reaches beyond what you may see on a daily basis, and we hope you take pride in knowing that your work is shaping the future in extraordinary ways.

- With deep appreciation and respect, The State of Wisconsin

MIDDLE SCHOOL SPOTLIGHT



Networking & Sharing Opportunities for Middle School Teachers

By Heather Kiefer, WTEA Director At-Large; Slinger Middle School



Calling all middle school educators! This new *Interface* feature has been created just for you! Each issue will shine the spotlight on middle school educators and their students while also providing information and resources you can use to grow your middle school courses, extracurriculars, and events!

We Want to Hear From You!

Here's your chance to share the exciting achievements of your middle school students and highlight your program. What have you and your students been up to? Article submissions can be easy. Send us a brief description and be sure to include a photo or two. For details, email the *Interface* editor.

Middle School Survey & Directory

Middle School Technology & Engineering or STEM courses are often unique. Some exist as their own department, others integrate with core academics. WTEA's goal is to support and celebrate YOU, no matter how unique or traditional your middle level program.

We have a few projects in the works to share during the WTEA conference. Two sessions will be offered, geared specifically to the middle school educator. These sessions will focus on networking with other middle level teachers and sharing valuable ideas, projects and resources. To best support you, we are seeking and need your input. **Please participate in this brief survey (10 minutes or less) by typing in the web address (below) or scanning the QR code. Two participants who complete the survey will be randomly selected to receive a free one-year WTEA membership!** Your input will drive the topics discussed and resources shared during the sessions.



MS Survey!

<https://forms.gle/iTuFjpDxNW6q9cuu8>

The survey will also ask if you'd like to submit your information to a new Middle School Teacher Directory that will also be shared at and after the WTEA Conference. This directory will allow you to find other teachers in your geographic or content areas. Hands-on learning in a middle school setting presents a variety of opportunities and challenges. You all have such valuable experiences, skills, ideas, and connections to share and we truly learn best from each other. Your input and suggestions are highly valued and appreciated!



Slinger Middle School students capture medals at Menasha SkillsUSA District competition.

Slinger Medals at SkillsUSA Districts

Slinger Middle School students competed in the SkillsUSA District 5 Competition in Menasha. This entire team of rookies made their SkillsUSA debut competing in Team Engineering Challenge. Thank you Menasha High School for hosting and Jon Larson for leading the competition contest.

Middle School Sessions at WTEA Conference

We hope you can join us at the WTEA Conference for networking and idea sharing at our two middle school sessions March 5-7, 2025, at the Chula Vista Resort, in Wisconsin Dells. However, you can still join the directory, even if you're unable to attend. Keep an eye on this page in the future for directory and resource access information!

2025 SkillsUSA CALENDAR

- Regional Competitions**
- **Mid-State Tech College:** Stevens Point.....January 17
- **UW-Platteville:** PlattevilleJanuary 31
- **NTC:** WausauFebruary 7
- **GTC (iMET Center):** SturtevantFebruary 14
- **FVTC:** AppletonFebruary 21
- **UW-Stout:** Menomonie.....February 27-28



- NEW! Minnesota Timberwolves Game & Tour**February 6
- SkillsUSA Week**February 2-8
- SkillsUSA Membership Deadline**March 1
- State Officer Application Packet Deadline**March 1
- Chapter Excellence Program Deadline**March 4
- SkillsUSA State Culinary Competition:** MATC Madison.....April 1-2
- State Leadership & Skills Conference:** Madison.....April 1-2
- National Leadership & Skills Conference:** Atlanta, GeorgiaJune 23-27

Like us on 

facebook

Tech Ed Updates

Classroom Ideas

Community Connections

...and more!







Education Foundation

Share Your ASE Instructor Expertise with Others
Become an Evaluation Team Leader (ETL)

ETLs are an integral part of the ASE accreditation process. We are looking for knowledgeable, professional automotive, truck, and collision repair instructors to represent ASE and assist other training programs through ASE accreditation. Being an ETL is a great way to give back to your industry, network, see other programs, and help other instructors improve their programs.

If you meet these *requirements, please join us prior to the WTEA State Conference on Wed, March 5th.

- Teaching at or recently retired from an ASE-accredited training program
- ASE Certified Master Auto, Truck or Collision Repair technician
- Three years of teaching experience with a BA or BS in education and three years as a technician, or four years of teaching experience and six years as a technician (no degree requirement)

To become an ETL, you must:

- Complete online training before the in-person training
- Attend the FREE one-day in-person training session
- Pass an online final assessment

Questions? marlo.miranda@aseeducation.org.

*Contact me if you plan to meet the requirements soon and would like to participate.

WHY Become An ETL?
 “Becoming an ETL opened many doors for me to improve my program and meet other instructors. Each time I complete an evaluation, I come back with ideas on how to make my program better. My administration supports my efforts because it is great professional development, and I am helping other programs improve!
 It is a win-win-win!!” - Veteran ETL

**PLEASE
JOIN US!**

2025 WTEA State Conference
Chula Vista Resort, Wisconsin Dells
Sierra Vista Room
March 5th; 8:00am - 4:00pm
LUNCH INCLUDED!



Scan the QR code to register!

.....
ALSO, ON THURSDAY, MARCH 6TH: During the WTEA Conference, we will discuss the many myths surrounding ASE Accreditation. There are many reasons why a program should be accredited, and none of these myths should be used as an excuse not to. Come discover the truth while we dispel these and other myths and have an honest conversation.

Accreditation Myths

- Accreditation provides nothing but more work.
- I must go this alone.
- This is just a bunch of paperwork.
- This is not worth my time.
- Accreditation requires tools I don't need or want.
- There is no value added to my program by being accredited.
- There is no benefit to accreditation.
- My administration will not care or help.
- My ETL will just crucify and embarrass me.
- I will not get anything out of this.
- The task list is ridiculous.
- My advisor will never help or get involved.
- ASE just wants money.
- If I ignore this, it will go away.
- Many programs get closed after one of these!
- This is the end of my program!

SAVE THE DATE

July 31st, 2025
Wisconsin Dells

2nd annual WTEA Foundation Charity Golf Outing



Entry Fee: \$600 / 4-some
or \$150 / person

Includes:

18 Holes, Golf Cart
and Dinner

Register to golf or sponsor today!

www.WTEAFoundation.org

Questions? Contact:

golf@wteafoundation.org



WTEA
FOUNDATION

WTEA
FOUNDATION

WTEA
FOUNDATION

WTEA
FOUNDATION

WTEA
FOUNDATION

WTEA
FOUNDATION

WTEA
FOUNDATION

WTEA Foundation Scholarship Applications Due May 15

The WTEA Foundation is offering a renewable \$1,000 scholarship for a high school senior or graduate who commits to pursue a career as a K-12 Technology & Engineering educator.

ELIGIBILITY:

- Wisconsin resident
- Enroll in technology education at a Wisconsin university and start the fall semester
- Submit completed application form and 250 word essay by May 15th

Details of the scholarship and the application form can be found on the WTEA Foundation website at www.wteafoundation.org

WTEA Foundation Raffle

at the spring conference to support
the WTEA Foundation

Tickets

\$5 each or 3/\$10

Tickets available from WTEA Board members
or at the spring conference.

Tickets will be sold at conference up until the drawing.

The drawing takes place on Friday, March 7, 2025

at the end of the noon general session.

Winners need not be present to win.

Prizes Donated by WTEA Business Partners and Sponsors

Watch WTEA website & listserv for details

The mission of the WTEA Foundation is to provide scholarships and fund STEM (Science, Technology, Engineering, Math) education opportunities for teachers, individuals interested in becoming teachers, and students.

The WTEA Foundation is a public charity as defined under section 501(c)(3) of the Internal Revenue Code.

“MAKE & TAKE” AT SPRING CONFERENCE

Experience Hands-on Learning Activities and Create Projects to Take Home With You!

By Stephen Hadfield, WTEA Board, District G Director



The WTEA will once again be providing hands-on opportunities at the WTEA Spring Conference in the annual “Make and Take” session. This year’s project-based opportunity will be hosted by technology education instructors from Madison Area Technical College and Fox Valley Technical College.

MATC will have a hands-on activity centered around design and machining. Participants will make a small thread identification tool to take back home with them.

FVTC will have a hands-on activity where participants will learn how to use a Shaper Origin Router (handheld CNC router). Cutting a joinery, profiles or patterns, and engraving for signage can all be handled directly on-tool, no program-



Shaper Origin Router

ming required. It also works with almost any design software you use. Participants will be able to make a small personalized sign at the Make and Take session.

If you are looking to actively participate and leave with something to bring back to the classroom, make sure to check out this event Friday morning of the conference!



(Above & below): Teachers create projects to take back to school in previous Make & Take sessions.



MACHINE TOOL & EQUIPMENT, INC.

145536 COUNTY RD. U WAUSAU, WI 54401
PH: (715)675.6309 FAX: (715)675.5647
WWW.MACHINETOOLWI.COM

NEWALL SUMMIT NATIONAL TENNSMITH Sawstop HYD-MECH The Rock Solid Solution. KENT USA Ellis MFG. COMPANY, INC. POWERMATIC

CALL FOR SCHOOL SPECIALS

WTEA Membership Application & March 5-7, 2025 Conference Registration

Membership year runs from September 1st through August 31st

Last Name _____ First Name _____

(Print
E-mail: Neatly!) _____

Home Phone (_____) _____ Local Tech College District _____ # Years Teaching _____

School Dist. _____ School Name _____

School Address _____

School City _____ State _____ Zip _____

Check appropriate boxes below & total amount due. (To pay fees with a credit card go to the WTEA website)

Membership Fees: [] 3 year membership - \$90.00 [] 1 year membership - \$35.00 \$ _____

Spring Conference Registration:

[] \$175 members [] \$210 non-members \$ _____

WTEA Awards Banquet - Wed. Mar. 5th (Tickets must be purchased in advance): [] \$32 \$ _____

[] Bill my school district - purchase order is attached [] Payment enclosed **Total \$** _____

Send completed form with payment or school purchase order to: **WTEA, P.O. Box 373, Hazelhurst, WI 54531-0373**

Phone (920) 904-2747 • E-mail: jc.wtea@gmail.com

If your school uses ACH payment please contact the WTEA for new bank routing.

***Room reservation: DEADLINE FOR CONFERENCE RATES - 2/21/2025**

Room Rates: Start at \$159

Toll Free Dedicated # for reservations 1-833-621-4953 • **2025 WTEA Conference Booking ID# K45759**

Chula Vista will also honor the state rate for single rooms upon request with appropriate documentation.

Install the 2025 WTEA Conference App (Yapp) on Your Mobile Device:

1. On your smartphone, visit <https://my.yapp.us/2025WTEA> or use the QR code below
2. Follow instructions on screen (It's a quick two-step process)



Already have Yapp App installed?

1. Tap "Download existing app" or green "+" button (top right).
2. When asked for Yapp ID, enter **2025WTEA**
3. Press the device's "enter" button, or tap "Add" (top right).

***NOTE: The app goes live in early February. Go to the App URL to access the conference schedule on your computer.**



Bring your administrator to the WTEA State Conference for FREE! See p.14 for details.

WTEA Project Showcase
Inspiring Educators for 16 Years

Scan to sign up

Awards & Prizes for:
Best of Show | Best Design | Best Craftsmanship

SPONSORED BY
 MADISON AREA TECHNICAL COLLEGE

WTEA CONFERENCE & TRADE SHOW



By Steve Johnston, Program Coordinator



The WTEA invites you to participate in the 56th Annual Spring Conference, March 5-7, 2025, which will be hosted at Chula Vista Resort in Wisconsin Dells. The conference program is packed with excellent presenters offering a variety of topics to help inspire and motivate each of us. We encourage you to bring your school administrator with you to the conference; administrators are admitted free when accompanying a registered Technology & Engineering educator.

We start things off on Wednesday, March 5th, with the annual awards banquet at 7:00 p.m. We will recognize and honor our colleagues for their outstanding contributions to Technology and Engineering Education as well as program award winners during the banquet. The banquet cost is \$32, advanced purchase is required. This is a great way to show appreciation and support for your peers.

On Thursday, March 6th, the conference will begin with a general welcome to all members given by WTEA President, Mike Paquette.

Our first general session will be given by Janice Neitzel, Site Director, 3M Menomonie. This presentation will provide an overview of 3M, highlighting our commitment to innovation and problem-solving. We will explore how 3M leverages a diverse range of technology platforms—such as materials science, light management, and precision coating—to address global challenges and develop impactful solutions. By combining these technologies, we create innovative approaches to solve customer problems more effectively. Additionally, we will discuss the importance of inspiring youth to engage in science and math, cultivating the next generation of inventors and engineers. Educators play a crucial role in this journey, equipping students with the skills needed to shape the future at 3M and beyond.

Thursday is also the time to visit the trade show. Our vendors are extremely important to our association and our programs. Our trade show features numerous vendor booths with professionals exhibiting up-to-date products and services for our field. This is the best “one stop” to bring an administrator or school board member looking for input to update a program.

Don't miss the annual President's Reception beginning at 7:00 PM and ending at 9:30 PM in the lower atrium level, which will include complimentary refreshments, live entertainment, and a silent auction

to benefit the WTEA Foundation.

On Friday we will again host the Early Riser Breakfast. During this time, we will have our General Membership Meeting presided over by President Mike Paquette. Following the General Membership Meeting, the day will continue with diverse sectionals. Friday's schedule also includes a day of hands-on automotive technology sessions at Easton Motors.

Our mid-day luncheon will be followed by a keynote address from Dr. Bryan Albrecht, President Emeritus - Gateway Technical College. Dr. Albrecht has been a long-time supporter of Technology and Engineering Education in Wisconsin. He will discuss, “Technology Education, A Transformational Renaissance.” Our profession has been a leader in the transformation of technology and engineering education for decades. Dr. Albrecht will share his perspective on how the evolution of Technology Education has impacted the past, is shaping the present and will drive an innovative future.

This year's conference will again feature some of the top Technology and Engineering educators throughout Wisconsin and the nation sharing their expertise on topics such as: Haas Teacher Training at Gateway Tech, Equipping Students for Success with FANUC Robotics, CNC Machining - G-Code to CAM, Relevant Media Design Content, Building Tiny Houses, Teaching Electronics/Electricity, First Robotics, Supporting Aviation in Education, Trailer Fabrication, Metal Casting, Additive Manufacturing, Getting Started with PLC Programming, Welding Symbols Demystified, Web Based 3D Modeling with Onshape, SkillsUSA, Middle School Roundtable, New Teacher Boot Camp, the popular WTEA Project Showcase, and much more!

Put March 5-7, 2025, on your calendars, get your release days approved, and fill out and send in your registration form today if you have not already done so. The convention fee is \$175 for members and \$210 for non-members. As a final reminder, please contact Chula Vista Resort early to reserve your room; often we are not the only event taking place at this busy resort. We hope to see you there!

For room reservations contact Chula Vista Resort, 1000 Chula Vista Parkway, Wisconsin Dells, WI 53965, (855) 800-3192. Use WI Technology Education 2025 Booking ID# K45759.

Use the WTEA eStore to register online with your credit card: <http://www.wtea-wis.org>

WORKFORCE READY



56th Annual Technology Education Conference & Trade Show *Conference Overview*

Wednesday, March 5, 2025

5:30pm – 8:30pm..... Conference
Pre-registration

6:45pm – 9:00pm.....Awards Banquet

Thursday, March 6, 2025

7:30am – 3:00pm..... Conference Registration

7:00am – 9:00am.....Project Showcase Setup

8:00am – 4:00pm.....Trade Show

9:00am – 3:30pm.....Project Showcase

8:55am – 9:05am.....General Welcome

9:05am – 10:00am.... 1st General Session

10:15am – 3:30pm.... Concurrent Sessions

Thursday, March 6, 2025 (continued)

7:00pm – 9:00pm.....President's Reception

Friday, March 7, 2025

7:30am – 11:30am.....Conference Registration

6:45am – 7:45am.....WTEA Breakfast

7:45am – 8:30am..... WTEA Membership Mtg.

8:45am – 12:15pm.....Concurrent Sessions,
Demonstrations & Project Showcase

12:30pm – 2:00pm.....2nd General Session &
Luncheon

2:15pm – 3:30pm.....WTEA Board Meeting



Thursday Keynote Speaker:

Janice Neitzel
Site Director
3M - Menomonie



Friday Keynote Speaker:

Dr. Bryan Albrecht
President Emeritus
Gateway Technical College

Session Topics Include: Additive Manufacturing in the Classroom, Digital Media, Geometry in Construction, Double Elimination Energy, Residential Electrical, Robotics Roundtable, Home Maintenance, Fabrication: How to Build a Trailer, Retirement Ideas, What Works in the Wood Shop, Automotive Curriculum, SkillsUSA, Standards Based Grading, Business and Industry Connections, Fancu Robots, Architecture, The Power of TikTok and YouTube, Welding Best Practices, Graphic Design - Page Layout & Logos, Graphic Arts Ideas, Building High Mileage Vehicles, Project Showcase, Middle School Roundtable, New Teacher Boot Camp, and much more!

Help your students find their
passion & fulfill their potential

COLLEGES & CAREERS
wistechcolleges.org



Chula Vista Resort



1000 Chula Vista Parkway, Wis. Dells www.chulavistaresort.com

Toll Free Dedicated # for reservations 1-833-621-4953

**Ask for WTEA Conference Rate! See pages 13 or 14 for details.*

SOCIETY HAS EVOLVED, SCHOOL HAS NOT

Eliminate 9th Grade? What If Fab Labs and Makerspaces Could Restructure Education to Meet the Needs of the New Millenium?

By John Zehren, Coordinator of Industrial Design Fab Lab, Gateway Tech College iMet Center; and Joseph Zaccaria, Advanced Technology Workforce Specialist, JGZ Innovation

NOTE: This is part one of a two-part article, to be continued in the Spring Interface. Also, watch for John Zehren's sectional at the WTEA State Conference.

Just as technology, manufacturing and society evolves so must our system of education. Our current system's effectiveness is questionable and seems less capable of producing an adequate and substantial workforce for businesses of tomorrow.

Imagine if we could rebuild our current system of education to challenge students, students who have evolved more technology savvy than any other generation. What if, in rebuilding, we could encourage follow through, spark engagement and reduce teacher burnout, while at the same time providing an environment where business and industry could develop talent by interacting and providing projects? Imagine a system where we can easily identify core competencies, develop talent at earlier stages, and at the same time allow students to find their passions naturally.

Fab Labs and Makerspaces may provide a solution. I suggest a restructuring of our current system to introduce digital literacy earlier, in parallel with conventional literacy. Pre-K through 8th grade, would apply a STEM-oriented curriculum. Then we would totally do away with 9th grade, or the freshman year altogether. Instead of a freshman and sophomore year, we would structure an eighteen-month alternative forum, or "Maker Seminar," where students attend maker spaces. From there students could be recruited by business partners, or once finished, return to conventional school to complete their junior and senior years. Maker Seminar spaces could be funded by local industry and business partners and operated and staffed by both educational instructors and business partner staff. The freshman year, and sophomore, now becomes a low stress period of exploration and enrichment in a project-oriented, creative, advanced manufacturing maker-style environment. It becomes an opportunity for students to naturally mature with their peers while self-actualizing and finding their passions.

STEM and STEAM in Education

The use of Science, Technology, Engineering, (Art),

and Mathematics, (or STEM/STEAM in this article), are meant to refer to using these discipline's ideas or methodologies in disciplines that typically don't. These disciplines are known for using a version of empirical method (test everything) that utilizes a prototype-test-evaluate-redesign-test, approach until you reach successful outcome. STEM/STEAM method also identifies and applies relevant systems of thinking, such as mathematics, abstraction, harmonics or soft sciences like aesthetics or color theory. Other practices are to measure and quantify everything, collaborate when possible, and use problem-solving, project-oriented learning activities. If you think about it, what discipline doesn't benefit from this approach? When applied successfully you don't need instructors to change what they teach, just modify it to take advantage of these concepts. Since STEM and STEAM only call out a few disciplines, I refer to this educational principal as, "Integrated Learning" (IL).

Pre-K Through 8th Grade Curriculum

In middle school we can use 3D printing to energize curriculum. Working in a Fab Lab, I have done outreach on most levels of education, and have collected experience in what works at what levels. Kids are picking up knowledge and ability earlier thanks to electronic pads, tablets, gaming, and the internet. Middle school students are still young enough to display a high level of excitement and engagement when they have fun while they learn. Students get excited when you show 3D printers and tell them they can make anything they want. They are also motivated to pick up the CAD and CAM required to make the things they want. This CAD and CAM can turn into careers in six to eight years. Elementary school, as early as Pre-K, is also the perfect time to introduce digital literacy parallel with conventional literacy. I estimate most kids are computer literate by fourth grade. In fourth grade we introduce STEM/STEAM-oriented, or "Integrated Learning" (IL), by connecting curriculum with projects. Project-based learning is one of the primary principles of STEM/STEAM that works well because it increases problem-solving ability, creativity, and

Continued on next page...

"Imagine if we could rebuild our current system of education to challenge students... encourage follow through, spark engagement and reduce teacher burnout... providing an environment where business and industry could develop talent by interacting and providing projects?"



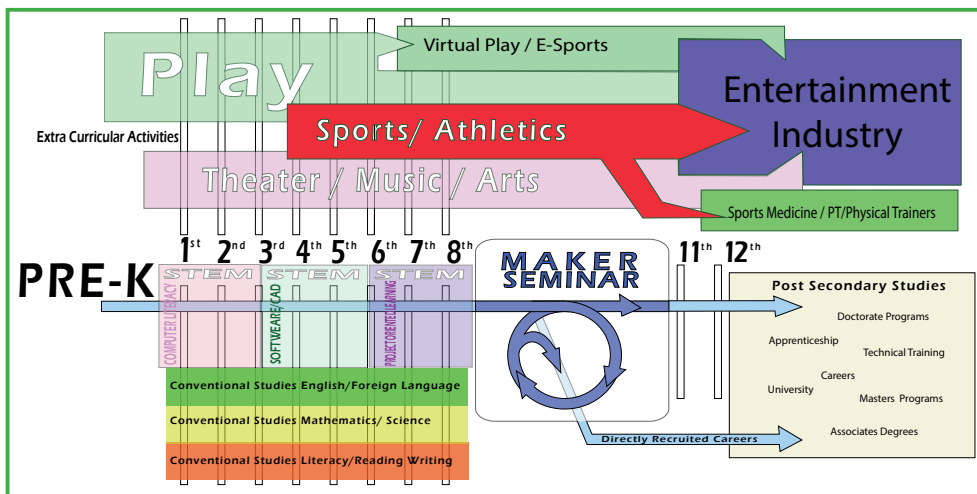
...Continued from page 16

lateral thinking. It develops the ability to work as a team while building cross-platform skills. Cross-platform is the ability to seek solutions across many disciplines, or in other words, showing them what they learn has relevance outside the classroom. Most importantly, Integrated Learning is *fun*. Here is a draft of how we might consider restructuring education.

The Potential Structuring of Middle School

Fab Lab outreach has allowed me to conduct and observe a variety of activities at a variety of educational levels. Many Pre-K through 8th grade classes already use tools that focus on STEM, such as Lego, Rokenbok, Little Bits, or Vex robotics. There are also numerous applications dedicated to coding with gaming involved, like Minecraft. The key to restructuring education lies in assisting teachers to use technology at the earliest levels along with the projects they already deliver.

Elementary school outreach has provided me with an opportunity to formulate an approach. We used an “approach from both ends” technique. I started by introducing 5th graders to CAD drawing in Tinkercad, but there are many CAD programs. After they learned modeling, they



were involved in setting up 3D printers and printing their models. As you can imagine this generated a lot of excitement. Once students from 5th grade are ready, they are then recruited to assist with the CAD and printing sessions for 4th grade. After 4th grade is ready, teams from 4th and 5th grade collaborate to conduct the instruction for 3rd grade. Teams from 4th and 5th grade are encouraged to collaborate to run it. Finally, all three grades collaborate to develop exercises for the Pre-K, 1st and 2nd grades. This core student unit can be a mix of different grades and could do many things like formulate projects to enhance school culture, including 3D printed awards or merit badges. If the student achieves an award, they will get to report to the library or lab

and print it themselves. Grades 6th, 7th, and 8th move into “STEM-based” curriculum and activities, such as community-oriented hack-a-thons, robotics, automation, and coding.

By applying these concepts, we potentially teach not only the concepts, but we teach participation, follow through, and more importantly, the practical application of learning when applied outside of class.

Implementing a maker culture in elementary school – students’ perspectives:

<https://www.tandfonline.com/doi/abs/10.1080/1475939X.2020.1796776>

The Promise of the Maker Movement for Education

<https://docs.lib.purdue.edu/jpeer/vol5/iss1/4/>

Maker culture and its potential for STEM education

<https://link.springer.com/article/10.1007/s10798-021-09725-y>

Establishing a maker culture beyond the makerspace

<https://www.emerald.com/insight/content/doi/10.1108/LHT-07-2018-0088/full/html>

Pre-K and Its Educational Role

Pre-K is a unique environment. In my experience, Pre-K students are myopic and their perception granular. They seem to fold experience into their own bubble of perception. When given an activity they focus to the point of exclusion of all else, or they find a partner and the two of them form a pod. Typically, at 4 years of age, they are still slightly outside the threshold of taking direction or understanding the concept of collaboration. They only seem to respond to activities centered around play. By ages 5 and 6 they can do visual and spatial-oriented tasks, use computers or pads and they start to understand the mechanics of working in groups, although they still don’t truly collaborate. At the same time as we work with grades 3, 4 and

5, we introduce technology to the Pre-K classes alongside their conventional lessons. In other words, we apply the use of computers, touchpads, and large screen touch monitors. The instruction is the same, we just deliver it differently. Eventually we integrate the projects generated by the older classes to have our curriculum “meet up” in grades 1 and 2. Once we finish the cycle, we add and subtract the different classes as they progress.

Continued on page 23...



INDUSTRY-RECOGNIZED CREDENTIALS

IRCs Are More Than Just Certifications

Submitted by Tom Martin, WTEA CESA Representative



Industry-Recognized Credentials (IRCs) are more than just certifications — they are gateways to opportunity, employability, and long-term success for students. As the demand for career-ready graduates increases, students who earn IRCs gain a distinct advantage toward workforce entry or post-secondary education. These credentials signal to employers, colleges, and training programs that a student possesses the skills, knowledge, and experience required to excel in a particular industry or field.

Here at the Cooperative Education Service Agency (CESA) 3 in Fennimore, IRCs have changed the landscape as we, the region's educational intermediary, work to ensure that every student is as career and life ready as they can be. Here's why IRCs are so crucial to us and should be to you.

1. Enhanced Employability

Industry-Recognized Credentials (IRCs) demonstrate that our students have the hands-on skills and technical knowledge that align to employer needs. By earning these credentials, students position themselves as competitive candidates in the job market.

Even during our work, it took student testimonials to validate an IRC's significance to our region. Wyatt was a soon to be graduating senior who earned our measurement credential. Upon the realization that Wyatt's earned this IRC, the hiring manufacturer provided a \$5/hour raise to him before he worked an hour! Wyatt's story became the first of countless chapters we've heard since 2017! Each narrative substantiates the occupational elevation that takes place when our students earn an IRC!

2. Higher Wages and Career Advancement

Students with industry-recognized credentials often earn higher starting wages (i.e. Wyatt and friends) and have access to more growth opportunities. With proven skills, students are more likely to earn pay raises, promo-

tions, and leadership roles.

In one case, a student from De Soto in our Construction Youth Apprenticeship Program earned both their OSHA 10 and 30 Construction Credentials. In addition to his incredible apprenticeship, this student earned foreman status due in large part to his proactive stance in positioning himself in terms of being mentally acute, safety-wise. Foreman status prior to graduation for this contractor was a first. Need more?

3. Increased Confidence and Self-Esteem

Achieving an industry-recognized credential boosts a student's self-confidence, as they recognize their abilities and gain proof of competence in a given field. Students who earn IRCs become more motivated to pursue additional goals, education, and certifications.

When our region's free & reduced lunch rate hovers around every one out of two students that qualify, equity and access are paramount to us at CESA 3. Our model allows our districts the opportunity to access curriculum and equipment in order that we can change lives. All lives.

4. Alignment with Employer Needs

IRCs are designed in collaboration with employers, ensuring that students learn the skills that directly match industry needs. This alignment ensures that students are workforce-ready and meet industry standards from the start.

For us, credit here goes to two colleagues: Jesse Domer, from Watertown, and Duane Leeser (emeritus). In one of many conversations with Jesse at a SkillsUSA competition, he spoke to Wisconsin's lack of getting to "the stage" at SkillsUSA Nationals. "Tom, our kids struggle with measurement," as to his rationale why we weren't bringing home medals.

As well, Duane Leeser, formerly of Lancaster, came

Continued on next page...

"IRCs are designed in collaboration with employers, ensuring that students learn the skills that directly match industry needs. This alignment ensures that students are workforce-ready..."



...Continued from page 18

back from the 2016 WTEA Conference and stated that what NC3 (The National Coalition of Certification Centers) had to provide was what our region needed.

It was at this time that Youth Apprenticeship employers also desired students that were better equipped for the laser sharp tolerances they had to adhere to. As a team, we then worked to save and purchase a Precision Measurement Instrument (PMI) and the rest, as they say, is history.

In 2024, our region's students have earned 1,514 credentials, which ranks our region 13th in North America. Yeah, Canada, Mexico and beyond. We are the second-best high school in the country competing against community and technical colleges. Yeah, us at CESA 3.

During a recent design meeting, our region's

regional economic development organization (REDO) president stated that, "[IRCs] are making a difference [with industry]."

When will you make change?

5. Cost and Time Savings

Many IRCs earned in high school are offered at a minimal cost through programs offered by CESA 3. As a Cooperative, we do well when our districts do well. As a cooperative, we provide equipment and training for five certifications now with the goal of adding an additional three certifications in the upcoming year. Districts, in turn, purchase our service and for a fraction of the cost are provided access to equipment and the certification. Nearly all of our certifications provide Career & Technical Education Incentive Grant funds back to our districts. In some cases, we have had districts experience an over 25:1 return of investment.

So, at the end of the day, our students win and their families win as we have found that with more IRCs earned, scholarship opportunities and ultimately fiscal access to college, are enhanced. Districts win with more CTE Incentive Grant funds, and our region wins with, as we have alluded to all along, better prepared students.

6. Lifelong Learning and Stackable Credentials

Many IRCs are stackable, meaning they can build on

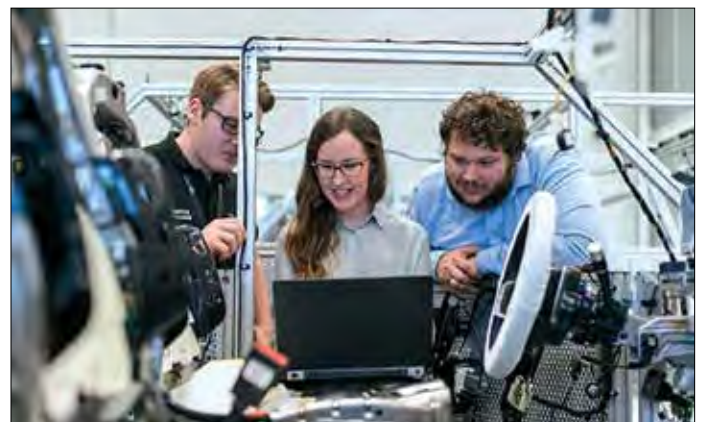
each other, allowing students to pursue higher-level certifications. For example, a student might begin with an OSHA-10 Safety Certificate, move to an OSHA-30 Safety Certificate, and from there to a Forklift Certification, where they would conclude that chapter of their career with an Advanced Manufacturing Certification, such as in the study of Artificial Intelligence.

With the utmost respect to my alma mater, UW-Platteville, UW-Stout and the Wisconsin Technical College System and their counterparts, the world doesn't have time for a class to be created. Like a new car, the moment that course is approved, it's already behind. IRCs are caffeinated just-in-time professional development packets that are rigorous, condensed, and are often developed to fill occupational gaps identified by industry.

Conclusion

Industry-Recognized Credentials (IRCs) provide CESA 3's students with tangible proof of their skills, empowering them to enter the workforce with confidence, competence, and opportunity. From offering immediate employability to unlocking opportunities for higher wages and promotions, IRCs are paramount for modern career readiness. Students who earn IRCs graduate not just with a diploma, but with a pathway to a meaningful career in hand.

By focusing on the development of skills that are relevant, portable, and stackable, schools and CESA 3 can better prepare students for a world that values both education and practical application. For students, IRCs are a passport to lifelong learning, higher earnings, and career advancement.



JEFFERSON HIGH SCHOOL

District and Community Support for Expansion and Equipment Results in Major Upgrades for TE Program

By Eric Rucks, TE Instructor - Jefferson High School

Going through a remodel is not an easy task. Recently, the School District of Jefferson completed a referendum project, specifically the addition of 4,000 square feet to the building and the remodel of current facilities for the Technical Education department at Jefferson High School. Between the School District of Jefferson and the Jefferson Community, 37 million dollars was approved for this remodel. Of this 37 million, 11 million was planned to be earmarked for improvements to the Jefferson High School Technical Education and Career and Technical Education Departments.

School, Community and Businesses Meet

Starting from the very beginning, an abundance of research was done by Tech Ed department teachers EJ Pilski, Eric Rucks, Toby Krause, Jefferson High School students, and community partners. This research determined what equipment needed to be added to the shop to ensure that industry standards are met. Outreach was made to many community partners including Basin Precision Machining, Nestle Purina Pet Care Co., Jones Dairy Farm, Foremost Builders, Thrive Economic Development and Madison College, to name a few. In Jefferson County, construction (5.5%), manufacturing and trade (30.9%), transportation and utilities (18.8%) make up over half of all employment. These



As part of the referendum, the auto shop received a new lift, new alignment rack, and full-sized industry grade paint booth.

are all jobs directly related to technical education. With this data, we knew we had to provide our students with the skills, space, and equipment needed to fill these jobs. Additional space and machines were also needed due to a trending increase in enrollment throughout the entire Tech Ed department, as shown:

- 2021-22: 373 students enrolled
- 2022-23: 418 students enrolled
- 2023-24: 498 students enrolled
- 2024-25: 513 students enrolled

More Space Allows for Larger Scale Projects

Before the remodel, skilled trades classes were taught in the back corner of the wood shop, where our students and instructors were limited to scaled down projects. The



The new 4000 sq ft. construction skills lab with 16' x 24' garage door allows for possible tiny houses and indoor shed builds in the future.

space and curriculum did not allow for the creation of projects that fulfilled the intricacies of the construction industry needs. Thanks to the remodel, there is now the ability to build full scale projects with appropriately sized electrical, plumbing, HVAC, and framing as well as interior and exterior finishes. The new lab has an overall height of 22' with a 16' tall x 24' wide garage door, as well as a 20' x 20' mezzanine with a lower level classroom. The large space allows for the possibility of future projects, such as tiny homes and sheds to be built indoors throughout the whole school year. After these projects are completed, they can be efficiently moved out through the garage door.

New Equipment Greatly Enhances the Program

Thankfully, many equipment purchases resulted from part of the Wisconsin Fast Forward Grant process. The new equipment includes a 37"-wide belt TimeSaver sander, seven Multiprocess 220 Miller welders, a 4' x 8' ShopSabre CNC plasma cutter, a Wazer desktop waterjet, six Bambu P1S 3D printers, an 8" Powermatic woodworking jointer, an 18" Powermatic woodworking planer, a Haas CNC mini-mill, two Haas desktop CNC mills, two Shapeoko 4' x 4' routers and two acer manual mills.

Other Shops Upgraded

Aside from the addition, the original footprint of other shops and classrooms remained roughly the same.

- The Woodshop stayed at 2,200 sq. ft., with an added

Continued on next page...

...Continued from page 20

finishing room, more storage, additional machinery and a new dust collection system.

- The metals lab stayed 3,500 sq. ft., with the addition of more modern equipment.
- The auto shop stayed 4,200 sq. ft., but added a full-sized spray booth, mobile dust extraction, new vehicle lifts and alignment racks.
- Offices were eliminated to accommodate the 650 sq. ft. engineering lab equipped with laser engravers, 3D printers, CNC simulators and soldering stations.

What We Learned

In the end, we considered what we learned throughout this process and what we would do differently if we were to do it all over again. We were encouraged to consider a multitude of factors such as:

- Visit facilities within your region and gather as much information as possible about technical education shops, equipment, specifications, and layout.
- Document everything. Keep a paper trail of every conversation held between civil engineers, architects, maintenance directors and administration to keep accountability and unanimity during the often stressful process.

- Extend your plan over the next 10-15 years with electrical, HVAC, dust collection, and pneumatic tools needed for the future. Consider that class size may increase and plan for extra equipment needed down the road, like a second planer, for example.



The new engineering lab provides students with access to 3d printers, laser engravers, soldering stations & vinyl cutters.

Special Thanks to Administration & Community

We are thankful for all of the guidance provided to us throughout this new process. Looking back, we are glad we took these measures to help us and our programs throughout the next several years. Additionally, we would like to extend our gratitude to Tim Graffin (Director of Buildings and Grounds), Nick Skretta (JHS Principal), Ryan Band (Business Director), Charles Urness (District Superintendent), and the community of Jefferson for supporting the referendum. As educators, we know how important it is that administrators support our needs. We were fortunate in our district to work with administrators who trusted our professional judgment and provided us with autonomy when it came to designing and equipping our facilities.



Build a future-ready workforce with 3D printing!

**Out of the box & printing in 15 minutes.
Complete prints ready in under a class period.**

Teach students additive manufacturing by turning their innovative ideas into tangible objects, providing real-world experience in design and engineering.

B9Creations 3D printers are industry-grade, high precision, fast and affordable.

Plus, all printers are designed and assembled right here in the Midwest United States!



Let's get started! Scan the QR code to learn more.



B9 Elite Micro



Core 6 Series M Pro



Core 5 Series XL - 385

B9Creations 3D printers are now available for your school exclusively through LAB Midwest. Contact us today to learn more!
labmidwest.com | info@labmidwest.com | (414) 258-6415

STEM SHOWCASED AT ASHLEY FOR THE ARTS

Participants of All Ages Try Out Free STEM-Based Activities

Ashley for the Arts is a remarkable annual event that embodies the spirit of community, creativity, and support for the arts. It is an annual gathering that celebrates the arts, provides entertainment, and supports humanitarian efforts. The festival is known for its commitment to enriching lives through music, art, and giving. It brings together people from all walks of life to enjoy performances, art displays, and various activities, all while contributing to a good cause. The event is a testament to the power of community and the arts to make a positive impact on society.



the atmosphere as attendees learned about open and closed circuits. This interactive experiment demystified the principles of electrical circuits, resonating with the Harley-Davidson's legacy of innovation and engineering excellence.

LCI's contribution with their laser engraving machine was a highlight, offering a live demonstration of art meeting technology. Attendees watched in fascination as their names were

engraved on their birdhouse activities, a modern twist to a traditional craft.

The STEM Shed at Ashley for the Arts was more than just a collection of activities; it was an immersive experience that inspired wonder and a passion for STEM. It stood as a testament to the power of interactive learning and the joy that comes from discovering the world through science and innovation.



In closing, we extend our heartfelt gratitude to the Ronald & Joyce Wanek Foundation and Ashley Furniture for their unwavering support to STEM initiatives and the STEM Shed. Their commitment to education and innovation has been instrumental in bringing this transformative experience to life. Thank you for helping us inspire the next generation of thinkers, creators, and innovators.

Join us this year in Arcadia, Wisconsin, August 7-9.

The STEM Shed at Ashley for the Arts: A Hub of Creativity and Innovation

The STEM Shed at Ashley for the Arts was a vibrant center of learning and discovery, located under a tent in the Family Fun Zone. STEM 101 organized this educational oasis and offered attendees of all ages the opportunity to dive into free hands-on STEM activities, fostering an environment of exploration and fun.

The Ashley Bird House Activity allowed participants to learn about the significance of construction order and quality assurance, reflecting the high standards of Ashley furniture's manufacturing process. Each attendee left with a personalized birdhouse, a symbol of their creativity and the practical skills they gained.



The Komatsu Crayon Activity provided a colorful lesson on thermal energy and states of matter. Participants experienced the transformation of crayons from solid to liquid, illustrating sustainability practices and Komatsu's commitment to innovative manufacturing.



The JCI Cup Experiment added a layer of wonder, showcasing the intriguing effects of thermochromism. Attendees observed the magic of a cup changing color with temperature variations, offering a hands-on lesson in heat transfer and the science behind pigments.

The Harley-Davidson Circuitry Experiment electrified



**Meeting
your
Printing
Needs!**

www.inkworksprinting.com

WEWC MOBILE LEARNING LAB

A Hands-on Experience to Promote Energy Sector Careers

Submitted by Frances Parker, Wisconsin Energy Workforce Consortium Administrator



In response to multifaceted challenges impacting the energy sector workforce, the Wisconsin Energy Workforce Consortium (WEWC) has introduced the Mobile Learning Lab (MLL). This innovative, hands-on educational tool is designed to engage students and adults, providing experiential learning opportunities that illuminate Wisconsin career paths in the energy sector. By bringing real-world energy scenarios directly to learners, the MLL aims to inspire a new generation of energy professionals, bridging the current workforce gap and fostering a resilient future for the industry.



Check Out the WEWC Mobile Learning Lab

Discover

- ▶ How the energy industry is growing & evolving.

Explore

- ▶ Explore the many career opportunities in the energy sector at getintoenergy.com

Resources

- ▶ getintoenergy.org/student-pathways

Learn More

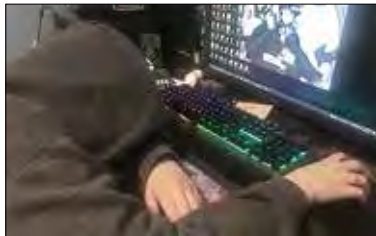
- ▶ Scan QR code (below) & visit WEWC. We are developing solutions to meet the current & future workforce needs of Wisconsin's energy industry.



...Continued from page 17

Eliminate The Freshman Year

One of the most important changes would be to eliminate freshman year. Ideally, we get rid of sophomore year as well. Challenges for students at this age can cause major disruptions in their education.



As students become adults, they are dealing with not only physical change, but psychological and social challenges associated with peer groups, popularity, gender, and self-actualization. During the pandemic, these effects were amplified. Two years of isolation created an educational disconnect. For many students it fueled an inability to reconnect, which is difficult for most, and catastrophic for some. It's very likely this was happening even without the pandemic. Perhaps the speed at which technology is moving, and school is not, is partly to blame, but the pressure put on students to succeed academically, to choose a career, or to move into higher education happens at a time too turbulent for them to easily process it. Elimination of this period of education is akin to some educational systems in Europe,



where students move directly from school to apprenticeship or college. There are programs currently that provide dual credit, or feed directly to apprenticeship programs.

New Data Show How the Pandemic Affected Learning Across Whole Communities

<https://www.gse.harvard.edu/ideas/news/23/05/new-data-show-how-pandemic-affected-learning-across-whole-communities>

Education in a Pandemic: The Disparate Impacts of COVID-19 on America's Students

<https://www2.ed.gov/about/offices/list/ocr/docs/20210608-impacts-of-covid19.pdf>

Maker Seminar

Instead of freshman and sophomore year we could assign students to "Maker Seminar" spaces. In these seminar spaces, instead of assignments or structured classes, they have an open format, Montessori style, gathering space where there are no assignments, no restrictions on gaming, internet browsing or use of phone. Here they are allowed to congregate and socialize naturally with others to do whatever they want, while in the background there are optional corporate sponsored "Maker" activities and challenges. *In the next issue of the Interface, we will discuss in-depth the conceptual structure of Maker Seminars, along with other considerations and examples.*

Wide Format & Apparel Printing Solutions

Providing Equipment, Training, Supplies & Service
to Wisconsin Schools, Educators & Students
for Over 25 Years!



Proud Member of



HP Print & Cut Combo Solution

Print your schools' decals, stickers, floor graphics, wall decals/murals & banners "In School." No more outsourcing! Print and cut simultaneously to maximize student's classroom time.



Epson V1070 Desktop Flatbed Printer

Print direct to plaques, coasters, golf balls, phone cases and many more of your schools' promotional and spirit items. Shipping in January.



EPSON SureColor F2270 DTG & DTF Printer

Open new doors for your graphics department with this versatile printer built for both direct-to-garment (DTG) and DTFilm printing. Perfect for printing T-shirts, sweats, caps, bags, towels, jeans, canvas, koozies, and more.



HP Z6/Z9 24" & 44" Printers

Awesome color! Fits perfectly in your graphics and art classrooms. Print posters, indoor banners, photos, canvas as well as maps, drawings, charts & student artwork.

Call for more information:

Jason Eippert

262-345-6308

jason@bigsys.com

888.244.4177

bigsys.com

Incorporate these printers into your current business, graphics and technology curriculums. Create additional revenue streams for your schools' organizations and clubs including Sports Clubs, Booster Clubs, Music & Arts, STEM and many others.

FUNDAMENTALS OF ELECTRICITY

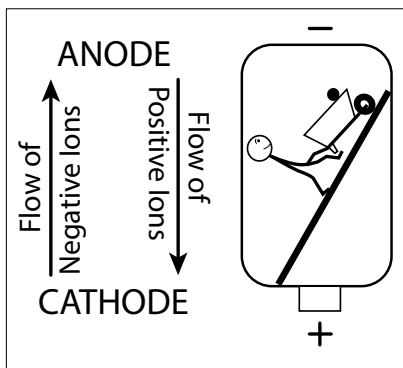
Voltage Ladder? - Its An Adder

By Randy Way, Associate Dean, School of Science, Technology, Engineering, & Mathematics - Madison College

The attentive reader might have noticed that the use of the word “battery” was fastidiously avoided in the previous article, which instead used the term “cell.” This was not accidental because there is a difference that we will explore here. This article pursues an explanation of the standards below.

| | | | |
|---|---|--|--|
| TE.EEC.15. A: Calculate voltage, current, and resistance using Ohm’s law. | TE.EEC.15. A.b.4: Identify that the sum of all voltage drops equals the applied voltage (Kirchoff’s Voltage Law) and that the sum of all branch currents equals the total current (Kirchoff’s current law). | TE.EEC.15. A.i.4: Analogize Kirchoff’s laws to a hydraulic circuit. For example, the sum of all pressure drops equals the applied pressure; the sum of all branch flows equals the total flow. | TE.EEC.15. A. a.4: Use Ohm’s law and Kirchoff’s Voltage and Current laws to predict voltage, current, and resistance in circuits with one unknown component. |
|---|---|--|--|

In the previous article I described Milkbreath pushing electrons uphill to create an electrical potential difference (or to use the more common parlance, voltage) between the anode and the cathode of the cell. You might recall that the height (voltage) to which Milkbreath pushes the electrons is a product of the chemistry in the cell. For example, an ordinary alkaline cell produces a voltage of 1.5 volts.

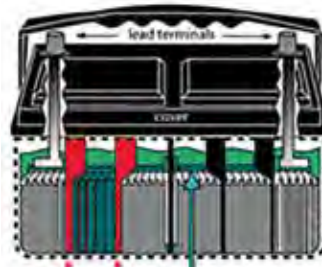


Stacking Cells

So, what if we need a potential difference of more than 1.5 volts? It turns out that we can stack cells up in series. This arrangement is known as a voltage *adder*, or as a battery of cells, commonly shortened to “battery.” Battery in this context is being used in the same sense as it is in artillery – a battery of artillery is a collection of 4 to 9 field pieces – one on its own is a gun, several together are a battery. You might recognize the stack (shown at the

right) from your Maglite flashlight. The thing to remember is that you put cells, not batteries, into the flashlight. Once all the cells are together in the flashlight, they form a battery.

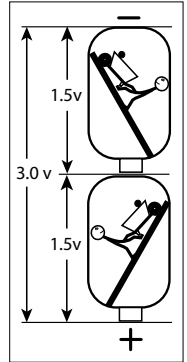
But wait! I know what you’re thinking – it’s called a car battery, not a car cell.



A cell: Positive & negative plates with separators
Cells are connected with metal that conducts electricity from one cell to the next

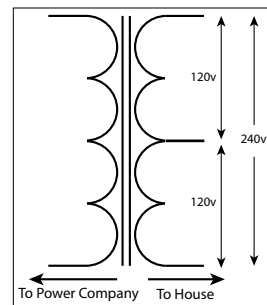
How can you call it a battery when there’s only one? It turns out that if you look inside a car battery you do see a series of cells. Six to be precise, because the resting voltage of the lead-acid chemistry is 2.1 volts. Six cells at this voltage added together makes the 12.6

resting volts that we’re familiar with in a traditional car battery.



Other Ways to Add Voltages

There are other ways to add voltages, for example in a transformer. Consider the power pole mounted transformer (shown at the right). This is a typical configuration in U.S. homes. If you’ve ever looked closely you might have noticed that the electrical service entrance to your home has three wires, not two, which would seem more intuitive. The reason is that inside the



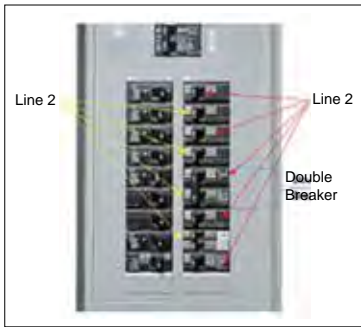
can the secondary winding is actually two windings stacked in series as a voltage adder (as shown at the left). This type of transformer is commonly called “center tapped” because we pull off a wire, or “tap,” in the center of the winding.

There’s not space here to explain how the transformer works – that’s a story for another time – but the important thing is to note that we can get 120 volts out of the windings on either side of the center tap, or 240 volts by adding the voltages of the individual windings.

Continued on next page...

Voltage Ladder ...Continued from page 25

If you look in your load panel at home you'll see two columns of breakers. It would seem intuitive that each column would be tied to one of the two coils in the transformer, but this is actually incorrect. Instead, the breakers alternate between coil 1 and coil 2 (referred to as line 1 and line 2 in the industry) within an individual column. Each individual breaker powers a single 120 volt circuit. When the electrician wires the house one of the things they try to do is load balance the two lines, which is to say that if two loads are likely to run at the same time you put one of them on a breaker tied to line 1 and the other on a breaker tied to line 2.



But What About That Third Wire?

So, what about the third wire? The third wire goes to the center tap on the transformer and is referred to as “neutral”. It has a voltage potential of 120 volts to line 1, 120 volts to line 2, and 0 volts to ground. This center tap of the transformer is pulled to ground potential in a few places – at the pole you'll note a solid copper wire running into the ground. At the service entrance to the house you'll see it again tied to a copper clad rod driven into the ground. Grounding and bonding could easily be a full article in itself, so we'll leave the discussion here to consider one other aspect of the neutral wire.

There's a nuance with the neutral wire in how much current it carries. The neutral wire only carries the current imbalance between line 1 and line 2. This is too complicated to explain here fully, but based on the phase angle of the lines, the flows of electrons cancel each other out. When the current in the two lines is equal, they exactly cancel, and no current flows in the neutral line. High currents in the neutral line can create what is called a “step potential” in the ground. This manifests in a phenomenon you've probably heard about – stray voltage, which will be explored in a future article.

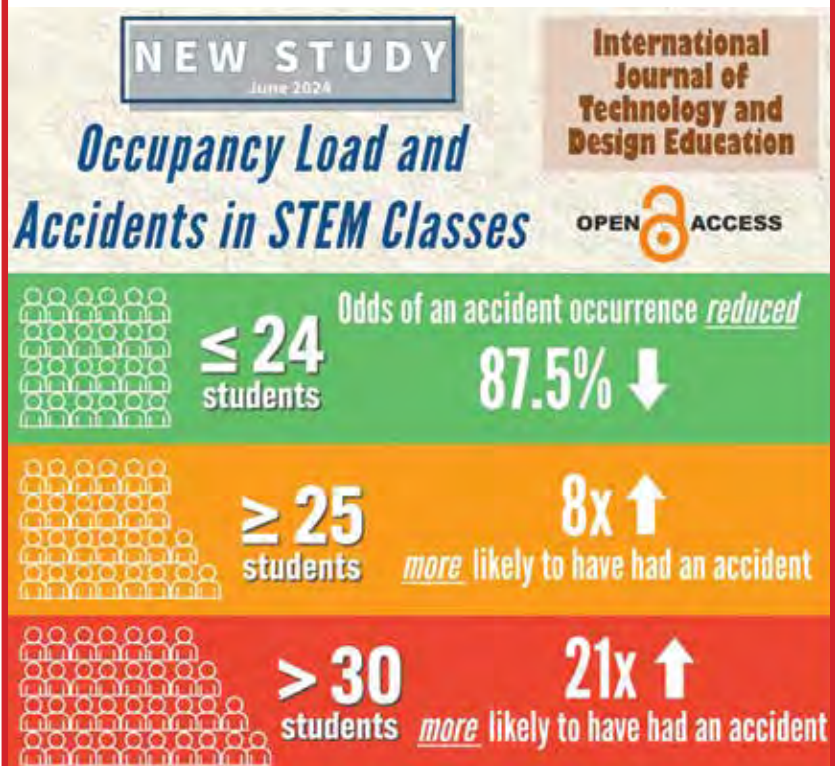
You've probably also noticed some breakers that are twice as wide as the standard ones. Note that these breakers connect to lines 1 and 2. By connecting to both lines, these double breakers are able to capture the total sum of voltages across the windings in the transformer - 240 volts. If you're



going to run something that consumes large amounts of electrical power – an electric range, dryer, water heater, or air conditioner – it's best to power these on 240 volts, and you'll see a double breaker for each of these loads in your house's load panel. The photo to the left shows a load panel with the cover and breakers removed. Note that the two copper bus bars alternate so that every other breaker is tied to a particular line. This is what allows a breaker of double width to tie into both line 1 and line 2, and produce a total potential difference of 240 volts between its lugs.

Well, we're out of space here, so we'll have to resume the discussion in another article. I'll see you in the next issue of *The Interface* for a discussion of the load-side compliment to the voltage adder, the voltage divider. Until then, Full STEM Ahead!

TECHNOLOGY & ENGINEERING COURSES: ACCIDENT RATES RELATIVE TO CLASS SIZE



<https://doi.org/10.1007/s10798-024-09910-9>

From *The International Journal of Technology and Design Education*, by Tyler S. Love (May 2024)

A Retiring TE Instructor Shares His Thoughts

By Jim Eastman, Menasha High School

Let me start by saying I never thought I would write an article for this publication because I never thought I was “worthy,” however, I’m at the end of my career as a Technology Education teacher so why not? My journey is unique but so is everyone’s in life. I graduated from UW-Stout (“Harvard of the Midwest”) in under two years and started right away in the Appleton Area School District. I had been fortunate to be paired with a great mentor, Mike Hopfesburger, and staff at Appleton East/West/North High Schools. Those teachers helped me more than they will ever realize. I was fortunate to have the opportunity to teach both my daughters and be in the same district and schedule as my wife (who was my rock throughout my career). I also had a room right next to her at a middle school, not an ideal situation for her.



Jim Eastman poses with students.

My Thoughts On Education

A couple of things I have gleaned over the years about education in general: Lack of leadership in school buildings, and hesitation by the administration to make decisions without the school board or superintendent’s input. The days of a principal or superintendent staying in a job for more than five years is uncommon in today’s culture. Most administrators I have dealt with are just “climbing the ladder,” putting their time in, or “punching their ticket” for the fame of “assistant or super” of a district. No loyalty to staff or district.

After ACT 10 this became more prevalent as salaries differed from district to district. The same can be said for teachers, and I get it because I too was given a raise to switch districts, but my district was also gutting their Tech Ed program in order to save money. This did not stop them from buying houses to put in a football field at a high school. It comes down to priorities for each district. If the “super” wants something for their own “stamp,” they find the money, rarely for the CTE programs or the students this affects.

My current district values our department and the school board backs us to a certain extent. If the data suggests anything, it is that students need consistency and we do not have that anymore in any district statewide.

Extra-curricular clubs (Skillsusa, Robotics, High-Mileage) that most of us are involved in are an intricate part of what we do to keep our kids challenged and engaged, plus it aligns with our standards and values. The drawback is we have to fundraise, beg for donations, scrape together funds to support these efforts, whereas our counterparts who coach sports are given a budget that is administered by somebody

else with little “sweat equity” on their part.

As a Technology Education teacher we are also expected to teach multiple subjects within a given year and if we don’t know the content we better gain that knowledge before the class runs, meaning more preparation. When I look back, my worst semester was nine preps, this trimester it’s six preps. Ironically, next trimester I only have one. In my 20-plus years that is a first.

Advice to New Teachers and A Thank You

I encourage new teachers to get involved with SkillsUSA, WTEA, state and local advisory boards, and reach out to local industries. Get involved with your local rotary, optometrist clubs. We are all in this together as a team.

This craft has given me many opportunities that a menial job would not have and I am grateful for that. I remember some wise words which resonate with me: “As a teacher we fill one job, but as a Technology Education teacher we fill hundreds of jobs with our students.”

Thanks to anyone who ever helped me along my journey, specifically my family who gave countless hours to help me be a better teacher, mentor, person.

OWN YOUR FUTURE



Big Skills • Big Careers • Big Futures



Please Support Our Generous Advertisers!

Big Systems
bigsys.com

First Technologies, Inc.
firstteched.com

Foundation of WATDA
watda.org/foundation

Gateway Technical College
gtc.edu

Goodheart Willcox Publisher
g-w.com

LAB Midwest
labmidwest.com

Machine Tool & Equipment
machinetoolwi.com

H2I Group
H2igroup.com



WTEA Foundation
wteafoundation.org



TORMACH®

Tormach is a Wisconsin-based company

**We do what the big boys do,
at a fraction of the cost!**

**Purchase your Tormach CNC products
from **First Technologies**
and receive these added benefits:**

- * Full assembly & installation
- * On-site product training and technical support
- * Integration with existing design software

FIRST
TECHNOLOGIES INC.
Putting Education ... **FIRST**

800.787.9717

www.firstteched.com



**TECH ED
LISTSERV**

If you are not receiving the Technology Educators Listserv postings, sign up by sending an email from your preferred email account to: subscribe-technologied@lists.dpi.wi.gov

Interface, the journal of the Wisconsin Technology Education Association, is published & mailed from Stoughton, Wisconsin, three times a year and is distributed to members of the WTEA. Individual subscriptions available at \$35 per year. For subscription information, back issues, or reprints please send requests to joe.ciontea@wtea-wis.org. Articles for publication should be sent to editor, Duane Apel, at interface.wtea@gmail.com. Copyright (c) 2025. All rights reserved. Limited reproduction rights are granted to current members of the WTEA.

WTEA Refund Policy: The WTEA Membership fee is not refundable. The WTEA School Subscription fee is not refundable, but is transferable to other staff in the same school district. The portion of the non-member conference registration fee equal to the amount of the WTEA membership fee is non-refundable. Refunds for conference registration and/or Awards Banquet must be received by U.S. mail or by email at least 15 days prior to the event. Exhibit space canceled after Jan. 10th will be subject to a \$100 cancellation fee. No refunds will be given for exhibit cancellations within 45 days of the event.

FIRST
TECHNOLOGIES INC.
Putting Education ... **FIRST**
800.787.9717
firstteched.com

Check out the first of many EV-focused trainers from



EV-360_053325

ADAS (Advanced Driver Assist Systems) Trainer



FIRST
TECHNOLOGIES INC.
Putting Education ... **FIRST**

CONTACT US FOR ALL OF YOUR TECH ED NEEDS!

800.787.9717 • info@firstteched.com • firstteched.com



DID YOU KNOW...

First Technologies has partnered with Baileigh Industrial to be able to bring you the full line of Baileigh products?



DID YOU KNOW...

In addition to standard woodworking tools, Baileigh also offers a full line of CNC Machines. CNC Routers, CNC Plasmas and even a CNC Waterjet machine.

FIRST
TECHNOLOGIES INC.
Putting Education ... **FIRST**

800-787-9717

info@firstteched.com • www.firstteched.com

WTEA
P.O. Box 373
Hazelhurst, WI
54531-0373

CHANGE SERVICE REQUESTED

PRSR.T. STD.
U.S. POSTAGE
PAID
Permit #1
Madison, WI

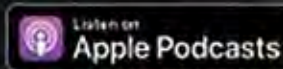
A **PODCAST** MADE FOR CAREER & TECHNICAL EDUCATORS



Best practices from K-12 and higher education nationwide

Insights from the world's largest & most innovative employers

Trends, success stories and insights that will help you build an amazing CTE program!



Browse all episodes on TechEdPodcast.com



The TechEd
Podcast