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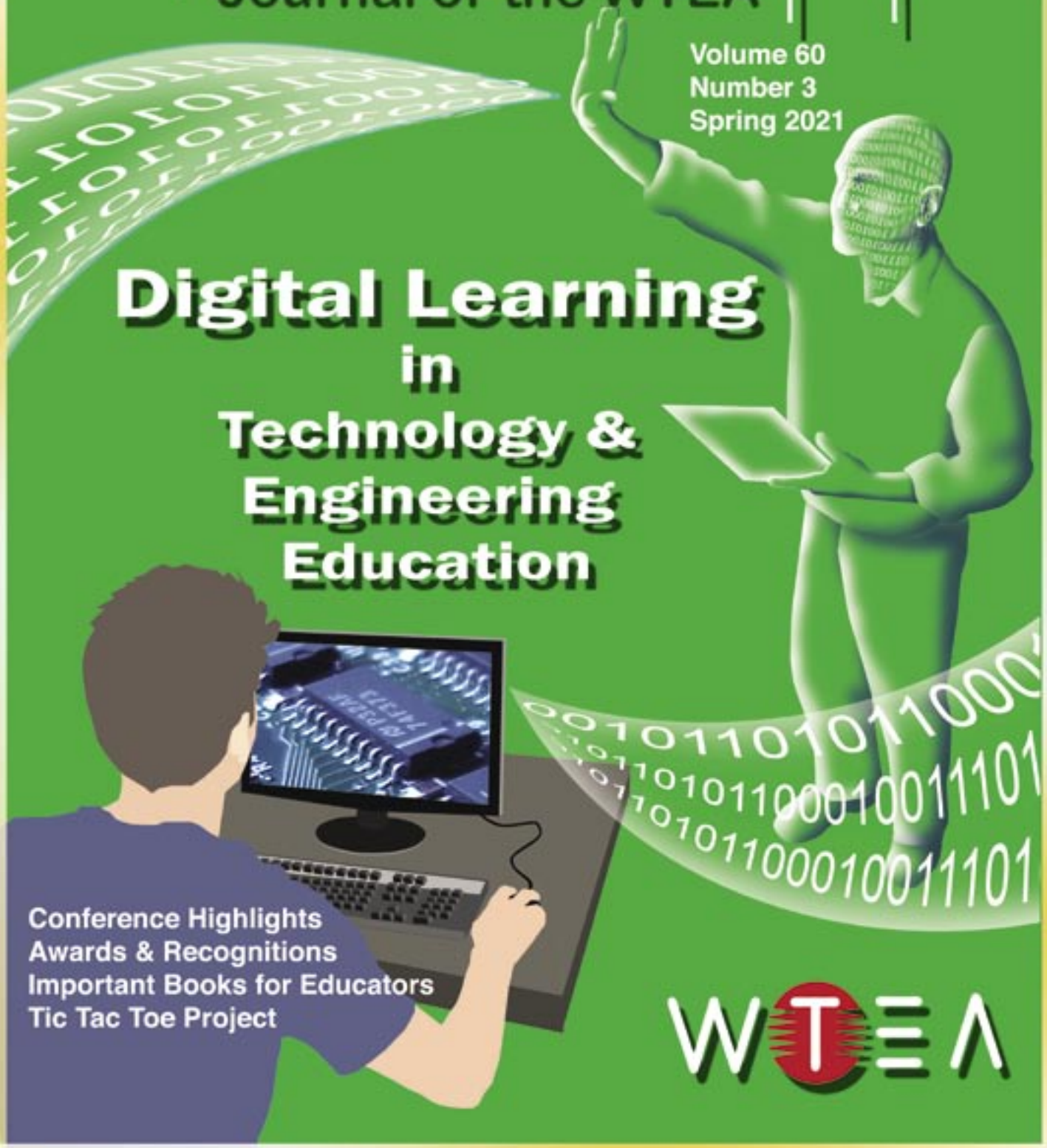

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Conference Highlights
Awards & Recognitions
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TABLE OF CONTENTS

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WTEA Refund Policy

The WTEA Membership fee is not refundable. The WTEA School Subscription fee is not refundable, but is transferrable 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 US Mail or by email at least 15 days prior to the event. Exhibit space cancelled after Jan. ☐

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Looking Forward and Looking Ahead

By Dave Stroud, WTEA President

With the end of what may be my most difficult year of teaching in sight, and hopefully an end to a global pandemic that has changed our lives for over a year, I'm looking forward to the rest and recharging that comes with summer, and a return to a somewhat normal life. I plan on teaching woodworking to 3rd-6th graders in summer school, being involved in our youth soccer program, camping, and taking a driving trip out west to see some of the national parks with my family. When we return to school in the fall, I hope education will be back to normal so we can safely learn again with our students, and offer them the educational experiences that we all enjoyed growing up.

I hope everyone had an opportunity to check out the first ever WTEA Virtual Conference. The amount of time and effort that went into creating that event turned out to be well worth it. The website was easy to understand and navigate, the breakout sessions were informative and well done as usual, the project showcase was awesome, the vendor area was informative and helped me learn about products and services I want to use with my students, and the awards section was inspiring. I need to personally thank the individuals that made this all happen. Joe Ciontea and Mike Beranek researched platforms and created the website for the conference. Steve Johnston rounded up all of the speakers for the breakout sessions as well as the keynote speaker. Steve Meyer planned and organized the virtual project showcase, Matt Schultz took care of the awards, and Tom Barnhart took charge of the vendor area. None of these gentlemen complained about doing the work necessary to create this event, but all of them agreed that it was much more labor intensive than what it takes to do the in-person conference. Thank you for your efforts to improve Technology & Engineering education in our state. And thank you to all of our presenters. It has been a rough year, and you still found the time to create a presentation to help out your fellow teachers. Lastly, I would like to thank all of our vendors and sponsors. With all of the uncertainty of these times you still chose to remain a strong partner of the WTEA. Thank you!

I would like to recognize two people that have decided to step up to lead the WTEA in the coming years. Doug Dimmer has been confirmed as our President-Elect. Doug will serve one year in this role, two years as President, and then one year as Past President. Thank you Doug for choosing to take on this important role. Michael "Mac" Chopin is our new Secretary/Treasurer. Mac's main responsibility will be to record all official business conducted by the WTEA. Make sure to congratulate and thank these two gentlemen for their time and commitment to the WTEA.

Looking ahead, I am hopeful. We will begin planning for the 2022 WTEA Conference this summer. Look for a survey in the fall asking if your district will allow travel and attendance at events for the 2021-22 school year. If the responses we receive are positive, then plan for a return to an in-person conference next year. We hope to start holding "High Tech Weekend" events again in late 2021 and early 2022. We already have some ideas in the works pertaining to CNC machining and construction, so stay tuned. Last summer we had planned to have a summer WTEA outing at a Milwaukee Brewer game. We had to cancel that event, and as of right now, we are putting it on hold for this year. But, if things continue to improve, we will plan to hold that event the summer of 2022, so look for information about that event in the winter and spring editions of the Interface and at the 2022 WTEA Conference.

Lastly, I want to recognize and thank our Interface editor Doug MacKenzie for 25 years of service to the WTEA in this role. This will be Doug's last issue as editor of the Interface, and I can say that receiving my issue of the Interface is always a pleasure. Thank you Doug!

If ever you have any questions, concerns, or ideas please do not hesitate to contact your district director or any WTEA board member. Have a safe, fun-filled and relaxing summer.

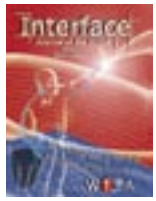
1996

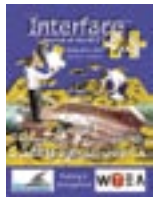
INTERFACE EDITOR

2021

The Time Has Come

By Doug MacKenzie, Interface Editor





This is my last issue of the Interface as the editor. It was twenty-five years ago this summer that I got a phone call from a former student - Greg Quam. He said he was the President of the WTEA and he needed a favor. He asked if I would take over the responsibilities of Interface Editor. This was not a job I wanted, but it's difficult to refuse a request from a former student who has achieved so much. As I reluctantly agreed, he said "It's only for one year - while I'm President." Twenty-five years later, I think I've fulfilled that commitment.

I have mixed feelings about giving up this task. It has been an additional career for me - a career that has been often times challenging and yet very rewarding. It's part of who I am and it helps define me - particularly to the members of the WTEA who know me only as the Interface editor. I am happy with my accomplishments and I believe I have put forth my best effort in providing an important resource for our members.

> ***"I've always regarded the Interface as the banner of the WTEA, and as such, it needs to reflect the professionalism of our organization."***

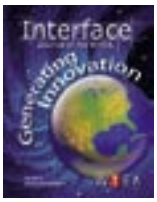
I've always regarded the Interface as the banner of the WTEA, and as such, it needs to reflect the professionalism of our organization. I have strived to make the Interface look professional. However, I have not been able to do this by myself. I format each issue, edit as necessary, and create the page layout. But I owe a great deal of thanks to others. Howard Roloff has designed the last 22 covers for us. Dennis Kittleson, another former student and owner of Inkworks, Inc., has printed each issue since 1996. The excellent work done by these two individuals gives our magazine a professional look. The content comes from the members of the WTEA. I thank all the members who have contributed articles for me to use. Without everyone's support we would not have the high quality journal the Interface has become.

I also want to thank current and past members of the WTEA Board of Directors. This is a fine group of dedicated leaders who have supported me and the Interface with articles, reports and announcements.

A great deal of thanks is due to the advertisers who over the past twenty-five years have financially supported the Interface with their ads. Without this support we would not be able to publish our magazine.

I wish all the best for Duane Apel, the new editor. I ask that all of you support him as you have supported me by sending him articles he can use in future issues.

Again, a sincere thank you to all for providing this opportunity for me.



2021 WTEA Winter Board Meeting Highlights

The following summary highlights the Winter 2021 Board meeting on January 16th, 2021 held virtually.

- Board elections:
  Doug Dimmer - President-elect
  Mac Chopin - Secretary/Treasurer
- Executive Director Joe Ciontea presented financial reports for the WTEA and the WTEA Foundation as well as a membership report.
- Spring issue of Interface will be Doug MacKenzie's last issue as editor. Duane Apel has been working with Doug and will assume the role of editor beginning with the Fall issue.
- Steve Johnston reported on the conference keynote speaker and sectional presentations.
- Tom Barnhart reported on trade show exhibitors and conference sponsors.
- Steve Meyer presented information on the conference Project Showcase.
- Matt Schultz reported on the Student Ambassador Program and conference awards.
- Joe Ciontea reported on how the conference will be presented virtually. A login password will be provided to current members.
- Kevin Miller provided a DPI update which included SkillsUSA information.
- Dave Stroud presented his President's report including a discussion on a WTEA Family Outing Brewer game.
- Teachers are encouraged to consider high school dual credit opportunities with a local technical college. Contact Mike Cattelino for assistance.
- ITTEA awards have been submitted. The upcoming virtual conference is March 22 - 27.

For additional information about this meeting contact any member of the Board of Directors.
Complete minutes are available from Mac Chopin at chopinm@waterloo.k12.wi.us.

Check your expiration date now!

Check the first line of your address on the back cover of this magazine to see when your membership expires.
You may not receive the next important issue of the *Interface* unless your dues are paid beyond 2021.

- Dates to Remember -

April (Virtual)
SkillsUSA 48th State Conference

May 15
WTEA Foundation Scholarship Application Deadline

June 21 - 24 (Virtual)
SkillsUSA 57th National Conference

Dec 1 - 4 New Orleans, LA
ACTE CareerTech VISION 2021

March 16 -18, 2022 Wisconsin Dells, WI
52nd Annual WTEA Conference

March 9 - 12, 2022 Orlando, FL
ITEEA Annual Conference

WTEA EXECUTIVE DIRECTOR

Spring Has Sprung

By Joe Ciontea, WTEA Executive Director

The snow has melted. By the time you read this, all the lake ice will also be melted. The COVID pandemic is getting better (I hope), and our virtual conference website is still accessible to you. It is full of presentations and project ideas.

The virtual conference was a challenge to our conference team, but we were up to the task. We spent lots of time experimenting with online options and file formats before agreeing on a system that kept our cost down while still providing you with lots of content. Fees from our Gold Sponsors made it possible. We also had a group of exhibitors who provided some free raffle items, all you had to do was sign up. We came up with a free T-shirt for everyone who signed up early. The shirts were paid for by the companies whose logo was printed on the back. In one evening four of us got together in an empty Technology Education lab and packed more than 350 boxes with T-shirts and other items donated by our Trade Show Exhibitors. Please support our Gold Sponsors, T-shirt sponsors, raffle donors, and Trade Show exhibitors. Their continued support allowed us to provide the virtual conference free for all of our members.

Time to get my boat and motorcycle out of storage. Keep safe and healthy. I hope to see all of you next March 16-18 at our 53rd annual conference in Wisconsin Dells.

WTEA Board Members at Work

Over 350 boxes with T-shirts and other items were packed and mailed to members who registered for the 2021 virtual conference.

Thank you to our raffle prize sponsors

Dunwoody College • Fabick Cat • First Technologies • H2I Group
iCEV • Realityworks • Snap-on • Trashbots

Thank you to our T-shirt sponsors

Dunwoody College • First Technologies • Gateway Technical College • H2I Group
LAB Midwest • Machine Tool & Equipment, Inc. • Universal Technical Insitute
WTEA Foundation

WTEA Foundation Update

By Joe Ciontea, WTEA Foundation, Inc. Treasurer

The Foundation held an online auction as part of the WTEA virtual conference. I am pleased to announce that we raised about $1,400 for the scholarship fund. We are continuing to seek scholarship applications for high school graduates who are pursuing a B.S. degree in preparation for a career as a Technology and Engineering teacher. Applications are due May 15th. Visit our website (www.wteafoundation.org) for details.

We want to thank the following companies who donated items for the auction:

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pds

ANNOUNCEMENTS

WTEA Foundation Scholarship Applications Due May 15

The WTEA Foundation is offering a renewable $1000 scholarship for a high school senior 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 prior to May 15

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

Plan now to attend the 53rd WTEA Annual Conference • March 16 - 18, 2022 • Chula Vista Resort

Technology Education: Building Wisconsin's Workforce

ITEEA Annual Conference

By Mason Pautsch, ITEEA Representative

The 83rd annual International Technology and Engineering Educators Association (ITEEA) conference was held virtually March 22-27. Just like WTEA, ITEEA offered a variety of live and recorded breakout sessions for members to participate in. All sessions were recorded and will be viewable to all virtual attendees for the next 90 days on the Cvent platform.

The 84th annual ITEEA conference will be held in sunny Orlando, Florida, March 9-12, 2022. ITEEA is looking forward to hopefully seeing attendees from all over the world, back and in person next year.

As a reminder, yearly ITEEA membership starts at $65 to be a part of one of the oldest associations in our profession. Group rates for schools and districts are also available. Membership perks include: access to curriculum, professional development, networking opportunities, award eligibility, and discounted rates on life and malpractice insurance.

2022 Conference Presenters

Do you have some ideas for sectional presentations you would like to see at the 2022 WTEA Convention? Contact Steve Johnston, WTEA Program Coordinator (johnston@mwt.net) with your idea. We will try to find someone who would be willing to present on the topic. With that said, we are always looking for new presenters and presentation topics. Consider sharing some of the great things you do in your classroom. An online presentation form can be found at http://www.wtea-wis.org/wordpress/?page_id=9699.

Metal Casting . . . An Art . . . A Science . . . A Career

Are you teaching Metal Casting processes at your school? Do you have a working Foundry at your school? We want to know. Please take our survey.

The Foundry Educational Foundation and Pittsburg State University in Pittsburg, Kansas are conducting a very short survey. We are trying to assess the metal casting/foundry processes capabilities within secondary schools. This is part of our on-going effort to promote career opportunities within Wisconsin and throughout the United States for the Metal Casting industry.

To take the survey, go to this link:
https://pittsburgstate.formstack.com/forms/metal_casting

If you do not have metal casting and want to add it to your curriculum we can help. If you have metal casting and want to improve on your process we also can help. Please contact us and let us know.

Contact: Russ Rosmait, Professor of Metal Casting, Pittsburg State University, Pittsburg, KS.

Email: rrosmait@pittstate.edu (Please contact me if you want the survey results)

Meet Doug Dimmer, WTEA President-Elect

My name is Doug Dimmer and I have the honor of being the President-Elect for the WTEA this year. I wanted to take this opportunity to introduce myself to you before I take on the responsibilities of being your President of our Association.

This is my 21st year I have been teaching engineering and technical education in Wisconsin. As a teacher, I have taught in three different school districts, teaching just about all the discipline areas we offer in the state. I have also had Project Lead The Way training and also taught under the STEM Academy umbrella.

On top of my teaching experiences, I spent eleven years in private industry working in several different types of industrial markets. I am a graduate of UW-Platteville with a BS in Industrial Technology and an emphasis in Industrial Design/Graphics, and have a Masters in Curriculum and Instruction. I have coached football, wrestling and boys and girls track throughout my 21 years. I have also officiated those sports and basketball too. I have mentored several school clubs and associations along the way and helped students with special needs and academic challenges. I have been on the WTEA Board of Directors for a while now and work with UW-Stevens Point K-12 Energy Education Program (KEEP).

I live in Port Washington with my wife. We have four adult children with my son being the eldest out in the workforce and my three girls in college at UW-Milwaukee and Madison. I enjoy the outdoors, have a Harley and love a good workout.

With all things considered in education, I have found the amount of patience, discipline, craftsmanship, intellect, and a little bit of crazy mixed in, it all makes being a Tech Ed teacher one of the greatest professions out there. Sometimes it is hard to believe that when you come into school and turn on the lights in the shop, you are getting the chance to change someone's life each and every day. Maybe it's my bias, but since I have had the chance to work with other areas with similar curricular demands as we do, I have not seen the same types of results occurring like it does in our disciplines and in other CTE areas.

I find it astonishing that at the state level, there isn't more push on districts to recommend technical/trade courses to all students, so they have something to fall back on. This brings me to the purpose I pursued becoming President of our association and the focal points during my candidacy:

- To advocate for the state to advise/consider recommending credits in technical education literacy which would help populate our classes and help students understand the relevance and need for a technically enhanced workforce (one half credit).
- To continue to grow the membership of the WTEA, advocating for more cooperation and transparency of our District Coordinators and Board members. Also inviting collaborative teaching partners in science, math, computers, arts and other CTE disciplines (either as guests or as associate members).
- Work with teachers throughout the state and Board committees to strengthen the population of students interested in teaching to pursue technical education as a highly respected and popular choice in which to teach.
- To strengthen our relations with surrounding state technical education associations to continue to build credible and reliable standards to teach and to grow by.

I believe that as a Board member it is my responsibility to be as transparent as possible and available to listen to your concerns and praise your accomplishments. I am looking forward to dropping into District meetings, hosting our great conference again, touring schools to see all the cool things that are happening throughout the state, and to continue to build on what has been a great institution in the state for us as technical education teachers, staying in touch and associating as members of this remarkable group of professionals. If you have any questions, concerns, or have ideas on how we can improve the way we do things, please feel free to contact me. We have been through some unbelievable times as educators, but the way we can get through it all and come out stronger is by connecting as one.

Have a great rest of your school year and get ready to come back together next year better than ever.

For more information on H2I technology education products and maintenance services:

Larry Granec
LGranec@h2igroup.com
(608) 630-1018

TURNKEY TECHNOLOGY EDUCATION SOLUTIONS

H2I Group Technical Education Products Division is here to support teachers as they navigate this school year, whether that looks like in-class instruction, distance learning, or a hybrid of the two. Our solutions are designed to supplement in-class services, enabling an anytime, anywhere style of learning. Check out our many options for career and technical education (CTE) products and solutions.

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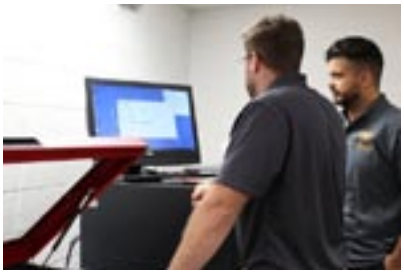

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The Value of Being a SkillsUSA Member

By Renee Ruman

Renee Ruman is the Wisconsin SkillsUSA District 5 Vice President and a student at Oshkosh North High School. Renee's advisor is Gary Hammen.

After a student graduates, they must find a job. Most graduates are not looking for any job, but one where they will love the work, feel respected by their coworkers, and have the drive to keep launching the business to new heights! Not only is it difficult to be hired for a job in today's workforce but getting a job you love almost seems impossible. SkillsUSA members have already taken the first steps to achieve this goal. SkillsUSA Wisconsin is partnered with many businesses that value SkillsUSA alumni. We have contacted several of those businesses to learn about the qualities they look for in an employee and why they value former SkillsUSA members.

E. K. Machine, Inc. is a manufacturing company in Fall River, Wisconsin with jobs for fabrication, welding, powder coating, machining, assembly, and testing. They look for three main qualities when hiring an employee: technical skills, teamwork, and leadership. These three qualities are all in the SkillsUSA framework, which illustrates to students how they can become world-class workers. SkillsUSA is teaching students these elements of the SkillsUSA framework in many of our events and competitions. E. K. Machine values SkillsUSA members because they work to control their destiny. The students that take part in SkillsUSA show that they want to control their future, which also displays the drive they have as a student to achieve their vision.

Creative Construction of Wisconsin Inc. is another business partner of SkillsUSA. Based in West Allis, Wisconsin, they specialize in water damage, stucco services, plaster services, texture matching, and masonry repair. What is unique about this company is that they are always willing to train new hires, but they expect them to come in with an established work ethic, arriving to work on time, being a team player, as well as taking pride in their work.

The owner of Creative Construction, Bingo Emmons, is a member of the State Superintendent's SkillsUSA Advisory Council. Mr. Emmons is confident in the ability of SkillsUSA members stating, "I know that the students who have participated in SkillsUSA have these skills. If I receive an applicant with a resume that shows experience in SkillsUSA, I know that they are going to exhibit the key qualities I am looking for." SkillsUSA is a well-respected organization for its members' work ethic, teamwork, and taking pride in their work.

Robinson Inc. is also a proud supporter of SkillsUSA, and they offer a wide range of metal fabrication services for projects at facilities in De Pere and Manitowoc, Wisconsin. Robinson Inc. values three main qualities former SkillsUSA members bring to their team: the passion of SkillsUSA members influences them to continue learning more about their profession regardless of experience; the critical skill of teamwork in their working environment; and the interest in more opportunities in their field.

Chad Hendzel, the director of quality services at Robinson, has worked with SkillsUSA students and appreciates the passion they have for their choice of occupational study. Hendzel said, "I have had the opportunity to work with and support the SkillsUSA Welding competition for many years and really enjoy the passion the students have for the great career of welding. Over the years, we have hired many Skills competitors with a number of them being 1st place winners. These employees came with an elevated drive to learn the industry and passion to be the best at what they do." Robinson Inc. has experienced the drive SkillsUSA members have to be the best they can be in their profession.

Many business partners of SkillsUSA value our members. They love the technical skills members can bring to the table when they are employed. These skills enhance the quality of their services that they offer. They also value the qualities of teamwork and leadership. These skills ensure that their employees can effectively and efficiently work together to deliver their service promptly.

Business partners of SkillsUSA enjoy our students' passion, drive, and willingness to learn more about their occupation. Former SkillsUSA members will continue to bring new skills and knowledge to their business. When a student participates in SkillsUSA, they gain the skills which unlock opportunities to be able to succeed in finding a job. SkillsUSA allows students not only to be hired for any job, but a job they will love.

SkillsUSA
Champions at Work

Is SkillsUSA Worth the Effort?

By Kevin Miller, Technology and Engineering Education Consultant

Yeah, that headline is click-bait, so to speak. Of course, I wouldn't write and the WTEA wouldn't publish anything arguing SkillsUSA isn't worth the effort. But the reality is a lot of tech ed teachers do feel this way, and even those who are chapter advisors too often are only involved for the contests. Most believe there is value in SkillsUSA and in many elements beyond contests, yet they don't see that value as worth the costs in time, energy, and effort.

I totally get this. As a new auto tech and graphics teacher (many years ago), I was assigned to be the VICA advisor (that's what SkillsUSA was called back in the day). I knew we should have regular meetings and a full program of work with various activities, and I did make some efforts toward that, but my students didn't show much enthusiasm, and I was already feeling overwhelmed. So, we focused on competitions and just went through the motions for a lot of other things.

As I saw it, my classes and the skills I was teaching were more important than what we could do through VICA, except where it connected directly to my classes (e.g., the contests). I can look back now and recognize how wrong I was. And I can look around and realize a lot of other teachers are making the same mistake. They're either focusing their SkillsUSA chapters on contests or they're not doing SkillsUSA at all.

So, if you're a tech ed teacher who is not involved with SkillsUSA, or if you're involved but only to a limited degree, consider how the benefits for you and your students far outweigh any possible costs. Let me also point out, even if your school and district won't financially support SkillsUSA — including not paying an advisor — the benefits will still far outweigh the costs.

Most of us in technology and engineering education see SkillsUSA as an add-on. It's something extra we do if we have the time, get a stipend, and/or already have interested students. We know it has benefits for students but see these as secondary to what we're teaching in our classes. That's how I used to see it, too. Now I understand this is backward thinking.

In fact, the skills, knowledge, and attributes students can develop through SkillsUSA will serve them and their advisors much more than what we could possibly put into a regular class. The skills we teach are important and many of our students will be well-served in learning them, but most of the students in most of our classes (unless you only teach advanced or capstone classes) will not end up in jobs and careers directly related to those skills.

What if we could teach all or most of those skills while also helping every student develop knowledge, skills, and attributes they will all use no matter what they do in the future?

That can be possible by leveraging the potential of SkillsUSA. In a regular class, one person is in charge, holds all the power, and consequently is the only one with real autonomy. That is, of course, the teacher. That also means the teacher has all the responsibility for everything that does or does not occur in the class.

The teacher, then, must set all the expectations, direct all the activities, make continuous adjustments for the countless variables occurring day-in and day-out, and is in endless negotiations with the students to achieve the class outcomes (this is done through numerous rewards and consequences controlled primarily by the teacher).

Veteran teachers make all this seem routine and easy, yet there is a cost. The students are usually limited in what they can learn by the pace of the entire class. In addition, for the most part, they are only learning the technical knowledge and skills taught in the class. While they may get some lessons on leadership and employability skills, they are missing out on the potential to develop these at a deeper level.

What if, instead, the students had significant influence over the expectations and activities in their classes and had a fair amount of autonomy to adjust and adapt to daily variables? What if they participated and performed based on their own intrinsic motivation rather than negotiating with the teacher as their rationale for acting?

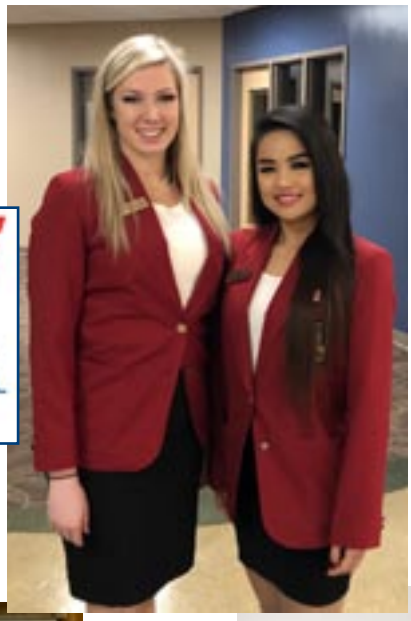
A SkillsUSA chapter can be the vehicle through which you provide a level of autonomy, power, and control to students. It can become significantly more than just an add-on activity. Take a look at many FFA and DECA chapters and their respective agriculture and marketing classes. These student organizations are often extremely active and high profile not because they have a super advisor or teacher making everything happen. Rather, it's because they have dozens or hundreds of self-driven, motivated student leaders making everything happen.

SkillsUSA chapters can be similar forces-to-be-reckoned with in a community, but only by giving the students the power and control for that to happen. The advisor becomes the mentor, coach, and guide. Rather than be an extra burden for a teacher, such an approach relieves the teacher of significant responsibility and anxiety.

Of course, it's not as simple as deciding to try this. It will take an investment of time and attention to get students to see why they would want to commit to this effort, but such an investment can pay unbelievable dividends. To help you prepare, I strongly recommend three books that will help you understand why this will work and how to get there. Maybe work these into your professional development planning along with developing an actual plan for making SkillsUSA a foundation for your entire program rather than an optional add-on.

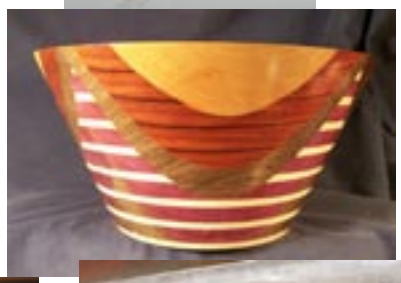
The books are *Drive* by Daniel Pink, *The Self-Driven Child* by William Stixrud and Ned Johnson, and *Turn the Ship Around* by L. David Marquet. I have provided brief overviews of each book in this issue of The Interface.

SkillsUSA is not only worth the effort, it can be the best thing you ever do for your students and for yourself.



2021 Spring Conference

Session & Project Showcase Highlights



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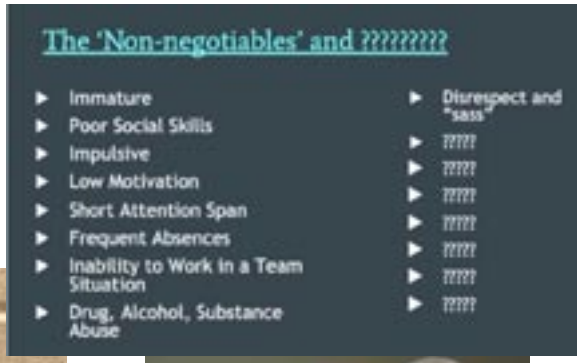

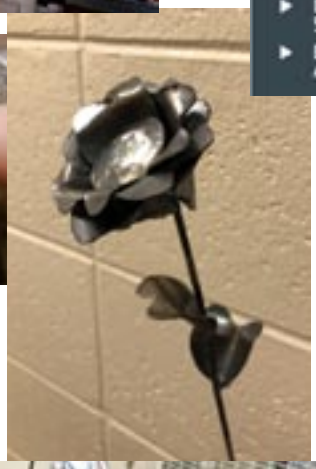

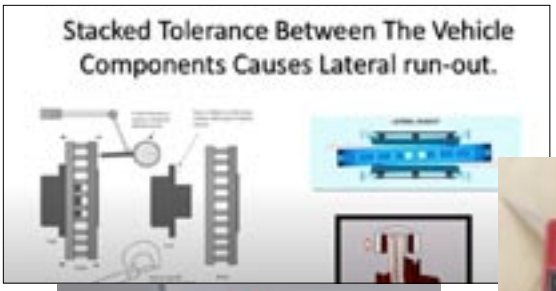

The 2021 WTEA conference website
Digital Learning in Technology & Engineering Education
remains open to members and will be available thru July, 2021.
Sessions, Awards, and Project Showcasecan be viewed.
Contact Joe Ciontea at joe.ciontea@wtea-wis.org
if you need any assistance logging in.

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WTEA AWARDS & RECOGNITIONS

2021 WTEA Awards

ITEEA Teacher Excellence Award Nominee

Jay Abitz - *Freedom High School*

• • • • • • • • • • • • • • •

ITEEA Program Excellence Award Nominee

Mukwonago High School

• • • • • • • • • • • • • • •

WTEA 25 Year Award

For 25 Years of Service to Education

Alan Kinnaman
Nels Lawrence
Larry Martin
Corey McCauley
Keith Kohls
Guy Kopp
Mike Van Handle

WTEA 25 Year Award sponsored by First Technologies, Inc.

WTEA Leadership Award

"For Commitment and Service to the WTEA"

Doug MacKenzie
For 25 years of Service as Interface Editor

Sylvia Tala
For Commitment and Service to the WTEA

Doug Kugler
For Commitment and Service to the WTEA

Phil Bickelhaupt
For Contributions and Service as WTEA Past-President

WTEA AWARDS & RECOGNITIONS

WTEA Student Ambassador Program

Naomi Domer
Watertown High School
Mentor: Jesse Domer

Gavin Junk
Mishicot High School
Mentor:
Brennen Mickelson

Jonathan Butler
Mishicot High School
Mentor:
Brennen Mickelson

Calvin Coldren
Beloit Turner High School
Mentor: Nolan Otremba

WTEA Flexible Teaching Award

Craig Griffie
Wauwatosa East
High School

Aaron Pokrzywa
Slinger High School

Nathaniel "Ned" Lease
Oregon High School

Matt Schultz
LakeView Technology
Academy


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WTEA Student Ambassador Program First Year

by Matt Schultz, LakeView Technology Academy

The WTEA Student Ambassador Program in its first inaugural year has five members ranging from freshman to seniors, with the fifth member recently added. Students enrolled in the program are working with the WTEA and their mentoring teachers on a variety of different experiences preparing them for what it is like to be a tech ed teacher. Ambassadors are preparing and teaching mini-lessons, volunteering in teacher related actives, attending the WTEA Virtual Conference, and attending virtual college tours of UW-Stout and UW-Platteville.

This program is meant to help facilitate a positive avenue for high school students who wish to pursue a career in technology education. The WTEA is aware of the crisis of licensed tech ed teachers in the state and is asking you, Wisconsin teachers, to help fill these vacancies in classrooms. Reach out to a student who shows potential in your classroom. Start working with that student. It only takes one conversation to help that student realize that they have a gift to help others, and that teaching might be in their future.

The first four WTEA Student Ambassadors and their mentors were introduced at our virtual conference and are highlighted on the awards page in this issue of the Interface as well as the conference website.

For more information please visit the WTEA Student Ambassador page on the WTEA website.

The WTEA thanks our 2021 Conference Gold Sponsors

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ARTICLE

An Admired Tech Ed Teacher

Submitted Anonymously

A remarkable trait about being a technology education teacher is that nearly every one of us can clearly remember and attribute our keen interest in technology education through that powerful instrument - a tech ed teacher whom we admired and looked up to, in our formative teenage years.

I prefer to see it as a unique feature specific to technology education teachers.

I'm sure math teachers remember moments of trigonometry greatness among their memorable high school math teachers, and English teachers dream of annotating the autobiographies of their great high school literary heroes, but none can say, "If we did anything stupid in class, all Mr S had to do was give you a look - and you never did it again."

Our backgrounds are varied, but the common thread is, we have life experiences that strongly influenced our choice to become a technology education teacher. It may be former teachers, grandparents, parents, mentors, a change of job situation, or perhaps the realization that teaching fulfills our innermost soul. The people who influenced us are by our side, in spirit, each day.

This is a story of a man I've only met once. Yet, he has influenced me. His work, his integrity and his legacy reflected in the people I know (and people I don't know, but have heard their commentary about him), has made an impact on me as a new tech ed teacher.

My friend gave a smile of interest and raised eyebrows. "Oh really? My dad was a tech ed teacher." And then, with a chuckle, "Well, it wasn't called tech ed back then." I had just mentioned I was going to pursue my technology education license and was startled at his reply. I had known him for years, but had never known his father was a former "industrial arts teacher" in Waupaca.

John B. Morgan

John Bartlett Morgan didn't start out as an industrial arts teacher. His initial job interest was much different from where he ended up - he originally wanted to be a veterinarian. Growing up on a farm in Hartland, he had developed a love of farming and animals, but those career plans were put on hold when World War II came along and John signed on with the U.S. Army Air Corps in 1942. He continued in the Army Air Reserves until his retirement from service in 1980.

After his active duty service in the war, he went to Iowa State University to begin his veterinarian education. He changed his path, and enrolled at Stout Institute (as it was titled back then), to pursue a Bachelors of Science in Industrial Arts Education.

His family is graciously sharing with me his handwritten memoirs and notes from family members. This is fascinating reading, because in his stories, beginning with his education at Stout in 1947 until his retirement in 1985, I am finding lessons of how to be a tech ed teacher . . . in today's classroom.

John Morgan on Creating Community in the Classroom

The summer of 1949 meant summer school again, but this year it turned out to be a very educational one. Unfortunately, many of my college classes were . . . of little help but few, especially on the post-graduate level, were a real help in my life and job. One of my classes that summer was one of those.

The class was called Trade and Job Analysis. It was taught by the new President of Stout, a man named Verne C. Fryklund. Dr Fryklund was a very famous man in the educational community including the fact that, during WWII, he was a Lt. Col in the Army Air Corps and set up the entire technical training program for the Air Corps including the engineering program I went through at Yale University in 1943. In spite of his brilliance, his education, his position and all those good things, Dr Fryklund had trouble relating to those people who were beneath his intellectual level. For example, the previous summer, when he first moved to Menomonie, Jack Goodrich and I had to go to his home to lay new carpet. We were there for at least a couple of hours a day for a week and he would come in to see how we were doing and talk to us. Now, we weren't exactly kids - both in our late twenties, veterans, post-grad students and I was a parent, but the man couldn't carry on a conversation with us. WIth all his education and experience, he never learned that the best way to start a conversation with a stranger is to ask him about himself. Dr Fryklund never asked Jack or me what our names were, where we were from or even if we were students at Stout.

On the last day of class, after the exams were all graded, Dr Fryklund stood up in front of the blackboard that had a chart showing all the numbers (each student was assigned a number) and the number of points each student had achieved taking the exam and completing the project. After he announced the fact that 176 points was the highest number achieved he said, "That score was achieved by No. 13." Then, he took his gradebook and looked up who No. 13 was. "The top score of 176 was achieved by Morgan. Now, which one of you is Morgan?"

Now, besides laying carpet in his house for a week, I had been in his class every day for about two months, and he didn't even know my name. In fact, he didn't know the names of any of the less than 20 students in his class.

John Bartlett Morgan

Morgan-ism #1

At that point, I made up my mind that, although assigning numbers to students is a good idea for clerical reasons, I would make it a point to really learn and remember the names of all the students I came in contact with, especially those in my classes.

John B Morgan

How this is relevant today

You're probably thinking, "I know all this, we all know the importance of knowing each student's name."

I don't know about you, but this year I was struggling to learn the names of whole classes of incoming freshmen or 6th graders, whom I have never had in class before. I was struggling, because I couldn't see their faces.

Remembering student names this year has been a challenge for me because the masks hide their mouths. Their smiles, their frowns, the other major, non-verbal expressive component of their face, second to their eyes, all help me remember their names.

I'm trying to compensate in other ways. Some students wear personalized masks and if they wear the same type of mask every day - that works. (If they do wear the exact same mask every day, it makes me want to distance from them even more. (ick)

Our school has been hybrid, so students are switching between being quarantined at home, in a virtual classroom with no mask, and 10 days later, in class with a mask. Trying to reconcile the faces I see in the virtual classroom with the masked faces I see in class, along with everything else we are doing this year, makes my head spin.

By Winter Break I found, fortunately, I was able to remember student names. It took longer than previous years, but I have discovered the students are understanding and are patient with me.

I think John B. Morgan would understand, also.

ARTICLE

Important Books for Educators

By Kevin Miller, Technology and Engineering Education Consultant

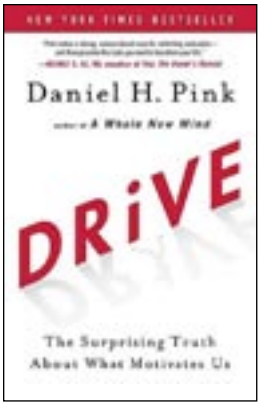
There are three books I think should be mandatory reading for all educators and two of them for all parents. Here are brief reviews and the reasons they are so essential for teachers and school administrators.

Drive *by Daniel Pink*

I originally learned about Daniel Pink's work on motivation from his TED Talk (https://www.ted.com/talks/dan_pink_the_puzzle_of_motivation). I immediately saw how important Pink's research and findings were for me as an educator and Army officer. Consequently, I took the time to read the full book and it has since been on my list of top five books for educators and leaders.

In a nutshell, Pink's research found that rewards and punishments do not work to motivate people. They have their place and can lead to improved performance, but only in what Pink refers to as algorithmic tasks. These are tasks that are consistent and repeatable with little or no variation so a person can get better through repetition and eventually their performance will depend on the benefit or cost as perceived by the performer.

For example, people doing a repetitive task on an assembly line or doing manual labor such as digging holes are doing algorithmic tasks, but so are many people doing accounting and other seemingly skilled or thinking-based jobs. For these people, if pay and benefits are sufficient or threatened consequences sufficiently dire, they will perform; further, increasing the rewards or the threatened consequences may improve performance.



For nearly everything else, however, rewards and punishments don't work. In fact, where creativity and innovation are concerned, rewards and punishments are actually a hindrance; they reduce creativity and innovation. In these cases, rewards and punishments become nothing more than negotiating tools in a search for compliance.

In order to enhance learning and performance, whether it's with employees, students, or soldiers, one has to figure out how to create intrinsic motivation. That's the treasure Pink reveals in **Drive**.

There are three things that, when combined, cause people to be self-motivated: autonomy, mastery, and purpose. Autonomy means people feel trusted and respected, so they are able to make decisions and act without being constantly directed or monitored; they are able to make real, consequential choices; they feel safe taking reasonable risks.

Mastery means people are facing tasks and challenges they are capable of mastering; that is, achieving or overcoming them is realistic and doable but not too easy or repetitive; expectations are challenging for the person's level of ability, training, and development and those expectations continue to grow as the person does.

Purpose means being part of something bigger than oneself; people want their work to make a difference rather than just be busy work; they want to feel part of a team and that their part on the team is important; they want to help make the world a better place.

Understanding these three elements of motivation can allow teachers to understand why the traditional approach to education has so many challenges. Even in elective classes, without these elements, students will mostly be negotiating for compliance. If you can bring these elements into your classes, you can help your students become self-motivated, and the entire environment in your classroom will change.

If you want to get a feel for Daniel Pink's key points, watch the TED Talk. However, if you want to have a more powerful and applicable understanding of motivation, take the time to read or listen to the actual book.

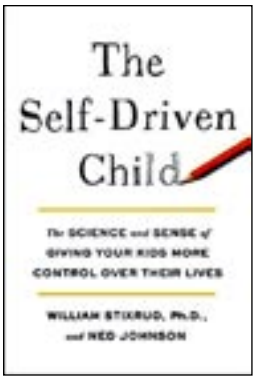
The Self-Driven Child

by William Stixrud & Ned Johnson

As soon as I heard about Stixrud and Johnson's book, I had to get a copy and read it. It proved to be well worth the time. While Daniel Pink's research in **Drive** is essential for understanding motivation, **The Self-Driven Child** helps understand what is happening with children, specifically, in the absence of the elements Pink notes are needed for motivation.

Stixrud is a clinical neuropsychologist who regularly works with children. Johnson is the founder of a tutoring service and works in the areas of study skills, parent-teen dynamics, and anxiety management. Together they apply lessons learned from their work and related research to understand why many behaviors occur in children and then how to avoid them through our relationships and interactions with children.

While the book is specifically focused on children, much of the research and findings are applicable to people of all ages. The key take-aways for me from **The Self-Driven Child** are two-fold. First, when anyone, whether children or adults, lose power and control, they experience stress. This is not, of course, news to anyone, but Stixrud and Johnson show how little power and control children have and, consequently, why many experience very high levels of stress.



They go on to explain the research showing how detrimental stress is to learning. For learning to be effective, certain parts of the brain must be active. Stress, however, activates the wrong parts of the brain and interferes with learning. The greater the stress, the less learning will occur.

Our educational system takes nearly all power and control away from children, so school itself contributes to whatever other sources of stress they are experiencing from their home and family situations and events in their lives. Then, we expect them to learn according to our curriculum plans.

When children don't learn at the rate we want, we tend to strip them of even more power and control causing more stress. In addition, stress can trigger emotions and conduct we typically consider inappropriate, but over which the child may have no control. Still, we will often then impose consequences or offer incentives for the student to change their behavior.

However, going back to Pink's work on motivation, we can see the rewards and punishments will not lead to children wanting to behave or improve. If they are unable to comply, the unacceptable conduct may escalate as children become more stressed while being stripped of more power and control. It's a vicious circle that frustrates everyone involved. Understanding all this can allow us to figure out new approaches to everything we do both to avoid poor conduct and to substantially improve learning.

One of the best things about **The Self-Driven Child** is the way Stixrud and Johnson use actual situations they've encountered to illustrate the challenges the book discusses and how the approaches they discuss can counter those challenges. The book is actually written for parents but is essential reading for educators.

Turn the Ship Around *by L. David Marquet*

L. David Marquet is a retired U.S. Navy submarine captain who upended the usual leadership approach on his submarine and achieved completely unprecedented results. It may seem odd to think a military leadership book written for business leaders would be applicable for classroom teachers, but it very much is.

The typical Navy nuclear submarine leadership structure has the captain as the ultimate authority. It is, for the most part, the ultimate example of a military command hierarchy. And there are very good reasons for that; consider the lethality of these submarines' weapons systems, the risks inherent in submarine operations, the further risks of operating a mobile nuclear reactor, and the global political implications of the ship's potential activities.

A classroom has a similar structure with the teacher as the captain and ultimate authority and the students expected to execute the teacher's directives and meet his or her expectations. The risks in the classroom are not, of course, nearly as daunting as the submarine, though many parents would consider any risk to their child to be just as significant. So, the teacher must weigh his or her responsibilities very carefully.

Despite all the risks and Navy traditions, Marquet felt there was a better way to lead a submarine. He believed giving power and control to his crew would allow the ship to function more effectively and safely. However, such an approach was so foreign to all sailors it was nearly impossible to even try. Marquet, however, found himself in the ideal spot to do just that.

Turn the Ship Around provides an excellent lead-up to Marquet's initiative. You come to understand why submarines use that hierarchy and see what happened when Marquet tried to make the change during his first submarine command (spoiler alert: it didn't work). This lead-up can also help teachers see parallels to the classroom and why it seems impossible to cede power or control to students.

The book then describes events leading to Marquet's efforts to try a new approach, the challenges he had to overcome, and the incredible results he achieved. Not surprisingly, his success with this approach did not result in wholesale change to how Navy submarines now operate. Like education, the Navy is an institution that is incredibly resistant to change. However, anyone can benefit from Marquet's experience and, with a little critical and creative thinking, see how to apply these ideas to improve the experience and outcomes of a classroom.

Turn the Ship Around is an excellent book with a great narrative and, most importantly, extremely valuable lessons in leadership and organizational change.

ARTICLE

Silver Linings and Thank you!

By Angie Arneson, Seymour Middle School

Spring is in the air and I am happy to see the robins back in my yard. I would liketo give a huge shout out to the WTEA board and the incredible success of putting together an amazing virtual conference! The conference has definitely been a highlight to my 2021 teaching career. Although COVID has been a whirlwind of disappointment, there has also been some incredible silver linings and the WTEA virtual conference was definitely a positive silver lining! I would also like to thank each individual that was part of the Middle School Roundtable Discussion Session. Thank you for your information and insight during those live discussion sessions.

I am not sure if you all are aware of the amount of time and effort it takes to put this magazine together, but let me tell you, it is an incredible amount of work and I am so thankful for Doug MacKenzie and his years of service! Doug has been dedicated to creating and producing a top-notch Interface year after year and I am so thankful for his dedication and knowledge! Thank you Doug!! You will be missed by me and the entire WTEA family! Best wishes on your retirement!

Another silver lining that has been critical for me and my teaching has been networking with other Technology and Engineering teachers. The sharing of information and curriculum has been such a valuable resource for me and I want to thank all of you that have networked with me virtually this past year and a half. As I have been saying the entire time during this pandemic, "We are stronger together!" I look forward to the day that we can see each other again face to face and less virtually!

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ARTICLE

Tic-Tac-Toe: A Machining Project

By Alan J. Mamerow, Sussex Hamilton High School

When Jesse Domer and I began working on our WTEA conference breakout session this year, we decided to focus on a CNC project that both of us do with our machining classes, although at different levels: a marble Tic-Tac-Toe game. What we found throughout the process of creating our presentation was that the project is far more versatile than just a CNC project, and most of the processes could be done with only manual machines, or even utilize a more basic version as a middle school woodworking project. While we are going to explain some basics of the project in this article, we also encourage you to check out the video that we made for this session, which contains videos, drawings, and purchasing links we have utilized.

I originally got the idea for this project from something my dad did as a middle school woodworking project. I was looking for a CNC assignment for my Advanced Machining and Automation class and remembered his Tic-Tac-Toe project that he did using two-by lumber and marbles. I figured that the same project could be adapted to a machining class and be made from aluminum.

The project begins with cutting a piece of 3" x 1 1⁄4" aluminum bar stock to just over 3 inches long, and then using the manual mill to square both ends and bring the length to exactly 3inches. I usually do not have students use the CNC mill to square their stock because there is more opportunity for error and because the largest backlog in the shop is on the CNCs, so the manual mills are the preferred option for squaring stock. Students usually do not have to remove any material on the "factory" sides of their part, although I do have them check measurements. Typically, they will just clean up the factory surfaces with Scotch-Brite™ when the project is finished.

After squaring and bringing material down to size, students work on CNC programming. We utilize Solidworks with the Mastercam plug-in, which gives us the ability to revise the part during programming, because students will occasionally find errors in their part. After programming, students generate G-code and check it using the Haas simulators. They have a fair amount of experience checking their code using the simulators from the introductory machining class, where students do some hand-coding and some programming with Mastercam.

When it comes time to run the CNCs, this project is the first time that students have completed a project that requires flipping the part in the vise. While they do complete a project with multiple tools in the introductory course, they can leave the part in the vise and run it as one continuous program. Because this project requires multiple programs, we discuss which program needs to be run first, which is the side holes due to not having a flat surface for parallel bars after the chamfer has been cut. I always have students utilize parallel bars when drilling the side holes just to keep the part off the bottom of the vise in case incorrect programming causes the drill to break through the bottom of the part. When running an engraving program on a side of the part, I don't have students utilize parallel bars because I am not as concerned about hitting the vise.

I have found that this project is probably the one that students get most excited about because they get to do so much personalization. Some students struggle with the amount of programming that is needed, others are less than thrilled with the number of CNC setups that are needed for this (this is usually more than one class period on the CNC for my students), but by adding the engraving program, they get to make it their own. This is the project that I see students show off the most, and they are truly excited about the final result of their work.

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Jeff Dowd Memorial Scholarship Recipient

Jonathan Calderon

Washington Park High School

The Jeff Dowd memorial scholarship was recently awarded to Jonathan Calderon. Jonathan is a senior at Washington Park High School in Racine. Jonathan's teacher, Jerry Kobriger, stated that Jonahthan is an excellent student and exemplifies the passion that Jeff had for technology education and automotive careers. He is an automotive youth apprenticeship student and has completed articulated courses in automotive with Gateway Technical College. Jonathan will be attending Gateway pursuing a degree as an automotive technician.

Jonathan said about the scholarship, "I am honored to receive the Jeff Dowd memorial scholarship and hope to make the Dowd family proud of me. The scholarship funds will help me with my educational goals."

The Jeff Dowd memorial scholarship was established by Jeff's family, friends and supporters of the WTEA. Gateway President Bryan Albrecht stated that "it is humbling to have the honor of working with Jeff's family and WTEA Executive Director Joe Ciontea to make sure all aspects of Jeff's life's work were considered in selecting the worthy recipient. Jonathan is the right person to receive this scholarship and will pursue his career as Jeff did with passion and conviction toward excellence."

Jeff Dowd

The scholarship was awarded in the amount of $7,000 thanks to the many donors and the WTEA Foundation.

FROM THE ARCHIVES

During 1992-1993 the Board of Directors met and developed a 5 year plan for the association. The cover of the Spring 1993 issue of the *Interface* featured a statement that was developed as part of that process. At that time officers were Pat Lutz, President - Joe Ciontea, Vice President - Dan Nelson, Past President.

Volume 25, No 3 Spring 1993 Issue

This We Believe...

Technology Education

Should be a part of the learning experience of all students at all levels of grade and ability, in order that they may understand, function, and control their technological environment.

Uniquely contributes to students of all learning ability levels all students regardless of career choices. It provides equal opportunities for those who may choose a professional career or a future as an industrial worker. It's equally important to everyone as all members of society must learn to be aware of and learn effectively in tomorrow's technological society.

Fosters an awareness of industry and enterprise and their place in the world culture. It also provides opportunities for learners to discover their talents and abilities in the areas of technology and applied science in the world of work.

Activities form a continuum with other visual and applied arts, ranging from the free expressive forms to the more exacting demands of machine tools and applied sciences.

Is an organization of subject matter which provides opportunities for experiences concerned with developing insights into technology, its evolution, utilization, and significance; and industry, its organization, personnel systems, techniques, and products; and their social/cultural impacts.

Provides technical skills and knowledge basic to most occupations and professions. Technology Education enables the future scientist and engineer to solve technical problems, and the future trade skill person or technician to develop knowledge, skills and the ability to obtain technical information.

Provides wholesome changes in learners. These may take the form of a developed interest in the human-made world—its materials, products and processes. These changes may also involve self evaluation of attitudes towards constructive work and how this work can be utilized for health and recreation, as well as economic value; they may involve the development of a favorable attitude toward creative thinking, and toward character improvement—knowing and making the most of one's environment.

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