



Only time will tell whether Gen Z is the epitome of the “skills gap,” or whether it is, as the *Wall Street Journal* told us last spring, “the Toolbelt Generation.” One thing’s for sure: There’s some kind of change on the wind. “A lot of people look at today’s students and say, ‘They don’t want to work. They just want to play video games.’ But that’s not true,” says Gregg Snyder, manager of Yamaha Marine University.

“Go out into the schools and look. You’ll see people who are really, really interested in working with their hands.”

Snyder chairs the Marine Service Technology judging panel at the annual SkillsUSA competition – a national event drawing some 7,000 high school and post-secondary students to Atlanta, Georgia, where they compete for scholarships and other prizes. The more than 130 hands-on disciplines range from computer animation to culinary arts to

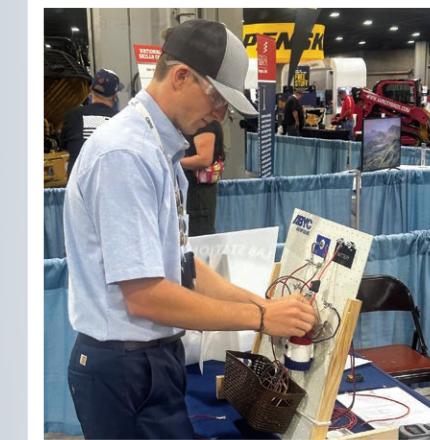
GETTY IMAGES/AMINAT JOMUN; INSET: ABYC

construction trades. Among that number last June were several dozen aspiring marine technicians. “This is only the top people from the state and regional competitions, so that number grows exponentially. Every one of them was there to show off what they can do already,” Snyder says. “They arrived proud.”

Boaters have known all along what neuroscience is telling us now: Hands-on engagement with the physical world brings benefits, not just for our bodies

but for our minds. Meanwhile, fresh ideas in economics and education are challenging our 100-year-old notions that separated work with our hands from work with our minds. Whether you’re looking for a mid-career change or are counseling a young person on their next steps into education and their working lives after high school, all these threads open a world of pathways that can lead – surprisingly directly – to an enriching life on the water.

Young technicians are discovering the surprising boons of working and thinking with their hands. Inset: A marine-tech student takes on the ABYC Bilge Pump Challenge at the annual SkillsUSA competition in Atlanta, Georgia.



How To Build A GOOD LIFE IN BOATS

The old models – graduate college, join a high-paying white-collar profession, buy a home and a boat – are under pressure. But there are exciting, alternative ways to build a personally rewarding and successful waterside life

EMILY O'CONNOR, BOAT RESTORATION



The International Yacht Restoration School (IYRS) in Newport, Rhode Island, is exceptionally proud of **Emily O'Connor**, one of its talented externs. Hailing from Hull, Massachusetts, Emily has been sailing since childhood. This past summer, she led the Hull Junior Sailing Program and is continuing her education at IYRS with plans to take the boatbuilding and restoration course this fall. "With a love for sailing, woodworking, and exploring nature, Emily is sure to fit right in at our shop," says IYRS.

Thinking With Your Hands

Zachary Volpicelli was the top IT guy, the networks and systems administrator, at Brandeis University in the late 1990s. Though he hadn't grown up around boats, the job placed him near the Boston Sailing Center, where he and his wife learned to sail dinghies, then J/24s, experiences that progressed into overnight and weekend sailing excursions. In 2002 Volpicelli saw a clever ad in *Professional Boatbuilder* magazine – "The cure for the common career" – that introduced the Marine Systems program at the Landing School in Arundel, Maine.

"I read that and thought, 'I have a common career,'" Volpicelli says. "I loved boats more than I loved working at a

university fixing people's servers." He joined the Landing School class of 2004. Between applying for and starting the program, the couple crewed for several months aboard a sailboat from California to the South Pacific, then he crewed on the Nantucket Hy-Line Ferry. After he graduated from the yearlong Marine Systems program, the couple moved to Bellingham, Washington, where Volpicelli cold-called Seaview Boatyard, the biggest service yard around, and asked for a job. "They started me at \$14 an hour," he says. "Within a year and a half, I was lead mechanic." Within another year and a half he was operations manager for the business's four properties. For several years Volpicelli managed

those yards, then moved back East and managed a Cape Cod boatyard for 11 years before returning to the Landing School to lead the program that started his career in boats.

It's a path Yamaha's Gregg Snyder understands. "The entry point is only the entry point," Snyder says, reflecting on his beginnings at Universal Technical Institute in Houston, where he trained in automotive and heavy diesel technology. "Where it goes from there is up to you. The sky's the limit."

Both men's experiences speak to something Matthew Crawford wrote about in a 2009 bestseller called "Shop Class as Soulcraft." After earning a Ph.D. in philosophy from the University of

MIA JACKSON, ELECTRICAL DESIGN



Mia Jackson grew up in Cambridge, Maryland, and all over the world. Her father was a U.S. Naval Commander with the Navy Seabees, which exposed Mia to a wide variety of unique locales, her favorite being Bahrain in the Persian Gulf. After graduating high school with honors back in Maryland – where she spent two years in an automotive tech program – Mia deepened her hands-on experience by working at a small Chesapeake boatyard and in a commercial diesel truck shop. Her interest in mechanics and engineering led her to the Landing School, where she's been deepening her understanding of boating systems and is set to graduate this year. So far, her favorite part of the curriculum has been electrical design and wiring, and she recently passed the ABYC Marine Systems Certification exam.

ALEX HARLOW, MARINE TECHNICIAN



At only 22, **Alex Harlow** is the youngest full-time marine technician at Harborside Marina in Clinton, Connecticut, boasting certifications for Yamaha Marine Technician, Yamaha Inline Engine Systems, Bennett Integrated Helm Control, NMEA Basic Marine Electronics Installer Training, and Volvo Penta Online Training Courses. He joined the Harborside team in 2022 after impressing with his self-taught rebuild of a 1994 Formula. Alex's innate skill and dedication quickly secured him a permanent role, making him a vital member of the Harborside family. In his tenure, Alex has excelled in various key areas, including professional skill, mentorship, passion, positivity, and quality of work.

NADYA HELMER, MARINE MECHANICS



After working as a deckhand and helping with maintenance for a ferry boat company in Charleston, South Carolina, **Nadya Helmer** decided that marine mechanics was what she wanted to do. She looked up technical colleges on the ABYC website and toured each that she found interesting. She chose Suncoast Technical College where she has earned all of the Yamaha Maintenance Certification Program certifications, attended two Yamaha Factory Trainings, and now works for Sara Bay Marine as part of the work-based learning program. She is working on her ABYC Electrical Certification and NMEA Basic Installer Training.

COURTESY, ABYC



Chicago and a career as executive director of a Washington think tank, Crawford pivoted midstream to open a small shop where he repairs Japanese motorcycles. "This book grows out of an attempt to understand the greater sense of agency and competence – the rich cognitive challenges and psychic nourishment – I've always felt doing manual work, compared to other jobs that were officially recognized as 'knowledge work,'" he wrote. "Surprisingly, I often find manual work more engaging intellectually. There's more thinking going on in the bike shop than in my previous job at the think tank."

New brain research backs up Crawford's observation. "When we move and when we engage in physical

JOSH WILLIAMS, MARINE TECHNICIAN



Josh Williams has been in the workforce for a short while, having graduated from the Marine Technician Program at Suncoast Technical College in 2019. He runs JAWS Marine LLC, a mobile marine business where he specializes in a number of fields including electrical installs/troubleshooting and service/diagnosis for Suzuki, Yamaha, Honda/Tohatsu, and Mercury/Mercruiser. This past year, he took a fast-track learning lesson with Florida Stabilizers, which specializes in Seakeeper/Seakeeper Ride installations and service, where he was designated as its contracted installer. "I love what I do every day and can't wait to see how technology advances in the marine industry in years to come," he says.

DELANEY HUFFMAN, MASTER TECHNICIAN



Delaney Huffman's journey to becoming an outstanding technician began with a passion for working on vehicles during high school. In June 2022, she joined Boyne Boat Yard for a summer job and quickly discovered her love for the boating industry. With a scholarship from Boyne Boat Yard/Van Dam Custom Boats, she attended the Great Lakes Boat Building School (now the Marine Trades Institute) to further develop her skills. Today, Delaney is an ABYC Master Technician with certifications in gasoline and diesel engines, marine systems, and marine electrical, and is trained on Mercury and Ilmore engines.

TAVEN LARRANCE, MARINE MECHANICS



In his time at Big Thunder Marine, **Taven Larrance** has demonstrated strong work ethic, efficiency, and great character. After high school he was accepted at the Marine Mechanics Institute (MMI) in Orlando, Florida, a yearlong training program, and was awarded the John McElroy Memorial Scholarship from Impact Institute. During his training at MMI, he worked at Craig Cat Boats, a manufacturer in Orlando, running a rigging department. The nomination for his Outstanding Technician award exclaimed, "This is exactly the type of student we want to run our industry for years to come!" Today, Taven is certified to work on Mercury/Mercruiser, Yamaha, and Suzuki engines.

JACK TRUETT, MASTER TECHNICIAN



Jack Truett, an ABYC Master Technician, has excelled in marine technology from a young age. Starting in boat-yard work at just 8 years old and working as a yard hand during high school, Jack demonstrated early aptitude by completely refurbishing a 1979 F250 at age 15. His exceptional skills were further honed at the Landing School in Maine, where he graduated at the top of his class and earned a certificate in Marine Systems. He holds ABYC certifications in Systems, Diesel, and Electrical. Recently, Jack managed a \$160K electrical refit on a Hatteras 53, earning high praise from the owner. His impressive credentials and outstanding technical, communication, and interpersonal skills make him a distinguished technician at just 22 years old.

activities, we change the neurochemistry in our brain in ways that a drug can change it," said Dr. Kelly Lambert, a University of Richmond neuroscientist, on a CBS Sunday Morning segment called "Handiwork: How Busy Hands May Help the Brain." "I've made up a term 'behavior-ceuticals' instead of pharmaceuticals. If you're making something, painting, or cooking, and you're using both hands and putting things together in a creative way, that's more engaging for the brain than sitting at a desk and pressing buttons on a keyboard. It increases certain neurochemicals. And if you produce something, there's the reward."

Educating The Toolbelt Generation

Crawford's book traces the economic and educational trends that separated train-

ing minds from training hands back to the federal Smith-Hughes Act of 1917. "Wherever the separation of thinking from doing has been achieved, it has been responsible for the degradation of work." From Charlie Chaplin's 1936 comic masterpiece "Modern Times" to Kevin Smith's 1994 cult classic "Clerks" or reruns of "The Office," we all know the degradation Crawford describes on both sides of the tired blue-collar/white-collar divide, tied as it was that 20th-century bugaboo, the monolithic IQ test.

More recent theories of multiple intelligences (linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, naturalistic) have done wonders for matching educations to individual learning styles. The separated and stigmatized vo-tech schools

of the past have given way to today's more integrated Career and Technical Education programs that encourage students to learn a marketable skill *and* prepare themselves academically for intellectual pursuits. The goal is to open opportunities, not close them down.

Sarah Devlin directs the Marine Trades Accreditation Program at the ABYC Foundation. (Read about the new MTAP directory on page 74.) She recalls the "tracking" she experienced in school in the 1980s. "I tested well, so I couldn't take vocational courses. I'm still upset about that," she says. "At the same time, there were people put in the vocational program because they didn't test well. That kind of tracking doesn't exist anymore, and I can tell you that CTE is really gaining a lot of smart students.

CTE studies get them into the workforce faster, and the return on investment is much nicer."

The Education Data Initiative estimates that the average cost of one year of college in the United States is \$38,270. "Considering student loan interest and loss of income, investing in a bachelor's degree can ultimately cost in excess of \$500,000." Yes, there are studies that demonstrate the difference in average lifetime earnings between those with a college degree and those with only a high school diploma. But like a monthly gym membership, the investment in a degree only pays off if you use it. On the losing side of that bet are people with advanced degrees and crushing loans who work in jobs that require minimum skills and pay accordingly.

Resources To Help Rethink Education & Work

- » Marine Trades Accreditation Program (teachboats.org)
- » SkillsUSA (skillsusa.org)
- » Association for Career and Technical Education (acteonline.org)
- » Chen, Te-Ping. "How Gen-Z Is Becoming the Toolbelt Generation." *Wall Street Journal*. April 1, 2024.
- » Crawford, Matthew B. "Shop Class as Soulcraft: An Inquiry into the Value of Work." Penguin Books: New York, 2009.
- » Fishkin, Joseph. "Bottlenecks: A New Theory of Equal Opportunity." Oxford University Press: New York, 2014.
- » Gardner, Howard. "Frames of Mind: The Theory of Multiple Intelligences, 3rd Edition." Basic Books: New York, 2011.
- » "Handiwork: How Busy Hands May Help the Brain." CBS Sunday Morning. Air Date: March 18, 2018. (cbs.com)
- » "Trade Secrets." CBS Sunday Morning. Air Date: October 16, 2022. (cbs.com)



basic electrical wiring principles and practices at the 2024 SURGE! event, designed to introduce Detroit high school students to the marine trades.

The Marine Trades School Directory

In 2009, [REDACTED] seeing that there was an extraordinary opportunity for young people to enter the marine trades, and seeing that there were no resources to help them, commissioned me to write two exclusive features in 2009 and 2010 called "The Boat Lover's Guide to Colleges" and "The Boat Lover's Guide to Marine Trade Schools." Each article was a road map that matched people's interests with professional skill development and included a list of educational programs across the country related to boating. Then, for well over a decade, BoatU.S. maintained a robust database of U.S. education programs based on that research and made it available on its website to anyone looking for how to get a job in the marine industry.

In 2024, BoatU.S. handed that database over to the ABYC Foundation, home of the new Marine Trades Accreditation Program, which took it to the next level. "The accreditation program is a way to make sure these programs are teaching to the standards that the industry requires," says Sarah Devlin, MTAP's director. "It objectively shows that a school is financially stable, and that students are learning what the instructors teach. We do on-site visits. We interview staff, administration, and students. We look at everything they tell us to make sure it's true." To be eligible, a program must have graduated at least three classes and demonstrated strong work placement. MTAP schools may be private institutions, nonprofit or for-profit, high schools, and community colleges. "We accept any type of school that has a marine technology program," says Devlin.

The Marine Trades School Directory grew from the original database. "We took the names of the schools from BoatU.S. and other groups like the Massachusetts Marine Trades Association and Yamaha Marine University and drilled them down to the schools that actually have marine technology courses," says Devlin. "We emailed all these schools directly and created an in-depth survey. From that, we've created the Marine Trades School Directory, a searchable database with filters and a map. Now anyone interested can find the name of a school or look for a school in their area. Or, if they think, 'I'd like to move to New England. What are the schools there?' they can click on a state and search by the programs the schools offer. If you're looking for a composites program, you can search 'composites.'"

Devlin expects the database to present more than 100 schools. "By fall 2025 we'll publish a benchmark report so that schools can see where they stand. Are their tuitions competitive with other schools? What are the demographics of their students? What certifications do they offer? The benchmark should give schools a sense of where their own strengths and weaknesses are."

Visit abycinc.org/schooldirectory to explore the directory. [REDACTED]

A young person today who wants to build a life around boats, for pleasure or profit, or both, doesn't have to land a highly selective university spot to get there when rewarding opportunities in marine service technology have never been greater. There's hardly a marine service business in the country that wouldn't hire one or more skilled technicians today if they could find them. Within the broad marine industry, the building and selling of boats can be a volatile roller-coaster, tied to interest rates, the stock market, and lately tariffs. But historically through all those cycles, the business of servicing boats holds steady. In fact, when new-boat sales are down, marine technicians are often in greater demand as boat owners choose to refit their existing boats.

"You can go through a good tech school for anywhere from \$5,000 to \$10,000," says Snyder. "Once you get out, that's manageable. Or you can come out of high school with minimal experience, find a good dealership, they can grow you right through the dealership, and you can start making money right away. In coastal Florida, a technician with five years' experience can be pulling down six figures pretty easily. In less dense areas it's not going to be as much, but the cost of living drops, too."

In the end, says Snyder, it's also about something else. "There's nothing more satisfying to a technician than taking a motor apart, putting it all back together, and hearing it run for the first time. It gets you the confidence outside of what you're working on immediately – something you can apply to your personal life, or even to a different industry. It's like, 'Yeah, I did that.'"

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