

Manufacturing the future: how Kirkwood is adapting higher education to serve industry and students

BY JOE GREATHOUSE
Dean of Industrial Technologies,

KIRKWOOD COMMUNITY COLLEGE

Manufacturing has long been a cornerstone of Iowa's economy, and its future success depends on how well we align education with rapidly evolving industry needs. That's a responsibility we take seriously at Kirkwood Community College. As technologies shift and workforce expectations rise, we're transforming how higher education works for both students and employers.

Today's students are not one-size-fits-all. They're high school graduates, career changers, working parents, veterans and lifelong learners. They're seeking flexibility, relevance and the confidence that their education leads to meaningful employment. At the same time, our industry partners need workers who are agile, technically skilled, and ready to grow into roles that may not have existed five years ago. Meeting these needs requires higher education to change structurally, philosophically and operationally.

The pace of change in manufacturing is accelerating. Factories today are dynamic environments where advanced robotics, data analytics and artificial intelligence (AI) are transforming every step of production. AI-driven systems now monitor equipment in real time, predict maintenance needs and optimize supply chains with unprecedented precision. As a result, the skills required in modern manufacturing are evolving rapidly, and lifelong learning is no longer optional, it's essential.

At Kirkwood, we recognize that the future of manufacturing will be defined by those who can work alongside these intelligent systems. That's why we're integrating AI concepts, automation and digital literacy into our curriculum. Our students learn not just how to operate machinery, but how to program, troubleshoot, and optimize smart technologies. They gain hands-on experience with collaborative robots, sensors and simulation software—tools that are shaping the factories of tomorrow.

We're responding with three strategic shifts: flexible delivery, modular credentialing and deep employer integration.

First, we're redesigning our courses using competency-based education. This model allows students to advance once they demonstrate skill mastery, regardless of seat time. Instead of moving at the pace of a tra-



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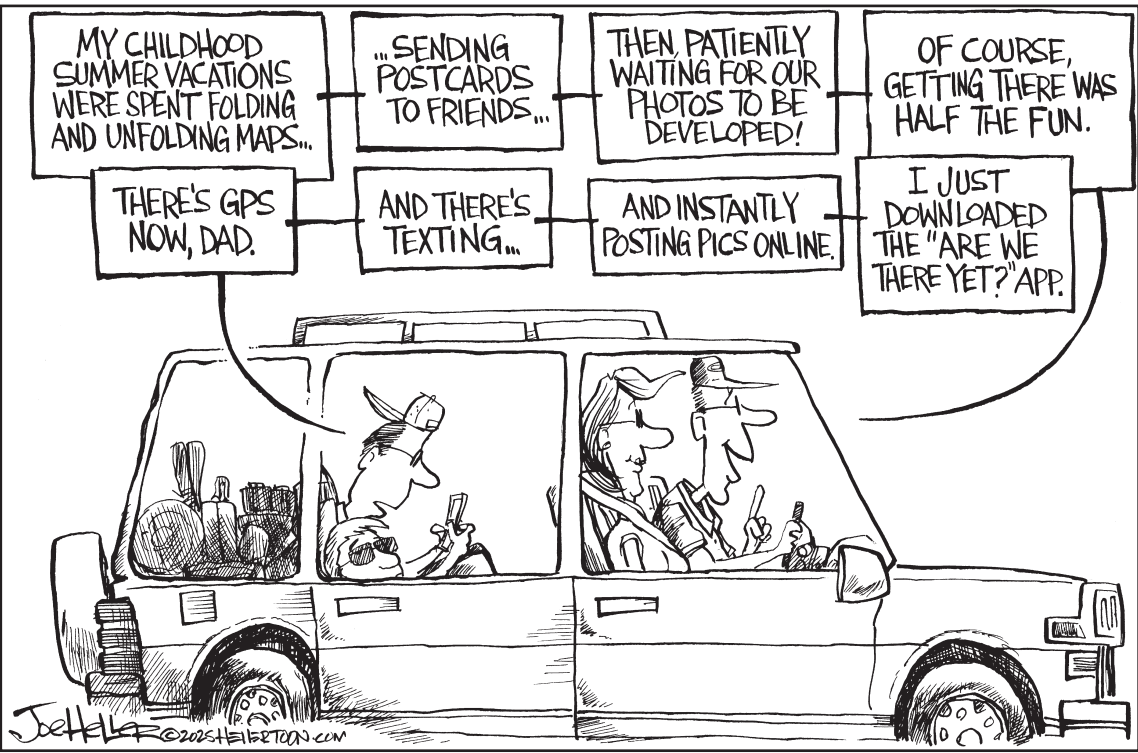
ditional term, students move at the pace of their learning. This, combined with multiple modality content and open lab availability, enables students to learn on a schedule that fits their lives.

Second, we've embraced a modular credentialing approach. We're breaking down programs into smaller, stackable credentials that reflect the skills employers want now. Students can earn badges and microcredentials that lead directly to jobs, while still having a pathway to full diplomas or degrees. This makes the value of education more visible and immediate, without locking students into an all-or-nothing model.

Third, our programs are built with and for industry. Our curriculum is shaped by constant feedback from employers who serve on advisory boards, co-develop training modules, help evaluate student readiness and often sponsor student training. This ensures that we teach exactly what Iowa's workforce needs. From robotics and automation to machining and fabrication, our programs stay aligned with the jobs of today and tomorrow.

These aren't abstract initiatives—they're producing results. In the past year, we've placed hundreds of students into local manufacturing and trades jobs, expanded course offerings in rural areas, and launched new curriculum models designed for flexibility and relevance. We're also preparing to serve even more learners through targeted support for English language learners, underrepresented populations, and working adults reentering the classroom.

At its best, public education is the most effective solution to workforce challenges—but only if we're willing to rethink the models we've relied on for decades. At Kirkwood, we're not simply reacting to change, we're leading it. Because manufacturing the future isn't just about machines and materials—it's about people who are ready to harness the power of technology. And at Kirkwood, we're building the systems, programs, and partnerships that ensure Iowa's people are prepared for the opportunities ahead.



Try, Try, Again

Our recent weather challenges were only fleeting moments in comparison to the more disagreeable spring days of the past, but now they're all finally gone. By the time this column appears hopefully they can be just memories and we can start complaining about something else.

But that's not the way things usually go.

What I'm saying is we often spend too much time worrying about what we shouldn't have to, but we never know what they are until after we have done them or have them done to us.

Like with me last week when I discovered my handy little flip-lid ice cooler no longer had a push button to hold the lid on and shut. I fretted how I would get along without the cooler-- that I would have to buy a new one soon.

Then, one day, I saw what looked like a likely replacement piece lying on the ground in my driveway, close by another piece.

"GOOD" I thought. But,

even so, I still needed one more piece, three in all.

A few days later, in the house, I saw an item shaped like the cap of a large lip balm tube lying in a dish. 'Probably not', I thought, but I will try it anyway—Lo! It was the piece I needed! How lucky I thought I was to always save things that look like they might need a home somewhere. The cooler works again! You may want to also adopt a similar habit of salvaging odd-looking things—sometimes that works.

Now then...I was going to continue writing more this time about my life after I graduated from high school, but some of those days, as I remember now, got rather complicated; so I will get back to that story at another time when I have more time to sort it all out. You know how it goes: one need to smooth out the rough parts to help things look like they should've-- if one had known then what one know now.

Naivety still lacks sustainability.

As I have said before, life



Lois Eckhardt
Shorts Stories of Now & Then

doesn't always go as one plans --that's not a bad thing, it just does not always happen the way it should've.

What else is there to share? How about a description of how one might react to going back for a look at the countryside where one used to live, after not having been there for several years?

Oh my goodness! That's a story in itself. I'll try to make it short, because that pretty well describes my recent reaction: things aren't like they used to be. The roads you used to drive on are no longer there, they're fields now. The houses and out-building you don't recognize are not the ones you remember when you lived there, nothing looked the same any more; and you are suddenly ready to go back to where you are now, back home to where you know your way around.

LETTER TO THE EDITOR

Sen. Ernst takes center stage with Medicaid comments

Watching the President pull another TACO (Trump Always Chickens Out) surprise last week with tariffs in flux, up, down and all around, it was amazing to see Senator Ernst steal the limelight by her comments at a town hall meeting.

Sporting the same condescending tone seen at similar events by Rep. Hinson, she tried to brag about the proposed cuts to Medicaid. She claimed those who are in need would be covered, and when a skeptical crowd didn't buy it and someone said, "People will die," she responded with the same snarky tone.

Then, as MAGA partisans are wont to do, she doubled down, on stupid.

The bill proposes to cut \$800 billion over 10 years, and the CBO estimates that it could mean up to 10 million people would get cut off.

Medicare is the primary payor for long term care in the

U.S. And yes, there is waste, fraud and abuse in many federal programs, as there is in private insurance. But it's usually not some individual pulling a fast one, it's fraudulent billing for services never rendered, and the like. The massive savings Ernst is claiming will come from the bill just aren't there.

So what Ernst is promoting is a bill that takes benefits from the old and poor and using those funds to help fund a tax cut for the richest among us.

If she really wanted to drum up some savings, she should go after the wasted billions that go for military contracts. But that hits a little close to home for the Senator who sits on the powerful Armed Services committee.

You really made them squeal this time, Senator.

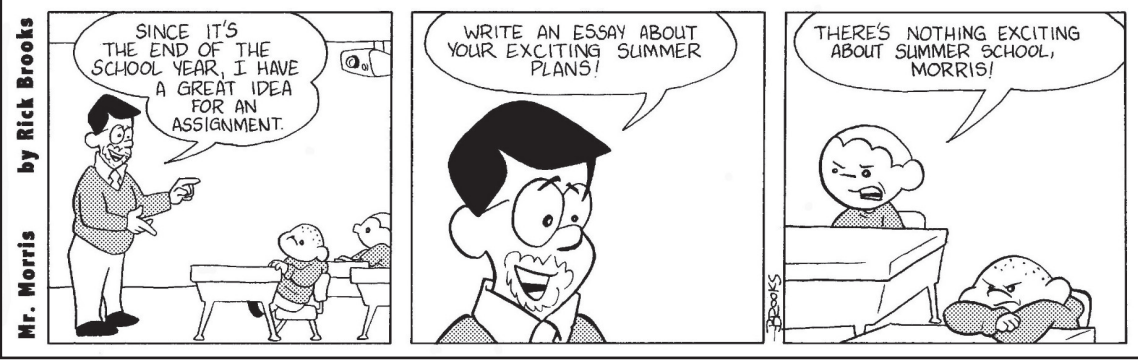
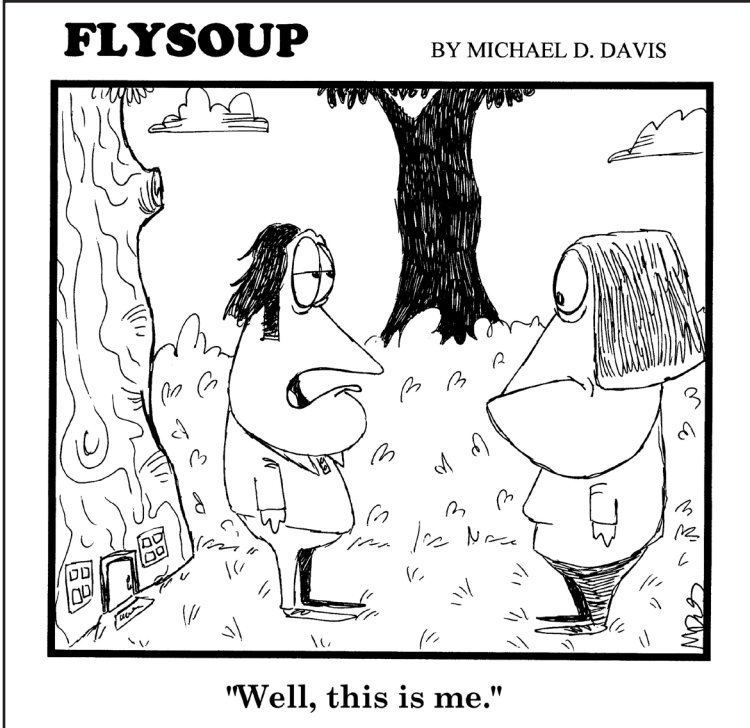
Thomas Jacobson
Riverside

When will Republicans stand up to Trump?

Well, Republicans, what will it take to make you put the country and constitution over your own political ambition and stand up to Trump? Will it be a self-serving trip to three Middle East countries to promote his own businesses – NO. How about a \$400 million bribe from a country backing Hamas and Iran – NO. Certainly a \$148 million dinner to bolster his own cryptocurrency would do it – NO.

Apparently nothing can pry the GOP's lips off the Royal Tush (yes, I said 'tush' – it's a family newspaper). Does the G in the GOP stand for gutless? Please prove me wrong.

Skip Slaughter
Riverside



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