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Machine-Proof Your Career

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Imagine an art student sketching a building, her electronic pencil moving across her tablet. As she draws, she receives messages about architecture, the type of brick she’s chosen, vegetation and water necessities. She’s acquiring information specific to her work as she goes along. It’s an orderly simple example, but suggests ways in which an entire curriculum can be built around learning outcomes — that technology helps students achieve without being on a pre-determined course list.

Alex Freeman, senior director at The New Media Consortium, analyzes trends in education and argues AI will be increasingly important on college campuses of the future.

“We’re sectoring the cutting edge of it now, but within 10 years the changes will be very important, he says. “These will drive higher education for decades to come.”

Freeman says trends include flipped classrooms, currently being used at Linfield, where students watch a presentation before coming to class, then use class time itself for hands-on or collaborative instruction. He notes the classic “sage on a stage” model, with a professor lecturing to a class, is transitioning to a “guide on the side,” where students work independently and professors offer advice.

Adaptive courseware — applying algorithms like those used by Netflix and Amazon — is also becoming more common. It pinpoints areas where individual students will be more likely to succeed, and then helps teachers shape the most effective ways for students to learn, based on data from thousands of others.

“With a textbook there are the same few questions at the back of the book for everyone, regardless of their level,” Freeman says. “With AI, the few questions at the back become personalized based on how the student responds. How many questions should a student have? That depends on the student.”

Laura Berney, Linfield’s Online and Continuing Education (OCE) director, says these days the same digital tools used in online education are increasingly being implemented in traditional classrooms, too.

“We’re preparing students to live and work in a digital age and our education should reflect that, both in online and face-to-face classes,” she says.

Whatever the details turn out to be, the transition ahead will no doubt be unsettling for many in higher education. But the digital shift fits hand-in-glove with Linfield’s commitment to agile education, says Susan Agter-Krippenhahn, vice president for Academic Affairs and dean of faculty. Professors are already continually adapting curriculum to present relevant material to students, she says. That’s a process that will continue, even if it is in new and different ways.

“Linfield faculty care passionately — not just about teaching, but about teaching and learning,” she said. “Even our most effective lectures make use of a range of teaching tools to engage students.”

Among those tools are computer-simulated scenarios, hands-held electronic devices that produce immediate data for the class to see and cloud-based software or databases that allow students to work simultaneously on problems.

“These tools give faculty and students more information about learning and open up time for robust discussion, collaboration and hands-on work that ignites learning,” Agter-Krippenhahn says.

The same, she predicts, will be said for whatever digital changes come next.

— Laura Davis and Scott Bernard Nelson ’94

“Universities have not changed for centuries, but they’re going to have to if they want to survive.

It’s time to rethink how education works.”

— Joseph Qualls, chief executive, RenderMatrix Inc.

The Jetsons imagined a futuristic world where a typical work week was a single hour, two days a week. Technology took care of the rest for George Jetson and his co-workers — representing the great hope that technology would make human lives easier.

But the animated series also foreshadowed a longstanding fear about automation: that it would inevitably steal human jobs and leave people struggling to find work in a technological world.

George was forever battling his workplace nemesis, Uniblab the robot, and regularly getting fired and re-hired by his curmudgeonly boss, Mr. Spacely.

It was smartly subversive comedy, and captured themes that continue to resonate to this day.

The loss of manufacturing jobs to automation was a significant talking point in the 2016 presidential election, and fears about technology turning over entire industries has spread far beyond factory workers.

So what can you do, as an employee beginning a work life or already mid-career, to reduce the odds of being replaced by technology? Be smart, human, focusing on skills that can’t easily be replicated by a computer. These are the sorts of soft skills that liberal arts graduates tend to excel at, career surveys show.

— Michael Hampton

Tips:

• Employers want people who are warm, friendly, easygoing and cooperative with others. Empathy shows employers you are a team player and part of the work family.

• Good employers plan, set priorities, use common sense and adjust to day-to-day challenges. Follow your curiosity.

• Focus on continuous learning. Whatever you do, don’t stand in place while the world around you changes.

• The courage and willingness to speak up and accept new challenges is highly valued by managers. Employers appreciate individuals who speak their minds and ask direct questions about procedures and company operations.

• Writing in the workplace has to be coherent, logical and compelling. Excellent writers will excel in most settings and remain a valuable asset in advancing the company mission.

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