'Just-in-case' learning, around which present-day education systems are mostly built, are ill-suited for the 'just-in-time' business world.

✦ THOMAS FREY, DAVINCI INSTITUTE

Poor fit

If you have had the fortune to have a college education and you are two or more decades removed from the experience, what do you remember about what you learned?

If you are in the hard science world, with a PhD. in astrophysics and still working in that field, for example, no doubt you remember quite a bit, and you have built on it ten-fold during your career.

On the other hand, if you had a liberal arts degree, you may find it harder to point to where exactly your education gave you the bits of knowledge you needed to be, say, a politician, a banker, a CEO, a futurist. No doubt throughout your college years you learned and honed some important 'soft skills', like communication, collaboration, and stick-to-it-iveness. But in a way, are not those just reinforcements of the lessons we have learned since kindergarten: "Use your words!" "Play nice!" "Don't quit!"

A while back, I went through the process of analysing which of my courses in college had the least value throughout my working career.

No, I am probably not the best example since I was working on an undergraduate engineering major. But I took the classes the college required for me to graduate with a degree in engineering. These included a super-important class on how to use a slide rule, Fortran programming (done with punch card machines), and calculus. No, I have never used a slide rule since then, and even though I worked as a programmer and solved tons of problems mathematically, I have never used Fortran or calculus either.

Colleges today end up being very backward-facing organisations

Our education systems have been built around 'just-in-case' learning which ends up being a poor fit for our 'just-in-time' business world. Very little of what we learn in college ever gets

put to use in today's business world. We learn tons of great stuff just in case we may ever need it in the future.

So, at the risk of over-simplifying:

- Just-in-case learning involves backward-facing skills that may or may not be valuable in the future.
- At the same time, our just-in-time business world needs the most relevant and state-of-the-art skills possible.

To be fair, everything we learn in college has a way of colouring our thinking and giving us new reference points we had never get otherwise.

But colleges can only teach what they know, and they cannot change curricula on a dime.

There was no Java programming, let alone C/C++ programming, when I was in college. Fortran was the best way to introduce us to the amazing world of computers and programming.

The question remains, though: Are there Fortran- and slide rule-type skills being taught today that will have little or no enduring value in the future?

And more importantly, as college costs escalate and repayment plans extend for decades, does the usefulness of a college education wear out before the payments end?

Today, knowledge is growing exponentially. In many fields, the useful life of knowledge is now measured in months rather than years. According to Cathy Gonzalez, in her 2004 paper on *The Role of Blended Learning in the World of Technology:* "One of the most persuasive factors is the shrinking half-life of knowledge. The "half-life of knowledge" is the time span from when knowledge is gained to when it becomes obsolete. Half of what is known today was not known 10 years ago. The amount of knowledge in the world has doubled in the past 10 years and is doubling every 18 months according to the

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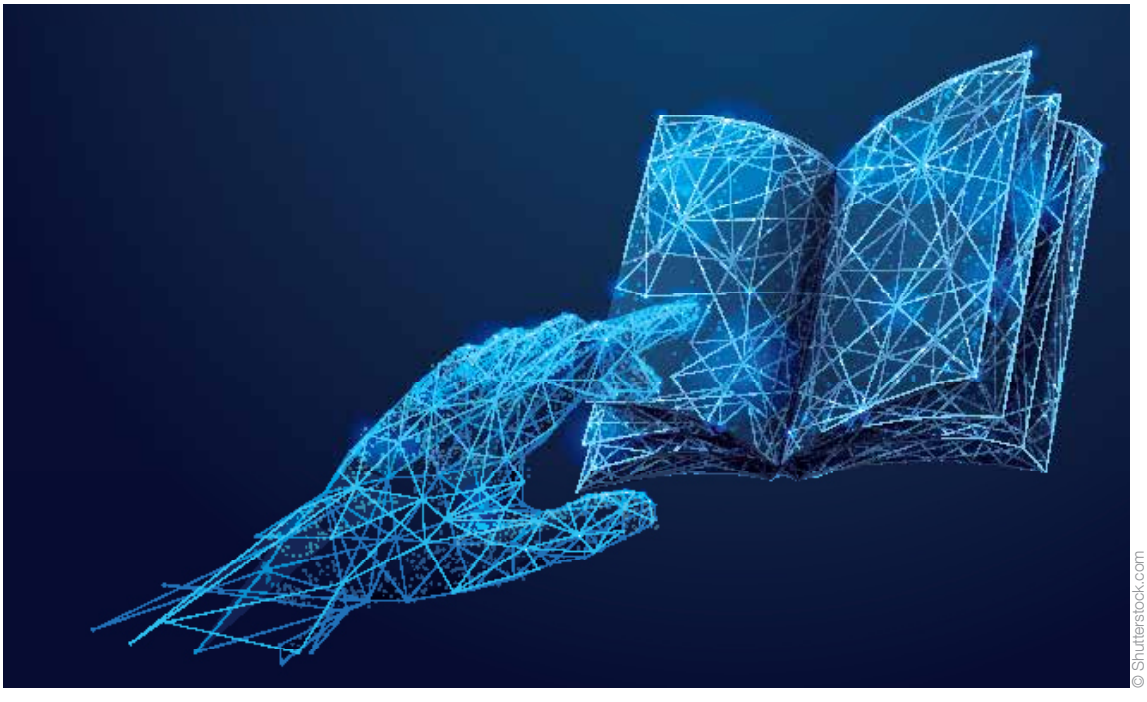

Organisations who want to hire people with just-in-time learning skills should have a major role and stake in their development.

American Society of Training and Documentation. To combat the shrinking half-life of knowledge, organizations have been forced to develop new methods of deploying instruction."

Unlike apprenticeships, where learning to be a plumber or electrician creates real-world value and tangible results, very little of the day-to-day skills needed in the business world are actually taught in the college classroom. So, what can we learn from the trades model?

Apprenticeships are on-the-job training. After a basic level of coursework, the employer essentially takes over, ensuring that the skills the student masters will be relevant and valuable.

Could non-trade skills, related to business, marketing, finance, and management, for example, find value in a similar model?

Some do… sort of. Internships in different fields provide college students with a taste of the real world. Student teaching is a rite of passage for aspiring teachers. These brave souls teach real students, and a real teacher at the back of the room will later explain to the teacher-to-be the way things really work.

Spending four years in college to earn a degree is all part of achieving status, while at the same time, demonstrating our ability to learn. Only a relatively small portion of what is learned will hold long-term value.

So, is there a better way?

When hiring, employers only attribute 20 per cent to a person's subject matter expertise and skills. Other deciding factors include things like their ability to 'detect and analyse a problem', 'describe a situation', 'be a team player', and in our current work-from-home environment, 'being a highly motivated self-starter is key'.

Organisations who want to hire people with just-in-time learning skills should have a major role and stake in their development.

If a student is going into a business field, does it make sense to integrate their learning into an actual work environment with the likes of Pepsico, Caterpillar, or Pfizer? They will most assuredly receive 'just-in-time' business training that reflects today's needed skills and knowledge.

To be sure, there will never be a one-size-fits-all solution for education in the future.

What I have described is just one approach to help ensure what students learn 'in school' is relevant when they graduate. We should expect a number of experimental approaches as our tech world attempts to 'crack the formula' for future education.

However we do it, 20 years from now, learning will need to be far more relevant, delivered at a far lower price, and done at the 'speed of need'. IM

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