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Providing Students with *Pathways* to High-Value Careers

By Ryan Craig

The skills gap—the gap between postsecondary education's production of educated graduates and what employers say they need—has become a top economic priority. Surveys report increasing dissatisfaction among students and employers. Students are upset because fewer than 20 percent of graduating seniors have job offers before graduation. And employers are equally unhappy; only 11 percent think graduating students have the competencies their businesses need.

The skills gap has contributed to poor employment outcomes for post-Great Recession graduates. During and after the recession, as many as half of all bachelor's degree graduates were unemployed or underemployed. Even now, after several years of recovery, we have more than eight million unemployed workers and five million unfilled jobs.

For their part, students seem desperate for solutions, fueling the growth of the "boot camp" or "just-in-time education" sector over the past few years. These programs produced over 16,000 graduates in 2015. For example, coding boot camps offer "last-mile" training for anywhere from two to six months, providing the requisite technological "hard" skills that help students qualify for entry level jobs at a wide range of employers. Many predict these programs have already "disrupted" the master's

In Short

- The skills gap – the gap between the skills students graduate with and the skills businesses require – contributes to poor employment outcomes.
- Combating the skills gap, a top economic priority, requires constructing clear and low-risk pathways for students between college and employment.
- Employers and institutions of higher education are not typically equipped to construct effective pathways.
- Intermediaries provide a scalable solution and can create low-risk pathways into the most economically productive professions.
- Four highly effective intermediaries are already making a dent in the skills gap and improving the hiring process for both students and employers: Galvanize, PrepMD, AlwaysHired, and Revature.

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> The past few years have seen the emergence of dozens of pathways intermediaries whose business it is to understand employer needs, work with colleges and universities to inform curriculum, match students to employers, and even provide employer-specific training—all before employers are asked to make hiring decisions.

degree market in information technology (IT). The downside is that these programs tend to start at $10,000, contributing further to issues of affordability in higher education.

In my work at the intersection of higher education and the market, the most promising strategy to address these issues involves providing clearer pathways from college to employment. What might a clearer pathway look like? It involves three elements:

1) A curriculum informed by a specific industry/sector;
2) Matching students to employers (preferably on the basis of competencies or actual work product); and,
3) Making additional employer-specific training available before employers need to make a hiring decision.

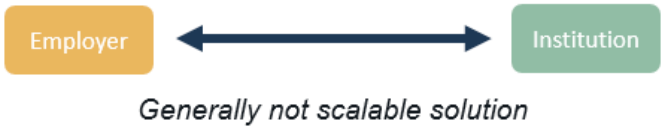
So the question is: Who is going to build these pathways?

Employers have little interest in building them. American employers are renowned for being unwilling to engage in any deployment of training resources before employees are hired. They want perfectly qualified, job-ready employees served up to them—or they simply won't hire. As Peter Capelli of the University of Pennsylvania's Wharton School of Business notes, "Employers are demanding more of job candidates than ever before. They want prospective workers to be able to fill a role right away, without any training or ramp-up time. To get a job, you have to have that job already." He calls it the "Home Depot view of the hiring process," where filling a job vacancy is "akin to replacing a part in a washing machine." The right "part" is there or it isn't. And if it isn't, the employer waits.

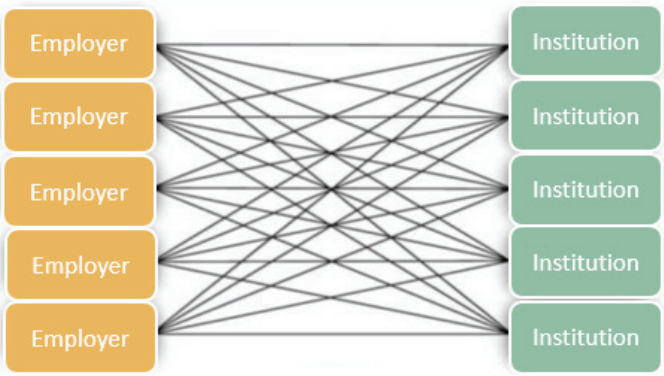
As for colleges and universities, they've never been driven primarily—let alone solely—by the objective of closing the skills gap or building pathways. Their traditional argument is that higher education prepares students for their fifth job, not their first job. Nonetheless, this argument has begun to carry less weight with important constituencies—employers, students, government, and the media. The prevailing consensus now seems to be that if the first job isn't a good job, the fifth job is likely to be less attractive and remunerative, as professional careers are highly path-dependent.

Even if specific employers or universities were interested in developing and implementing these pathways, they wouldn't be scalable because they'd be one-to-one: a pathway from one institution to one employer. Very few employers will be interested in managing structured pathways with dozens, let alone hundreds of colleges. Few universities are prepared to manage structured pathways with even a handful of employers, let alone hundreds.

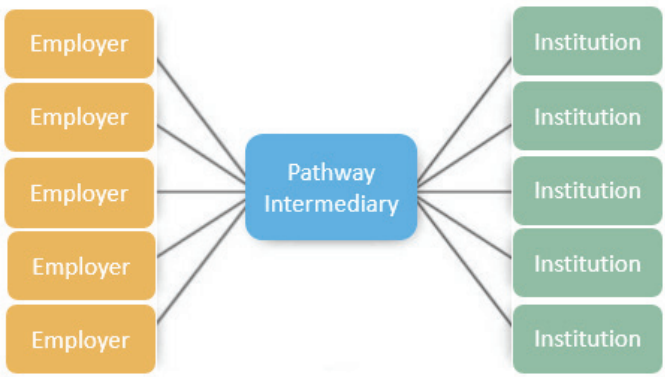
Closing the skills gap requires pathways from thousands of institutions to tens of thousands of employers. This means we need a different approach in order to achieve a solution that scales for most students.



Generally not scalable solution



The past few years have seen the emergence of dozens of pathways intermediaries whose business it is to understand employer needs, work with colleges and universities to inform curriculum, match students to employers, and even provide employer-specific training—all before employers are asked to make hiring decisions. Pathways intermediaries have the potential to connect thousands of institutions to tens of thousands of employers.



Some of these intermediaries focus solely on training. Some focus on training and placement or matching services. Others focus solely on matching candidates with employers. In terms of revenue, some seek revenue from job seekers. Others generate revenue from employers. Still others attempt to charge education providers. Many of them are experiencing rapid growth.

The result is a matrix that looks something like this:

	B2C	B2B	B2U
Training services	Bootcamps Online skills courses	Screening and interview training	Skills training curricula
Training and matching/ placement services	Bootcamps with placement Online training with employer engagement	Staffing 2.0 Employment broker	Outsourced career services
Matching/ placement products and services	Career assessment (offline and online)	Competency marketplaces ePortfolios	Credential management Curriculum management

If intermediaries like these are going to build these pathways, which models are most likely to scale? Scalability involves two additional factors. First, today's students, so-called "organization kids," may be more risk and failure averse than past generations. We either have to change this behavior—a nearly impossible task—or reduce or eliminate the risk in the pathway. Reducing risk means providing some kind of guaranteed outcome for students.

The second factor is that the few employer-driven "pathways" that exist don't lead to the most economically productive professions. When I was a senior in college, I was sold on the low-risk pathway provided by the management consulting firm McKinsey & Co. They visited campus and spun stories of how a two-year gig as a Business Analyst was like being paid to go to business school with unlimited career options that would follow. They'd even pay for business school after two years of employment if I still wanted to go.

Similar stories ensnare thousands of our most talented graduates into starting their careers in consulting, investment banking, and law. This would be fine, except for the fact that these professions focus on lower value problems compared to the higher value problems being addressed in fields involving a greater level of technology, innovation, and entrepreneurship (i.e., the jobs that, for example, coding boot camp graduates are getting).

So where are the low-risk pathways leading to high-value careers?

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Here are four examples of such pathways from college to high-value careers. The first two are tuition-based programs with (effectively) guaranteed outcomes. The second two are (effectively) tuition-free programs with the same result. All four are low-risk pathways that are already making a dent in the skills gap and reducing underemployment of talented college graduates.

Galvanize

Galvanize is a coding school connected to an ecosystem of technology companies. Each Galvanize campus houses dozens of companies—ranging from start-ups to project teams from tech giants like Google, IBM, Pivotal and Accenture. Galvanize offers four core immersive programs across its seven campuses in California, Colorado, Texas, and Washington. However, the vast majority of students enroll in Galvanize's six-month web development immersive program that is currently yielding a 97 percent placement rate, with graduates' average salary from $43,000 to $77,000—from an investment of $21,000 tuition for the program. No coding or STEM background is required. Galvanize also offers programs in data science and data engineering, including a master of science in data science in partnership with University of New Haven, all with similarly impressive placement rates and salary differentials. Increasing numbers of students view Galvanize as a low-risk pathway to high-value careers in technology.

PrepMD

While there are a plethora of low-risk pathways in coding, other pathway programs are emerging in niche professions. PrepMD is a great example in the medical device sector. Companies like Medtronic and Boston Scientific that produce cardiac implantable electronic devices are required to provide trained clinical specialists to be present during implanting (i.e., testing whether the location of the electrode is electrically optimized), and to provide ongoing device support to patients and doctors. As with coding, no college or university provides the combination of anatomy and physiology training, along with simulations and clinical training that employers require for the approximately 5,000 clinical specialists currently employed in the U.S.

PrepMD has established itself as the chosen pathway into this profession. The PrepMD program requires a bachelor's degree, and although admission is selective, a STEM background is not required. There are other admissions criteria such as geographic flexibility. The training includes 30 hours of online training and then on-ground training for five months, including 10 weeks of clinical rotations. PrepMD has a 94 percent placement rate 90 days after graduation, and graduates average $90,000 in starting salary and bonus. Tuition is $30,000, but clearly low-risk given the placement record. There's also an option that's even lower risk: Students with academic backgrounds in nursing or biomedical engineering who opt to work for select employers for one year after graduation receive a significant discount on their tuition.

PrepMD co-founder Bob Mattioli is proud of his successful pathway, but is quick to note that PrepMD is not an institution of higher education—unless, of course, "you spell 'higher' like 'hire'."

AlwaysHired

AlwaysHired founder Gabe Moncayo noticed that technology companies seeking sales people expected entry-level candidates to already have sales experience, which is something colleges and universities don't provide. He found it odd that talented students from University of California campuses were unable to secure employment at these companies. In response, he started AlwaysHired, a boot camp for technology sales.

The AlwaysHired curriculum includes training on technology and sales, and then technology sales strategies followed by a rotation through a real sales environment where students cold call on behalf of a client and log calls in Salesforce. Although the AlwaysHired training is a relatively brief 40 hours, Gabe notes that the program is a "huge differentiator for new graduates who don't understand the difference between a Series A and Series B company, let alone how to sell technology to each type."

AlwaysHired also boasts a 90 percent placement rate and further reduces risk by only requiring that students pay a $200 deposit. AlwaysHired gets paid when students are hired, by either taking 6 percent of the student's first-year salary or less if students are hired by a company in the AlwaysHired network, from which AlwaysHired would receive a placement fee.

Revature

Over the past decade, Revature has identified, trained and hired 3,000 college students or recent graduates into first jobs in technology and coding, at no cost to students (or their universities). Revature recruits students with an aptitude for coding, but none of the employment-ready technical skills, and provides extensive basic-to-advanced (i.e., employer-specific) coding training free of charge. The training typically starts online, and then progresses to a free 12-week boot camp where students gain advanced, employer-specific technical skills in addition to soft-skills training. As part of their training, students produce ePortfolios, which are evaluated by Revature clients. Students who complete the training are hired and then staffed out to or placed at hundreds of Revature clients across the U.S.

Because Revature generates its revenue from employers or clients, the only commitment students need to make is to relocate to the client's city for their two-year commitment to Revature (although the commitment rarely lasts two years, because most students are hired by the client after a year). As a result, the Revature pathway not only leads to a great first job in technology, but an even more promising second job at a Fortune 500 or other market leading enterprise like Deloitte, Accenture, Geico, or Freddie Mac.

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Beyond these four, dozens of new pathways are emerging across a range of sectors, from IT to healthcare to manufacturing and business services. All have great potential to accommodate hundreds of thousands of students annually. They have several advantages. First, neither the college nor employer needs to do the heavy lifting; the recruitment and training risks are borne by the intermediary. Second, the intermediary is providing not only relevant industry-specific curriculum but also employer-specific training that significantly increases the appeal and value of the student to a target employer. Third, the pathway costs nothing for students, and students are effectively guaranteed employment if they complete the training. Finally, these aren't pathways to further professional training but rather direct points of entry to some of the fastest growing sectors of the economy. These pathways provide a way for a large number of talented new grads to start their careers, a win for them and for the economy.

It's also a win for colleges and universities. These models allow higher education institutions to stay focused on inculcating the critical thinking, problem solving, and executive function skills that will get students their fifth job, while pointing students to pathways that provide the necessary "last mile" training to get a great first job. And because these pathways begin with foundational skills, they work for all students—not just for computer science and other STEM majors. Low-risk pathways to high-value careers like Galvanize, PrepMD, AlwaysHired, and Revature are directing valuable human capital to more productive uses, which makes us all better off. C

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