

Understanding Entrepreneurship's Role in Rural Workforce Development

Posted on January 7, 2016 by John Hamerlinck



The Rural Information Technology Alliance (RITA) is a workforce development project. Workforce development is not a simple, straightforward endeavor. You don't just find people, train them, and fill slots with employers. There is a world of context to take into consideration. More effectively developing higher education's workforce development efforts requires an understanding of the workplace landscape that goes beyond a series of trainer/learner/employer transactions. It also demands an institutional commitment to active involvement in, and development of broader local and regional economic development strategies, including new enterprise development.

RITA is focused on developing worker skills and proficiencies for careers in the broadly defined world of information technology (IT). IT is somewhat unique in that it is not an industry-specific field. People who write code, keep networks running, and secure, and help solve a wide variety of computer-related challenges work in literally every sector of the economy.

Yes, there are regional clusters of information economy businesses that hire multiple programmers, help desk personnel, or other technicians. Higher education institutions, and these businesses have a common self-interest in increasing the pipeline of local talent to those operations, and we are dedicated to collaborating in all efforts to build and strengthen that portion of the area's workforce.

There is, however, another part of the workforce landscape that is a little harder to wrap one's arms around. That is the realm of small, and very small businesses. The [Small Business and Entrepreneurship Council](http://sbecouncil.org/about-us/facts-and-data/) (<http://sbecouncil.org/about-us/facts-and-data/>) reports that 89.9% of firms in the U.S. have less than 20 employees. Research by the [Ewing Marion Kauffman Foundation](http://www.kauffman.org/~media/kauffman_org/research%20reports%20and%20covers/2013/07/firmformationandeconomicgrowthjuly2013.pdf) (http://www.kauffman.org/~media/kauffman_org/research%20reports%20and%20covers/2013/07/firmformationandeconomicgrowthjuly2013.pdf), tells us that companies less than a year old with under 5 employees have created about 1 million jobs every year for the last three decades. Those with 5-9 employees add about half a million every year. A study by the organization, [Freelancers Union](https://www.freelancersunion.org/) (<https://www.freelancersunion.org/>) estimates that freelancers comprise 34 percent of the U.S. workforce.

The fact is that many of our graduates who choose to live and work in places other than large metropolitan areas, will be working in this entrepreneurial space. They may have jobs that are 50% IT and 50% something else. They might be contracting with multiple small organizations that aren't big enough to employ full-time IT staff. This reality is not unique to rural economies, but the smaller number of large enterprises in rural areas suggests that it may be more prevalent.

With this in mind, it might be wise to ask ourselves some important questions:

1. How can we support local entrepreneurs?
2. How can we support entrepreneurial students?
3. Do our students at least have an awareness of options for entrepreneurship education?
4. Have they been introduced to the services provided by Small Business Development Centers?

Nobody in my parent's generation was a Webmaster, or a Network Administrator. New markets as well as new categories of jobs have opened up to rural communities throughout the world because of information technology. IT will be at the center of creating work that we don't even have a name for yet.

Uniquely rural, place-based assets are driving innovation and diversification in rural economies. Alternative energy, carbon sequestration, local foods, and distributed telework are just some of the areas of opportunity for economic development in rural areas. All of these sectors require both business development expertise, as well as IT infrastructure and

expertise. They will be connected to the *Internet of Things*, and to the rest of the world. The workers we train will make that happen.

These emerging industries have IT as a common denominator. The co-evolution of these rural economic drivers must not happen in isolation from each other. As anchor institutions, it is our responsibility to make sure that doesn't happen. Because in order to remain relevant in the workforce development field, we not only need to know where the jobs are, but where they will be in the future – even if those jobs don't even have names yet.

Tags:

[Workforce Development \(/tags/workforce-development\)](/tags/workforce-development)

[Entrepreneurship \(/tags/entrepreneurship\)](/tags/entrepreneurship)

[Small Business \(/tags/small-business\)](/tags/small-business)

Learning to Code: Finding the Right Fit in the Education Marketplace

Posted on July 22, 2016 by John Hamerlinck

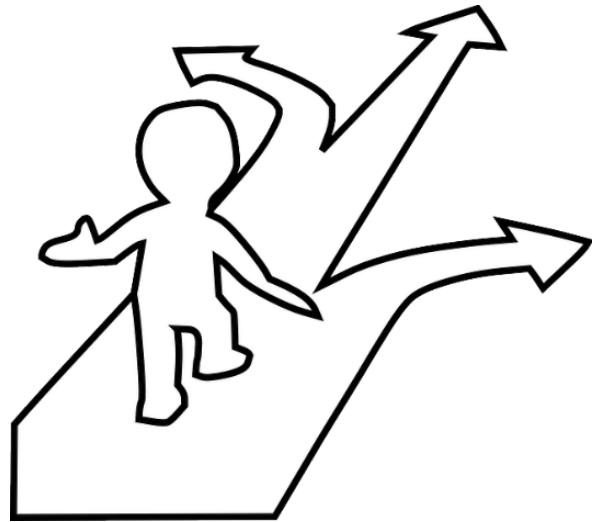


Even though we sometimes like to think of it as existing on some higher existential plane, for practical purposes, we need to think of higher education as a marketplace. We are, after all, selling a service. In exchange for a student's time, and tuition dollars, we hopefully help them form dispositions and habits that encourage a lifetime of intellectual curiosity, and learning. We also cultivate skills, and approaches to work, that equip those students with the assets sought after by employers.

This enterprise, however, is not like many other businesses. We don't simply compete with other education providers on price, or convenience. Learning is a very *personal* process. It requires a good "fit" on private, professional, cultural, emotional, and social levels.

Consider the options for learning how to write code, and for launching a career as an application developer. They all have considerations related to finding the right individual *fit*.

<http://www.ritaconsortium.org/sites/default/files/John%20article%20pic%201.png>)Extremely **self-directed** individuals can find countless free online courses, videos, and training resources. It is a relatively rare, but not uncommon approach. This approach, however, does little to let the isolated student experience the practical reality of being part of a development team.



A second, increasingly available option is the coding **bootcamp**. Bootcamps offer accelerated, immersive training, often lasting 10-12 weeks. A course might run Monday through Friday, for 8-10 hours a day. These bootcamps are not self-paced, 'let's learn the basics' courses. They offer extremely intensive training that is intended to give you the skills to land an entry-level job.

Minnesota's Bootcamp Landscape

Big players in the for-profit education field are all placing lots of eggs in the bootcamp basket. Minneapolis-based [Capella Education](http://www.capella.edu/) (<http://www.capella.edu/>), spent nearly \$40 million to purchase two coding trainers, [DevMountain](https://devmountain.in/) (<https://devmountain.in/>), a Provo, Utah-based programming school, and [Hackbright Academy](https://hackbrightacademy.com/) (<https://hackbrightacademy.com/>), a San Francisco-based coding bootcamp for women.

Probably the most aggressive player in the sector is [The Iron Yard](https://www.theironyard.com/) (<https://www.theironyard.com/>), the largest enterprise of its kind in the country. About a year ago, The Iron Yard received a significant investment from Apollo Education Group, owner of University of Phoenix. One of The Iron Yard's 22 U.S. locations is in Minneapolis. The company also has a site in London, England.

Other Minnesota organizations have entered the bootcamp business as well. The Twin Cities web development powerhouse, The Nerdery, launched its [Prime Digital Academy](http://primeacademy.io/) (<http://primeacademy.io/>) in 2014. [Concordia University](http://online.csp.edu/blog/technology/guide-to-coding-bootcamp) (<http://online.csp.edu/blog/technology/guide-to-coding-bootcamp>) has expanded its traditional academic CS offerings to include a bootcamp option.

Bootcamps are not cheap. For example, The Iron Yard offers four different 12-week, 40-50 hours/week immersive courses. They currently offer the courses at a cost of **\$13,900 each**. The Iron Yard's four courses are: Back-End Engineering (Ruby, C#, Java, and Python); Design (User Interface Design - HTML, CSS); Front-End Engineering (JavaScript and MVC Frameworks); and Mobile Engineering (Swift, Objective-C, and iOS SDK).

Many bootcamps come in at over \$10,000 a course. Some are less, some are considerably more expensive. There is another consideration regarding cost. If you are "all in," gambling that you've chosen the right bootcamp to develop the skills you'll need for the job you want, you could potentially be faced with having to double your investment to get the required skills to move beyond an entry level job. For example, let's say that you can write great code, but you don't know anything about creating relational databases. Are you willing to pay for another bootcamp?

Finally, there is the **traditional college or university** option. A four-year Computer Science (CS) degree is heavily weighted toward theory, and doesn't always include enough practical coding experience to transition easily into a development job. CS graduates often find themselves in the market for additional coding education.



<http://www.ritaconsortium.org/sites/default/files/John%20article%20pic%202.jpg>] At **Central Lakes College** (<http://www.clcmn.edu/>) (CLC), we train developers for the workplace through a [60-credit Associate of Applied Science \(AAS\) degree](http://www.clcmn.edu/mobile-application-development-a-a-s-degree/) (<http://www.clcmn.edu/mobile-application-development-a-a-s-degree/>). Students learn multiple programming languages (SQL, C#, HTML, Java, JavaScript, CSS3, & Swift).

They take two database design courses (MS SQL Server/Oracle), learn both Android, as well as iOS mobile application development, and because of the college's commitment to cybersecurity, they are also learning how to develop secure applications. The estimated total cost of the 64 weeks of course work, including tuition, and books, is \$12,768.

If posed as an *apples-to-apples* comparison, you might think that offering more content for less money means that CLC holds all the cards, right? Not necessarily. Remember, learning is personal. The bootcamp-inclined student is often motivated by the desire for a 180 degree career change with the shortest possible training time possible. They may understand enough about themselves to know that they have the self-discipline to thrive in an immersive environment. The blinders that they wear to keep their focus, are of their own construction. They are willing to tolerate more risk.

Tags:

[Coding \(/tags/coding/\)](/tags/coding/)

[Coding Bootcamps \(/tags/coding-bootcamps\)](/tags/coding-bootcamps)

[Central Lakes College \(/tags/central-lakes-college\)](/tags/central-lakes-college)

[Higher Education \(/tags/higher-education\)](/tags/higher-education)

You Don't Need a 4-Year Degree to get a Great IT Job

Posted on August 10, 2016 by John Hamerlinck



Let's say that you are a high school student looking at career choices, or perhaps you're someone who is unhappy in your current job, and is looking to make a career change. Noticing that there are an astounding number of interesting jobs with good salaries in the information technology (IT) field, you decide to see how long it will take to get the training that you need to work as an application developer, cybersecurity specialist, or network administrator.

Where might you go to find out how long it might take to get into your new career? The extensive data at the [United States Bureau of Labor Statistics \(http://www.bls.gov/\)](http://www.bls.gov/) (BLS) is a place where lots of people turn, including the many counseling and career websites that report the agency's data.

The BLS assigns hundreds of jobs a Standard Occupational Classification (SOC). They use the U.S. Census Bureau's American Community Survey (ACS) to determine information

related to each SCO. The extensive survey identifies things such as: number of jobs, pay levels, and employment change for each SCO. Below is a snapshot of the information for the job, Network and Computer Systems Administrators.

As you can see, one of the categories that is reported is, "entry-level education." People in each job are asked, "What is the highest degree or level of school this person has completed?" The respondent then checks one of several boxes of options ranging from no schooling, through PhD.

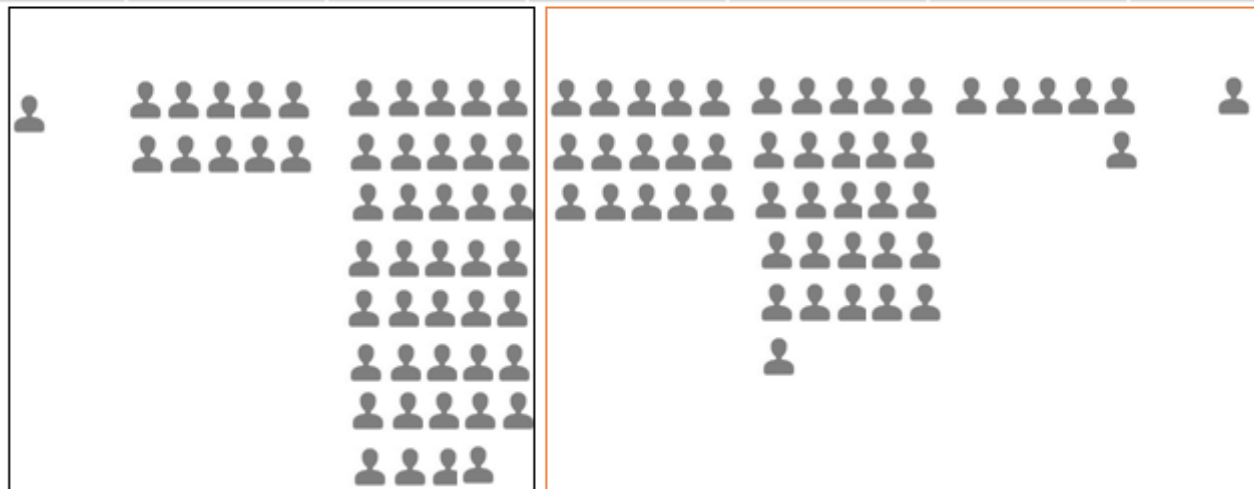
Quick Facts: Network and Computer Systems Administrators	
2012 Median Pay ?	\$72,560 per year \$34.88 per hour
Entry-Level Education ?	Bachelor's degree
Work Experience in a Related Occupation ?	None
On-the-job Training ?	None
Number of Jobs, 2012 ?	366,400
Job Outlook, 2012-22 ?	12% (As fast as average)
Employment Change, 2012-22 ?	42,900

Mode ≠ Minimum Requirement

When you see "Bachelor's degree" in the "Entry-level education" row of the table above, you might assume that you need a 4-year degree in order to be a Network Administrator. That would be a false assumption.

When it comes to the educational attainment category, BLS reports the mode. The mode is simply the response appearing most often (see illustration below). This is also where the problem comes in, because many people are falsely interpreting this modal response as a minimum education requirement. Here is the actual data breakdown for the Network and Computer Systems Administrators SOC.

Ph.D	Masters	Bachelors	Associate	Some College	H.S or GED	Less than H.S.
1.2	10.5	38.9	15.4	26.6	6.5	0.9



<http://www.ritaconsortium.org/sites/default/files/breakdown%20by%20degree.png>

As the table illustrates, approximately half (49.4%) of all workers employed in this job have less than a Bachelor's degree. The individual degree breakdown data is available if you do a slightly deeper dig into the BLS site (the icons below were added by me). **Collectively, more Network and Computer Systems Administrators are performing that job without a 4-year degree, than those with a bachelor's degree.**

More Questions to Consider

Since 2009, the ACS has asked respondents holding bachelor's degrees for the academic discipline of their degree. BLS does not break down what percentage of bachelor's degrees are in the same field as a generally reported category for each SOC. How many people in IT jobs actually hold bachelor's degrees in unrelated disciplines? Anyone familiar with the industry can tell you that IT is a field full of people who formally studied academic disciplines other than Computer Science.

Another important detail to know is that the ACS data only includes workers 25 years of age and older. According to the BLS, there are over 8,000,000 full-time workers in the US workforce between the ages of 20 and 25. How many people in the 20-25 age group work in IT? How many have 4-year degrees?

The fact is, there are a tremendous number of unfilled IT jobs that you can excel in with two years or less of training. That includes jobs in the rapidly growing fields of application development, and cybersecurity. So be sure to explore all of your options. You might find that you can save yourself a considerable amount of time and money, and still come away with a great job.

Tags:

[IT jobs \(/tags/it-jobs\)](/tags/it-jobs)

[Bureau of Labor Statistics \(/tags/bureau-labor-statistics\)](/tags/bureau-labor-statistics)

[education data \(/tags/education-data\)](/tags/education-data)

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