CENTER FOR DIGITAL EDUCATION

Issue Brief

Closing the IT Skills Gap

The Value of Certification in Higher Education

The pace of business is accelerating to staggering levels. The increase in information, and rate of transactions and interactions are exponential. These drivers are causing business leaders to re-evaluate their organizational models and workflows and look to technology to provide them a strategic advantage.

Today, many businesses say technology is vital to achieving their strategic priorities, including reaching new customers, improving staff productivity and capabilities, reducing costs and overhead, and innovating more effectively. As a result, there is an increased demand for skilled IT talent fueled by new technologies such as cloud, big data and virtualization. Yet an international shortage of qualified candidates has left many companies at a loss. A recent survey by *CIO*, *Computerworld* and *Network World* found that more than half of C-level respondents said they are "very challenged" to find qualified staff to design, architect and manage game-changing IT concepts like converged network infrastructures and cloud computing.[1]

This skills gap is having an increasingly adverse impact on business. A 2012 survey of more than 500 IT and business managers, conducted by the Computer Technology Industry Association (CompTIA)[2] found that, to varying degrees, productivity, customer service, security, innovation, speed to market and profitability were negatively impacted by IT skills deficiencies.

IT organizations often struggle to adopt emerging technologies that could make their jobs easier and prove strategically important to the business because they lack the skills necessary to implement these promising new technologies. According to an IDC white paper,[3] demand for cloud-ready IT workers will grow by 26 percent annually through 2015, with as many as 7 million cloud-related jobs available worldwide. However, IT hiring managers report that the biggest reason they failed to fill an existing 1.7 million open cloud-related positions in 2012 is because job seekers lack the training and certification needed to work in a cloud-enabled world.

An Education Gap

In an effort to gain the skills they need to compete for jobs, more people are attending higher education institutions than in the previous decade. According to the National Center for Education Statistics (NCES), a record 21.6 million students attended American colleges and universities in fall 2012, constituting an increase of about 6.2 million since fall 2000.[4]

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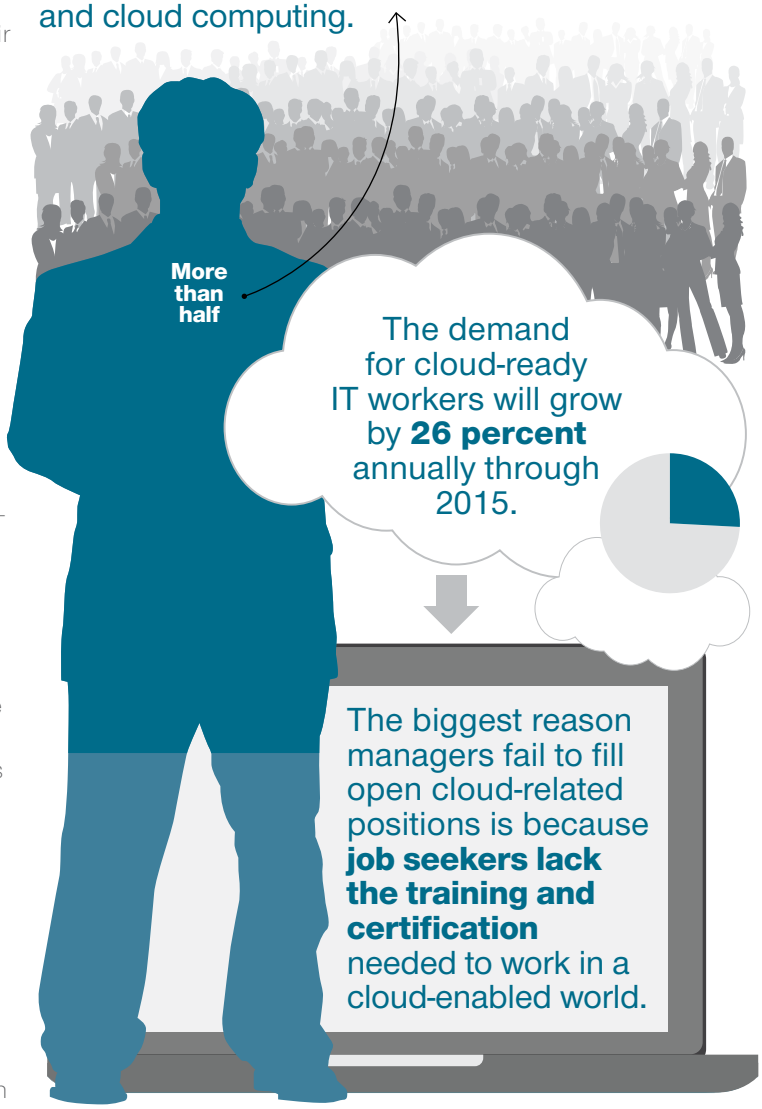
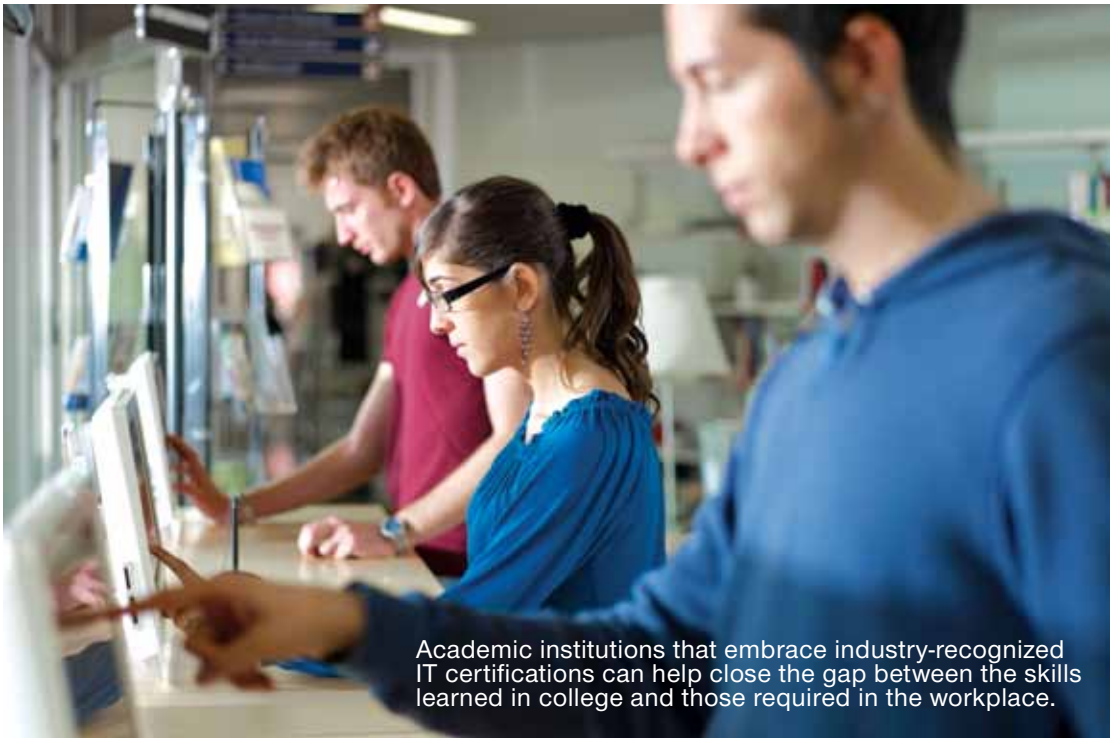


SOURCES: HTTP://H41156.WWW4.HP.COM/EDUCATION/UPLOAD/DE/DE/IDC_EXPERTONE_WHITEPAPER_NOV12.PDF, CLIMATE CHANGE: CLOUD'S IMPACT ON IT ORGANIZATIONS AND STAFFING, IDC, NOVEMBER 2012.



Academic institutions that embrace industry-recognized IT certifications can help close the gap between the skills learned in college and those required in the workplace.

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The question, therefore, is whether academic institutions are adequately preparing today's graduates for the competitive and dynamic work environment. According to "Education to Employment, Designing a System that Works,"[5] 72 percent of education institutions believe recent graduates are ready for work, but only 42 percent of employers agree.

Today's employers express concerns about whether countries such as the U.S. are producing enough college graduates and whether they have the skills, knowledge and personal responsibility to contribute to a changing workplace and help companies succeed and grow. Due to limited resources, it can be difficult for academic institutions to keep up with changing market needs. According to "The Role of Higher Education in Career Development: Employer Perceptions,"[6] over half of the employers surveyed indicated difficulty in finding qualified candidates for job openings.

Employers need IT professionals with the foundational skills and abilities to keep pace with the rapid changes in technology. However, college degrees alone often do not provide a complete employment-ready solution, especially when it comes to IT jobs. Despite the fact that today's younger generations have grown up immersed in technology, many college graduates still do not know how to use technology and apply it effectively in the business world. They may be proficient with Facebook and Twitter, but applying technology to help a business operate more efficiently is an entirely different scenario.

The New Highly Skilled IT Worker

According to "It Takes More than a Major: Employer Priorities for College Learning and Student Success,"[7] nearly all employers surveyed (93 percent) said, "a demonstrated capacity to think critically, communicate clearly and solve complex problems is more important than [a candidate's] undergraduate major." More than 75 percent of those employers also said they desire more emphasis on key areas, including critical thinking, complex problem-solving, written and oral communication, and applied knowledge in real-world settings.

Another study, "How Should Colleges Prepare Students to Succeed in Today's Global Economy?"[8] found that the majority of employers think colleges and universities should place more emphasis on the ability to apply knowledge and skills to real-world settings through internships or other hands-on experiences.

Today, earning a college degree is no longer enough to compete effectively for IT jobs. Academic institutions that embrace industry-recognized IT certifications can help close the gap between the skills learned in college and those required in the workplace. It is imperative that education keeps pace with technology to develop the new type of IT workers employers need — those with technical and business acumen who are able to implement game-changing technology. If not, the skills gap in IT will continue to grow, negatively impacting the economic future of individuals seeking employment in IT and businesses struggling to remain competitive.

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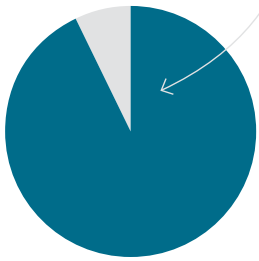

A certification differentiates and elevates an individual from the crowd of competing job seekers.

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The Value of Certification

Certification programs help educators effectively teach, apply and validate IT skills while providing students with credentials that demonstrate real-world expertise to prospective employers. Further, certifications provide tangible and in-demand IT skills, such as cloud computing, that complement academic skillsets. And perhaps most importantly, a certification differentiates and elevates an individual from the crowd of competing job seekers. Hiring managers include certification as part of their hiring criteria recognizing a person with certification possesses determination and drive.

According to the *CIO, Computerworld* and *Network World* survey previously mentioned, 66 percent of IT executives said that technical certifications are "extremely" or "very" important considerations in choosing external consultants, resellers and systems integrators.

"In a competitive job place, certification helps a potential job candidate stand out over graduates who simply took an IT class," says Professor Ron Oler, Ph.D., of Ivy Tech Community College, the largest public post-secondary institution in Indiana. "Employers know that students don't pass a certification test without a lot of hard work and effort."[9]

"Higher-end IT skills are very much in demand today, and certification is a great way for an employer to ensure a potential hire has those skills," agrees Kari Phillips of Davis Applied Technology College, a Utah-based technical college. "Being trained to the certification level and having that piece of paper to validate it is critical."[10]

Not only can certification help a candidate stand out, it may even equate to a higher salary. According to the *2013 IT Skills Demand and Pay Trends Report* from the Foote Research Group,[11] more and more companies are holding out for the IT professional who has the perfect skillset, and people with certifications that match those skillsets are getting paid a premium over what others in the same role without the certification are receiving.

Keeping Pace with the Future

Information technology has enormous impact on business performance today. Companies who don't invest in strategic technologies risk being outmaneuvered by those who do. Today, earning a degree is no longer enough. Job seekers have to prove they have the cutting-edge technology skills, business insight and competence to fill critical job openings.

Certification programs help educators effectively teach, apply and validate IT skills while providing students with credentials that demonstrate real-world expertise to prospective employers. Industry-recognized certification validates proficiency and enables individuals to stand out and succeed in today's technology-driven world.

Certification Sets a High Bar

The proof of knowledge a certification provides establishes value and gives the institution offering it a reputation for preparing students to be career ready. But as expected, passing a certification test is a rigorous endeavor for students. When Ivy Tech first started offering certification in the 1990s, student passing numbers were low. "We were using textbooks alone, and we only had about 15 percent of students passing," Oler says.

In 2010, responding to demands in the marketplace, Ivy Tech took the next step and made certification a requirement for passing their IT courses. "Because the market was demanding these skills, we decided to follow suit," says Oler.

But Oler and other professors at Ivy Tech also wanted to improve passing percentages. So in addition to textbooks, Ivy Tech began using interactive test preparation tools. Unlike textbooks, the interactive test preparation tools are designed to help students better prepare for the certification exam using a full pathway model that includes learning, practice and certification. Prep exams involve simulation development or live-application testing designed to test a student's ability to use technology to his or her benefit, not the ability to memorize the answers to multiple-choice questions. "We saw passing scores steadily improve up to 60 to 70 percent when we started using interactive programs," says Oler.

Similarly, Phillips says Davis Applied Technology College witnessed significant improvements in passing rates once they implemented an interactive program for certification preparation. In addition to a boost in scores, Phillips says other benefits materialized as well.

"The certification made it much easier to help students with their resumes," she says. "If students simply list IT skills on a resume, there is no way to judge the level of their skills. But a certification gives the hiring manager a concrete way to judge what level they are at."

The value of certification is not just in a piece of paper. Certification also boosts confidence, a trait that carries over well as students become job applicants. "The biggest success I see is the increase in students' confidence in their skill level," says Phillips. "Certification gives students something concrete in which they have been successful. It is one thing to get an A in a class; it's another thing to go out and take the test and get certified."

Oler agrees: "Having that certification means something. Often, a hiring company can save time because they don't have to test an applicant for certain skills. They see the certification and they know the students' IT skills are legitimate."

Endnotes

1. Note to CIOs: Train and Certify Your Way Out of the Skills Gap: How to Ensure Your Staff Has the Skills it Needs, Hewlett Packard, 2012, http://h41156.www4.hp.com/education/upload/de/de/IDC_ExpertOne_whitepaper_Nov12.pdf
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8. How Should Colleges Prepare Students To Succeed In Today's Global Economy, the Association Of American Colleges And Universities, 2006, www.aacu.org/leap/documents/Re8097abcombined.pdf
9. All quotes and information from Ron Oler from CDE interview conducted on July 22, 2013.
10. All quotes and information from Kari Phillips from CDE interview conducted on July 11, 2013.
11. 2013 IT Skills Demand and Pay Trends Report, Foote Research Group, 2013, www.footepartners.com/2012TrendReports.htm

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