



A New Paradigm for Cloud Training

A Cookbook for Effective
Digital Training Programs



Fall 2018

Executive Summary

- Comprehensively trained cloud organizations are 80% more likely to adopt cloud and nearly three times as likely to achieve their innovation goals, but are hampered by an ongoing cloud skills gap.¹
- Online platforms and in-person training programs struggle to measure cloud skills and provide effective learning that can be applied into real-world scenarios.
- Vendor certifications provide foundational cloud knowledge, but lack the broader scope necessary in order to succeed in a modern cloud environment.
- Technical leaders should take new approaches to training that create accountability and that are actionable, measurable, and practical.

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Introduction

It's no secret that cloud solutions are disrupting IT and driving new ways of doing business.

Numerous solutions have emerged over the past decade. As cloud ecosystem providers continue to grow and innovate, the list of solutions and services available gets longer every quarter. However, despite the advances and the benefits gained along the way, the lack of appropriate skills is holding organizations back from maximizing the potential of cloud and related digital transformation initiatives.

The answer to solving the lack of cloud skills is investment in training, but the road to success is complex. Organizations are hamstrung by costly, static, and out-of-date learning solutions, which exacerbates a continuing skills gap and increases pressure on meeting innovation priorities. To set their organizations up for success, leaders must balance the need to achieve results for the short term while strategically planning for the long term.

In this report, we explore the new paradigm needed in cloud training to adequately prepare organizations for what's at stake in their digital transformation goals, including the current challenges posed by learning platforms and what new platforms need to deliver in order to be effective.



The Impact of Digital Transformation

Digital transformation is disrupting every industry, changing how organizations approach their technology and customer engagement strategies. Cloud adoption sits at the foundation of these initiatives and offers a flexible, agile, and operational approach.

Organizations have turned to leading Platform-as-a-Service (PaaS) providers including Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform for faster, less expensive, and more efficient ways to run and manage important applications and workloads.

Today, cloud is more than just cheaper storage and processing power. IBM calls cloud computing a “growth engine” for competitive differentiation.² It’s also where companies are using new technologies like artificial intelligence (AI) and machine learning to drive innovation.

There appears to be no slowdown in cloud adoption, with research firm IDC predicting that nearly two-thirds of all enterprise IT infrastructure and software spending will be on cloud-based offerings³ by 2020. As companies increasingly move to the cloud, the ability for teams to translate business requirements into solutions running on cloud infrastructure has evolved into an enterprise core competency.

However, despite the growth of cloud, challenges remain. In attempting to keep up with the breakneck rate of development and emerging technologies, organizations are facing a cloud skills gap that puts innovation on hold and compromises potential.

State of the Cloud Skills Gap

The cloud skills gap is a three-pronged challenge that affects all organizations.

One side is the business landscape. The drive to move applications to the cloud has outpaced the availability of skilled IT professionals to lead and support the transition from on-premises to cloud-based architecture. According to IDC’s CloudView Survey 2017⁴, only 16% of worldwide organizations have implemented resources to meet the demand for the skills and processes needed to efficiently manage and build in the cloud.

The lack of expertise is a legitimate business problem with tangible consequences. In its 2018 Cost of Cloud Expertise report⁵, cloud vendor Rackspace noted that 71% of IT departments believe their organization has missed out on opportunities to increase revenue. The same report found that \$258 million is lost annually due to a lack of cloud skills.

Second, how enterprises migrate to the cloud has evolved. The diversity of IT infrastructure implementation across individual technology stacks means that there is no one-size-fits-all model for cloud adoption. As cloud adoption grows towards maturity, organizations are increasingly diversifying their approach. IDC⁶ reports that over 85% of enterprises will be choosing a multi-cloud and hybrid cloud approach in 2018. Effects of this growing complexity include ongoing concerns around cost optimization and security, which if executed improperly, negates the value of cloud adoption. As a result, professionals with the appropriate skill sets are needed, especially as technical needs grow more complex each year.

Finally, the speed of innovation in cloud computing is continuously impacting which skills are important for companies to develop. While basic cloud knowledge is applicable across platforms, there can be significant differences across vendor offerings. Further, executives at hyperscale providers like AWS, Google, and Microsoft are racing to add hundreds of new features and services to their portfolios, including substantial investments in AI, big data, blockchain, and machine learning.



All of these market forces are changing the way enterprises approach the difficult work of aligning of resources with innovation goals. Addressing the need for new skills is increasingly difficult in a competitive recruitment environment. Enterprises who understand what's at stake in the battle for experienced talent know that the inability to win poses an existential threat to the business.

Forward-focused enterprises understand that the battle for talent is winnable by building digital skills from the inside-out through learning and development initiatives. As organizations seek to build sustainable, long-term programs to build and retain digital skills, the traditional approaches to learning and development will be put to the test — and most will fail.

In the following section, we explore how learning and development initiatives need to evolve to meet the demands of a changing market.

Challenges and New Requirements for Training

In the face of so much technological change, enterprise learning is experiencing its own disruption. Today, traditional avenues to learning such as the corporate learning management system (LMS) are struggling for relevance and competing with new technologies and content options available outside the enterprise.

In the consumer world, the options for learning and development are plentiful. Online learning platforms have course offerings in the thousands and some technology vendors offer their own instructional arm to help users learn their offerings. In-person training, instructional courses, and even vendor certifications are also still employed for some scenarios. However, as promising as all these paths to learning may be, they fall short:

- **Online learning platforms fail to address the common pitfalls of traditional learning systems and most lack the ability to measure the acquisition of knowledge dynamically.**

- **In-person training lacks the context to needed to effectively apply training into day-to-day job duties.**
- **Vendor certifications, while useful for gauging foundational knowledge, don't address the broader scope of platform and technology knowledge required to contribute in a typical cloud environment.**
- **None of the above are able to baseline initial skill sets and offer training based on the specific roles, technologies, and architectures in play at a given organization.**

With these characteristics, challenges, and the cloud skills gap very fresh on the minds of learning and development professionals, it's time to consider what an effective digital training platform would look like.

We explore the characteristics in our next section.



Cookbook for Effective Digital Training Programs

To reliably remain competitive, companies are seeking programmatic, data-driven training solutions. This approach presents a paradigm shift for the training industry as we know it. We interviewed technical leaders from over a dozen forward-thinking enterprises with over 1,000 employees and identified six key pillars to effective digital training programs. The new paradigm for cloud training means that training be:

MEASURABLE

Data is key to helping leaders be sure their workforce is positioned to support the initiatives discussed so far.

Organizations typically rely on “completion rates” or “time invested” as a proxy for ROI to justify training investment. While these may measure a means to an end, they are not sound measurements in units that are relevant. A data-driven approach is necessary for establishing what skills a team has, which capabilities are missing, and how individuals and teams are performing. These skills requirements vary by organization and over time, so measurement mechanisms should be dynamic.

Target skill sets should be mapped to job roles—both existing and future—by technologies and domains. As with any business initiative, the starting state should be easily baselined. Skill visualization should be real-time by team and individual to most effectively address skill gaps and identify those readiness of individuals or teams for tackling specific projects and initiatives.

Value should be placed on the granularity of data around proficiency and progress over time since these are decision-making insights essential to preparing teams for the future.

GUIDED

A report by Digital Realities⁷ found that fewer than 20% of companies focus training on “tangible performance development.” With cloud computing related positions expected to grow 13% annually⁸, organizations should focus on the specific capabilities they need to build.

While some learning strategies emphasize the availability of training as an advantage, this approach cannot guarantee that training actually happens. High-quality content is important, but so are the conditions in which training happens. In the face of key business initiatives, organizations cannot leave skill development to chance. Instead, organizations need to guide skill development in the right direction.

A structured approach to training and its measurement ensures that training is effective and relevant. This can include customizations in accordance with the user’s role, the organization’s technology stack, and established company goals. Finally, assessment and analytics make it possible to plan for both short-term goals such as staffing for an upcoming project or measuring skill growth for longer-term initiatives.

PRACTICAL FOR BUSINESS

Most often, training fails where it has not been designed to meet a specific goal. Many organizational training initiatives will require employees to build the necessary skills to contribute immediately. To be effective, training should be practical, emphasizing actionable skills and outcomes.

As customized and highly specialized IT environments are increasingly the norm, teams need to build skills that they can apply in the context of current projects, as well as the future capabilities that are aligned with the organization’s mission and vision.

Therefore, training must be designed in a way that inspires engagement and guarantees outcomes. An experience that ties together multiple modes of learning—video, labs / tutorials, quizzes—reinforces the topic being learned. Incorporating real-world use cases and meaningful scenarios make the experience more actionable for staff. By organizing training by job role and desired skill set in the context of your organization’s unique digital stack, training becomes much more meaningful.



CONTINUOUS

An organization's ability to innovate depends greatly on the ongoing skill development and proficiency of its teams. With the average shelf life of IT skills now less than five years⁹, continuous learning will be a competitive necessity.

At least in the near term, the acceleration of cloud adoption will continue to impact and even fundamentally transform organizational strategies, implementations, and technical job roles. In this landscape, cloud skills must stay current and continue to evolve with the pressures of innovation.

An always-updated cloud training library will be an essential and strategic resource for ensuring competitive advantage. In addition to the latest platform updates, enterprises need access to the newest services that can inform their cloud strategy and help leverage the latest innovations. While this poses a challenge for digital training providers, it is important to select a provider or to assemble a team that take systematic approaches to maintaining training content on a continuous basis.

SPECIFIC

Given the cloud's relevance to current business initiatives, training cannot afford to be generic. Each organization's cloud strategy is unique, and relies on a variety of roles to lead, implement, maintain, and secure your cloud operation.

While there are common topics that will benefit everyone from cloud architects and network administrators to DevOps engineers and security specialists, each role has distinct responsibilities and skill requirements. To be effective, cloud training should be able to address the specific requirements of teams and the job roles responsible for implementing your cloud initiatives.

For example, while everyone needs to know the basics of how security operates in the cloud, security specialists will require deeper knowledge of all platforms and best practices to keep the entire infrastructure safe. Business professionals, on the other hand, will need to know the language of cloud and how it impacts the business, but will not need to understand the intricacies of implementation.

Better still, your digital training program should seek to democratize key teams' tribal knowledge across the organization in relevant way; for example, everyone should know how your organization's specific security policies affect his or her job role.

ACCOUNTABLE

In order for digital training to be minimally effective, buy-in must be obtained from executive leadership. For training programs to be truly effective, the organization should know that executive leadership views skill development as an ongoing operating principle.

Too often, organizations prefer to 'outsource' training initiatives to third-party companies who may not understand what's at stake. Equally problematic, companies tend to push for the availability of training as a benefit, but then set no expectations around its completion or the expected growth of skills.

One way that technical leadership can assert ownership over digital skills is by creating a high-visibility figure in the form of a Digital Skills Officer. Best filled by a strong IT project manager who understands the importance of learning and development, the Digital Skills officer should liaise with subject matter experts and work to connect the dots between learning efforts, technical roadmap, and business results.

An ideal training platform is one that puts the Digital Skills Officer in the cockpit and enables expectations to be set (and continuously reset) between managers and employees concerning training effort and results.

Data Sources

The six pillars summarized in this paper are based on aggregated and anonymized interviews conducted by Cloud Academy researchers between August 2017 and August 2018. Our subjects included over one dozen senior technical leaders at the director level or above at large organizations with over 1,000 employees.

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Cloud Academy is the leading enterprise training platform that accelerates teams and digital transformation.

Companies trust Cloud Academy to deliver multimodal training on the leading clouds (AWS, Azure, Google Cloud Platform), on the essential methodologies needed to operate on and between clouds (DevOps, Security), and on the capabilities that are unlocked by the cloud (machine learning, IoT).

From the fundamentals to advanced scenario training, Cloud Academy empowers organizations with the knowledge, critical thinking, and hands-on experience needed to adopt, operate, and optimize the multi-cloud.

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