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The Rise of On-Demand Mobile Video for Learning and Development

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Introduction

The past five years have provided the kinds of leaps in technology that have greatly improved the mobile user experience and, at the same time, have caused great disruption for corporate learning and development (L&D). Call it what you will – mobile learning, m-learning, mobile enablement or mobile performance support – it is here in a big way.

Along with the mobile learning evolution, there has been a relatively fast evolution in the use of video – particularly Internet-enabled mobile video. Adoption has only recently swelled, driven by new devices and consumers, for whom it is becoming increasingly prominent.[1]

Two things that separate Internet-enabled mobile video content from video content delivered on tape or DVD are ease and portability (e.g., pocket or purse), and proximity to wireless Internet access. These differentiators – portability and access – enable a more user-centered experience, providing learners with more control of the content they are consuming.[2] It is not uncommon to search for and watch a video, indicate you "like" it, comment on it, rate it, and

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[1] In the U.S., 4G subscribers are 33 percent more likely to watch mobile video on their smartphones than is an average user. Source: *2012 Mobile Future in Focus: Key Insights from 2011 and What They Mean for the Coming Year, comScore*, February 2012.

[2] We believe the primary factor for identifying m-learning today is portability and access. In this context, "portability" means the learning is delivered via a device that is truly mobile, without wires, which can move with the learner with trivial effort. "Assess," in this context, means the learning delivered by a device that has the potential for frequent, if not always-on and ubiquitous, access to new data and new content.

share it with your social network (or with anyone, anywhere for that matter) while you are flying at 35,000 feet.

This type of always-near-always-on activity is just one of several reasons why, as an industry, L&D is grappling with learning content – how to create it, manage it and even recognize what "it" is. This realization – that many learning solutions do not have to be designed, developed and delivered – means L&D's role then starts to look more like the enabler of learning. It is a new approach.

So these three things – the evolution of mobile video, portable / accessible learning platforms and new approaches for learning , – have converged and, along with newer mobile devices (smartphones[3] and tablets[4]), expand and disrupt the traditional role of L&D.

Figure 1: The Convergence of New Approaches to Learning, Mobile Video, Portability and Accessibility

Source: *Bersin & Associates, 2012.*

This research bulletin summarizes Bersin & Associates research on the use of mobile devices for on-demand learning and, more particularly, the rise of on-demand mobile video. It also includes a glimpse of Safari Books Online's on-demand mobile video assets and how they are used at Ancestry.com, the world's largest online family history resource.

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[3] Smartphones have gained rapid adoption among mainstream consumer segments across markets. Nearly 42 percent of all U.S. mobile subscribers now use smartphones, along with 44 percent of mobile users across the E.U.5 (comprised of France, Germany, Italy, Spain and the U.K.). Source: *2012 Mobile Future in Focus: Key Insights from 2011 and What They Mean for the Coming Year, comScore*, February 2012.

[4] Tablets include readers and other web-enabled, handheld devices including, among others, Apple's iPad, Amazon's Kindle, Samsung's Galaxy Tablet and Barnes & Noble's NOOK.

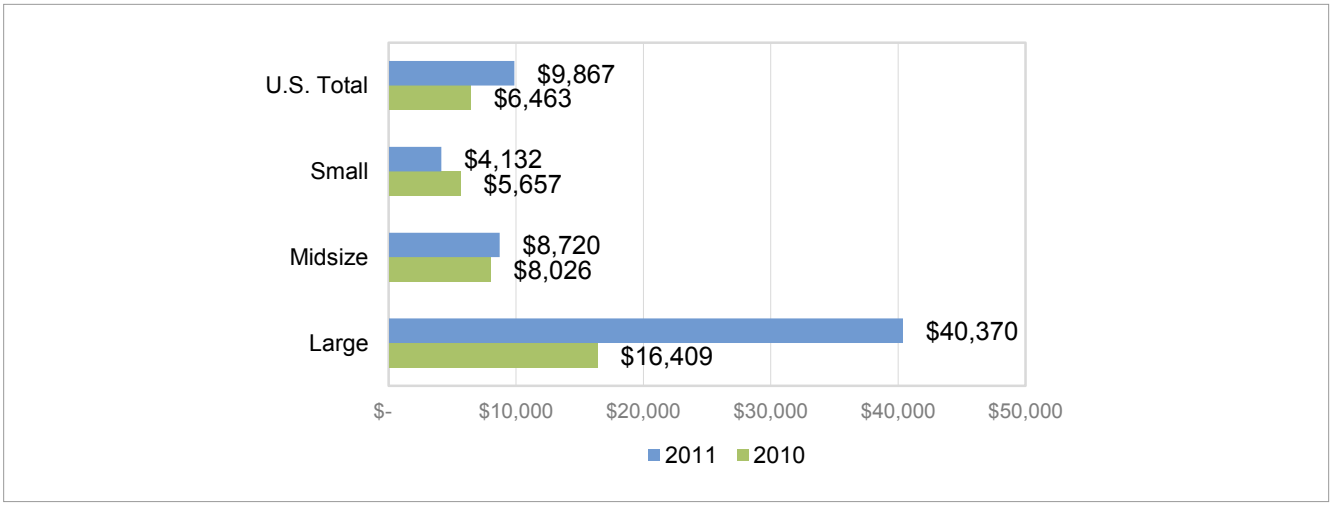
The Importance of On-Demand Learning, Mobile Learning and Video

It is clear that mobile learning is on many organizations' radar as a necessary transition for meeting (and keeping up with) the needs of the business. The drive to enable new methods of learning and performance support can be seen in the questions L&D organizations are asking us. The questions no longer come from the earliest adopters of mobile learning. Rather, we are seeing a groundswell of activity across many industries and in companies of all sizes. Questions we answer now are dominated by "how" and "what" instead of "why?" and are indicative of the current state of mobile learning.

- *"We're in the early stages of planning for a tablet pilot for learning to launch this fall. One of our biggest challenges will be redesigning content for the tablet. What approach should we take?"*
- *"We are looking for an update on options for the deployment of performance support to Blackberry and iPhone devices. What are the platform and delivery requirements for the devices?"*
- *"How do you successfully build performance support into mobile devices? How is learning built into the work flow?"*
- *"How are employees being trained using mobile technology? What are some of the best practices in delivering mobile in the moment learning support?"*

Of course the foundation upon which all of these questions arise is effectiveness. Is on-demand mobile video an effective way to learn? What is an effective approach?

Figure 2: Spending on Informal Learning Tools and Services 2010 to 2011 – by Company Size (U.S.)



Source: *Bersin & Associates, 2011.*

KEY POINT

In 2011, 25 percent of U.S. companies invested in informal learning tools or services.

On-Demand Learning – How It Supports Learning

On-demand learning, one of three approaches that we categorize as informal learning (the other two are social learning[5] and embedded learning[6]) brings personalized content to the learner at the point of need, often integrating the learning experience with other systems, processes and supplemental content.

In 2011, 25 percent of U.S. companies invested in informal learning tools or services. For large companies, that was more than twice what they spent in 2010.[7] (See Figure 2.) This growing investment in informal learning has brought new opportunities for L&D, such as the ability to increase the speed in which it both responds to business needs, and meets learners' expectations for getting information and updates. There are multiple approaches to take with mobile, on-demand learning

5 "Social learning" is also referred to as "collaborative learning." Our ongoing research in this area indicates a preference for learning through connections.

6 "Embedded learning" is also referred to as learning "on the job."

7 For more information, *The Corporate Learning Factbook® 2012: Benchmarks, Trends and Analysis of the U.S. Training Market*, Bersin & Associates / Karen O'Leonard, January 2012. Available to research members at www.bersin.com/library or for purchase at www.bersin.com/factbook.

(including mobile video), and many possible uses for supporting learning and performance (see Figure 3).

Figure 3: Types of m-Learning Approaches – On-Demand Learning

Types of m-Learning Approaches for On-Demand Learning	Possible Uses
• Assessments • Surveys • Courselets or "Nuggets" • Practice Materials • Searchable Reference • Job-aids • Checklists • Podcasts / Vodcasts • Books / Articles • Media Libraries • Audio • Video	• On-the-Job Knowledge Checks • Field Certifications and / or Compliance • Enterprise Talent Reviews • Post-Formal Training Evaluation (Level 2 or 3) • Live Event Audience Response, Feedback and / or Evaluation • Self-Development • Test Prep • On-the-Job Performance Support • Field Sales Enablement • Product / Process Adherence • Pre-Formal Training Preparation • Post-Formal Training Additional Resources • Helpdesk Call Avoidance

Source: *Bersin & Associates, 2012.*

KEY POINT

The just-in-time learning approach supports continuous learning, which enables the learner to gather, access and process information outside the traditional learning environment.

As an approach, on-demand learning is flexible, self-governed and self-sustained, allowing learners to consume knowledge that is personalized and can be immediately applied to their work effort. This just-in-time learning approach supports continuous learning, which enables the learner to gather, access and process information outside the traditional learning environment. Consider the mobile video training for developers illustrated in Figure 4. It can be used for on-demand performance support, an on-the-job knowledge check or simply as an additional resource.

Figure 4: Facebook Platform for Developers Training (on-the-job performance support utilizing Safari To Go iPad App)

Source: *Safari Books Online / video2brain.com, 2012.*

There are significant opportunities and different approaches for supporting varied, autonomous and on-demand learning, especially through mobile devices. As well, there are some distinct benefits associated with on-demand learning, including:

- Integrating learning in the work to support learning transfer;
- Meeting a learner's need to receive information and updates in a timely manner, so that it can be applied to the work immediately; and,
- Enabling control by the learner, thereby increasing the likelihood that the information is relevant and in situation.

Of course on-demand learning controlled by learners should be used only when appropriate. For example, we know from research that one of the best uses of "learner control" to optimize learning is to use it for learners with high prior knowledge or metacognitive skills[8].

KEY POINT

Ancestry.com found that its employees were downloading mobile video training and getting up to speed while on their commutes.

Case in Point: Ancestry.com

Ancestry.com is the world's largest online family history resource. The organization has more than 1.8 million subscribers and had $399.7 million in revenue in 2011.

As an organization, Ancestry.com is continually deploying new tools and technologies to expand its offerings to help people discover, preserve and share their family history. To provide up-to-date IT resources for its developers, the organization started to provide a small and specialized six-member team with specific subscription access to IT electronic books from Safari Books Online. The primary drivers for using the electronic media were the desire to "get a leg up" on, respond quickly to the needs of the business and become leading edge.

The new resources enabled developers to, in real-time, search the full content of books to find specific pages and locations of needed information. In the past, Ancestry.com would buy books and found that its employees often only needed a few key chapters – they already had foundational knowledge.

Through word of mouth, other employees learned of the value of the resource and the organization then expanded the service to all of its development groups and IT. When the resources became available as mobile video through an iPad app, the organization saw an unexpected increase in usage, which was driven by its San Francisco employees' commutes. The company found that people were downloading mobile video training and getting up to speed while on their commutes.

8 Source: *E-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning*, R.C. Clark and R.E. Mayer / Pfeiffer, 2003.

Just in Time

As stated earlier, on-demand learning has some distinct benefits, such as integrated learning in the work itself, timeliness and learner control. By adding the mobile element to learning, based on the work of several researchers[9] we start to see even more benefits, including:

- Portability;
- Anytime, anyplace connectivity;
- Flexible and timely access to e-learning resources;
- Immediacy of communication;
- Empowerment and engagement of learners, particularly those in dispersed communities; and,
- Active learning experiences.

KEY POINT

On-demand learning has some distinct benefits, such as integrated learning in the work itself, timeliness and learner control.

Empirical research, the result of a three-year study on the impact of mobile learning on learners' learning patterns and attitudes, found that mobile learning also helps to:

- Improve learners' literacy and numeracy skills, and recognize their existing abilities;
- Encourage both independent and collaborative learning experiences;
- Identify areas in which learners need assistance and support;
- Combat resistance to the use of informal and communications technologies (ICT), and help bridge the gap between mobile phone literacy and ICT literacy;
- Remove some of the formality from the learning experience and engage reluctant learners;
- Keep learners focused for longer periods; and,
- Raise learners' self-esteem and self-confidence.

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9 Source: "Mobile Technologies and Learning: A Technology Update and m-Learning Project Summary Report," Learning and Skills Development Agency / J. Attewell, 2005. For more information, a summary of this article can be found at http://www.m-learning.org.

Traditional training programs have been built on what has been called the "just-in-case" model, in which content is delivered to learners who might have a need for it in the future. We know from research that this method may not be very useful.[10] Unless something is relevant to the work at hand or of immediate need, it can soon be forgotten.[11] Mobile learning offers a new way of learning that causes significant disruption in the traditional approach to workplace learning.

Mobile Video

Research, competed by comScore for a three-month average ending December 2011, found that music and video capabilities are among the top purchase consideration factors for smartphone purchasers versus other mobile purchases. On a one to 10 scale, with 10 being "most important," music and video capabilities were rated at 7.8, the same as cost. In the U.S., 4G subscribers are 33 percent more likely to watch mobile video on their smartphones than an average user.[12]

In another research study of 270 users which examined the effect of user experience on engagement during video consumption in the mobile and desktop environment, it was suggested that sensory experience is a significant factor for enjoyment of and engagement with the video, while emotional response is not.[13] The reverse is true for the desktop environment. In practice, this suggests mobile video will be more engaging when a quality sensory experience is included. Other research noted that this may be something as simple as annotation

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[10] There is a great deal of conflicting research in this area. The amount a learner will "forget" varies widely, and depends on learning methods used, type of material, time range and other factors. Source: *The Mobile Learning Edge: Tools and Technologies for Developing Your Teams*, G. Woodill / McGraw Hill, 2011.

[11] Hermann Ebbinghaus, a psychologist who studied memory, is known for his "forgetting curve," a hypothesis based on the exponential nature of forgetting. Source: http://psychclassics.yorku.ca/Ebbinghaus/index.htm.

[12] Source: *2012 Mobile Future in Focus: Key Insights from 2011 and What They Mean for the Coming Year,* comScore, February 2012.

[13] Source: *User experience on mobile video appreciation: How to engross users and to enhance their enjoyment in watching mobile video clips*, Technological Forecasting and Social Change / Eric W.K. See-To, Savvas Papagiannidis, Vincent Cho, April 2012, http://www.sciencedirect.com/science/article/pii/S0040162512000716.

KEY POINT

Sensory experience gives learners the sensation of being part of the particular media.

(e.g., use of light, positioning and location) or something complex (such as augmented reality or haptic vibration).[14] In short, sensory experience gives learners the sensation of being part of the particular media. It may not be long before corporate learners can immerse themselves in electronic books and mobile video.

A simple example of "becoming part of the media" is watching a training video, like the one in Figure 5, on *iPhone and iOS4* on an iPad, and interacting with the content by managing folders, taking notes, highlighting, tagging and locating individual sections through search.[15] Outside of the iPad, application learners can share content, write about the subject on a blog, tweet about the content on Twitter, post a link to it on LinkedIn and a number of other things, thereby immersing themselves (albeit simply) in the content.

Figure 5: iPhone and iOS 4 Advanced App Development – Learn by Video

Source: *Safari Books Online / video2brain.com, 2012.*

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14 Source: *Immersive Future Media Technologies Sensory Experience*, Christian Timmerer, MobiMedia 2011 (Italy), http://www.slideshare.net/christian.timmerer/immersive-futuremedia-technologies-sensory-experience.

15 Subsequent releases of Safari Books Online iPad App Safari To Go will support highlighting, note creation and tagging.

Keep in mind that mobile learning can be supported outside of the online environment, too. For example, Ancestry.com has "Learning Days" during which people meet over lunch to discuss a topic. It helps them stay up to date on the latest advances in IT, while also providing a way to build team dynamics, agility, self-organization and collaboration. Conversations often lead to, "How can we use this? Can we tie it back to what we do?"

Just in Time, Just Enough, Just for Me

KEY POINT

The mandate of the modern learning organization must be to improve the creation, acquisition and flow of knowledge in all of its forms.

As stated earlier, the learning organization must go beyond simply designing, developing and delivering content for consumption online – it must provide context and pathways through which people can control their own learning. The internal currency of today's companies is knowledge; the mandate of the modern learning organization must be to improve the creation, acquisition and flow of knowledge in all of its forms. On-demand mobile learning is a good option because it eliminates or reduces obstacles, which learning organizations tell us they face (e.g., timeliness, improving transfer of learning support, leveraging informal learning methods, improving efficiency, etc.). In short, just-in-time, just-enough, just-for-me learning provides nearly limitless flexibility and continuous access to obtaining knowledge.

As well, today's workforce – especially those with heavy experience with technology – have grown accustomed to accessing information on their own terms. As an example, Thomas Suarez, a sixth grader from Los Angeles, spoke at a TEDS conference[16] about the making and sale of an "app" he created on his own, "Bustin Jieber" (a whack-a-mole type of anti-Justin Bieber game[17]). Thomas Suarez, who is self-taught, started to build, create and sell his own apps – and even created a club for fellow students through which he shares what he knows about programming. He remarked,

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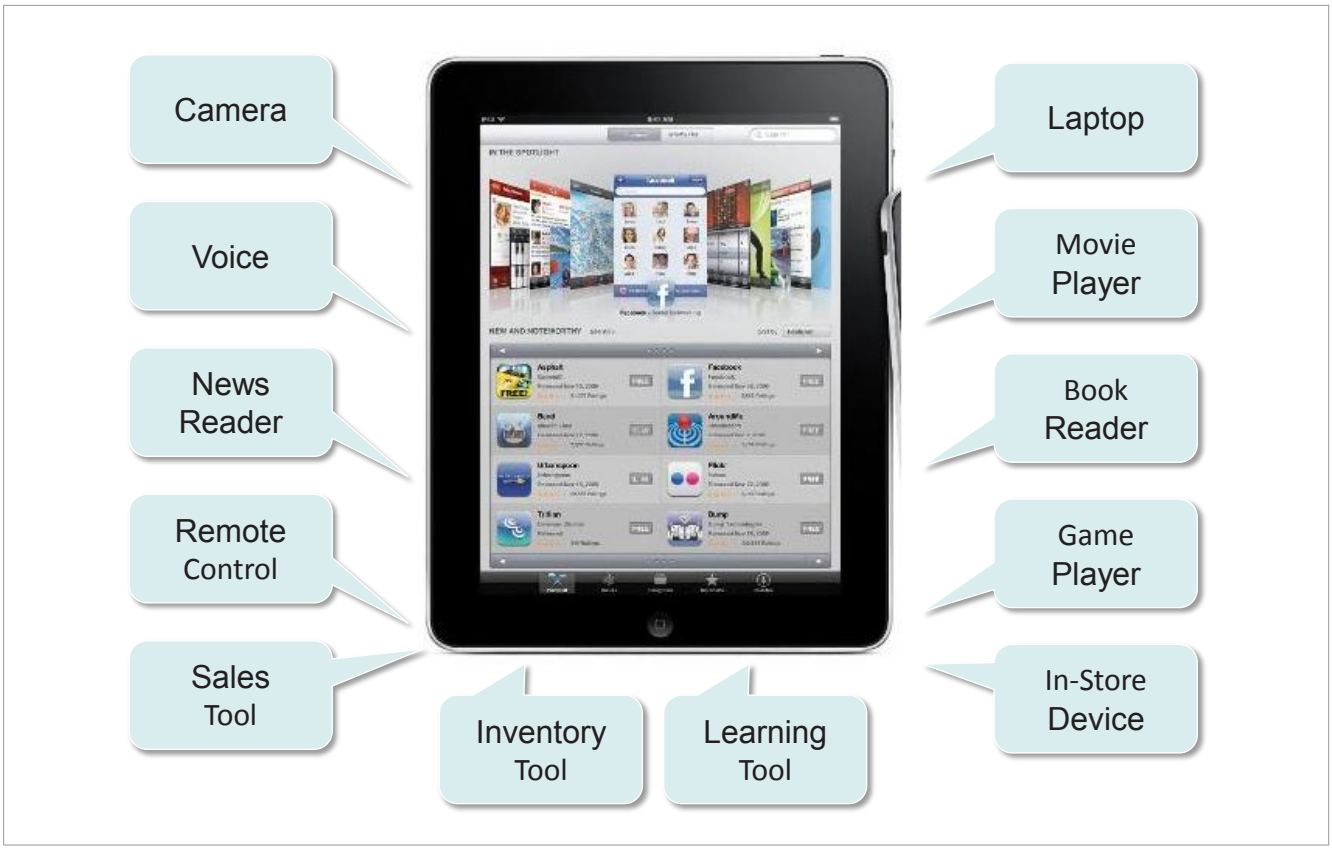
16 Source: http://www.ted.com/talks/thomas_suarez_a_12_year_old_app_developer.html.

17 Source: The Bustin Jieber app can be found at http://itunes.apple.com/us/app/bustin-jieber/id404956571.

"… Students are a valuable new technology resource to teachers, and should be empowered to offer assistance in developing the technology curriculum and also assist in delivering the lessons."

While he is clearly much further ahead than the majority of sixth graders, his actions offer a glimpse of our future workforce. He has taught himself Python, Java and C, "… *just to get the basics down*." This is the do-it-yourself (DIY) movement. Are you ready? Is your staff?

Figure 6: The Versatility of the iPad



Source: *Safari Books Online / video2brain.com, 2012.*

Technology Provider Strategies for Mobile Learning

There are two overall strategies employed by providers of technology for serving and tracking m-learning:

- **Leveraging the mobile browser** (e.g., Safari on Apple devices, Opera on many others, et al); and,
- **Leveraging a native application** (e.g., such as an "App" from the Apple App Store or the Google Android Marketplace).

There are positives and negatives to both approaches.

Using the Mobile Browser

Positive

- Allows the provider to support a much wider range of devices for general content;
- Generally supports most of the features that a PC browser would;
- Generally faster to deploy and update; and,
- Allows potential access to the same learning management system environment (or at least a somewhat specialized version), as with traditional PC-based access.

Negative

- Usually requires a live Internet connection;
- Generally no support for "pushing" content directly to the learner; learners have to be notified via communications media and then "pull" the content manually;
- Browser support for interactivity or rich media varies, often forcing providers to default to a least-common denominator approach;
- User experience within the browser is often not ideal and the provider has far less ability to define that experience; and,
- Generally less secure and less control over the content once downloaded.

Using a Native Application (App)

Positive

- Supports downloading the content for consumption offline or away from access;
- Content can be pushed or pulled;
- Supports taking advantage of a deeper set of the device's features;
- Allows the provider better control over the user experience; and,
- Can be much more secure, including providing the ability to lock or delete content remotely in the case of lost equipment or fired employee.

Negative

- Requires creating a specific, tailored program for each platform supported;
- Requires a device for which a native app is even possible;
- Can take longer to deploy;
- May be very constrained by the devise maker as to the possible experience and functionalities available; and,
- In the case of Apple, only one, very public way to get apps onto the devices.

Based on the conversations we have had with companies already employing m-learning, we find a general preference for the tighter experience and the enterprise-grade security offered by the native app. However, just because this is the preference does not mean that it is where most companies end up. In fact, until now, the lack of device standardization in most organizations, especially for those who use BlackBerrys, tends to force companies to use the mobile browser method in order to support the widest number of devices possible.

About Safari To Go: Safari Books Online iPad App

Safari To Go, Safari Books Online's 3G native iPad app, has an interface

that is optimized for the iPad's large screen size. The app has some of the same features as Safari Books Online, like folder management, video viewing and search. In a future release, Safari Books Online tells us that it will be including highlighting, note creation and tagging. The app allows learning to store material for use online. Like many others apps, Safari To Go incorporates the native functionality of the iPad, such as multitouch. When reading, the app interface will pick up where the reader left off, minimizing search. Organizations that are looking to add on-demand learning in the form of an electronic reference library for delivery over an iPad may find Safari To Go to be a good fit.

Conclusion

KEY POINT

Mobile video, when used to support learners, can be a highly effective strategy to support learning in the modern, mobile, interconnected, networked workplace.

Glance through any L&D publication, website or blog lately, you will likely see articles and columns galore about mobile technology and its actual (or potential) influence on workplace learning.

Mobile learning serves as a new way of interconnecting everything to everyone. It is redefining what learning is and how it is designed. Mobile video, when used to support learners, can be a highly effective strategy to support learning in the modern, mobile, interconnected, networked workplace.

The learning environment of the future will have new meaning and a focus on accelerating the business of the modern-mobile worker. However, despite the growth of informal learning as a method, it does not mean that formal learning is going away. Our research shows that formal instructor-led training is still critical, and there will always be a need for mastering new skills and concepts in the classroom, especially for those without much knowledge of the content.

In response, organizations need to rethink their perspectives, processes and approaches to best support the flow of knowledge and continuous learning. The fundamental role of the learning function is evolving, and on-demand, mobile learning is rapidly becoming the modern approach for organizations to evolve into an impactful learning organization.

Mobile video represents an ideal technology solution for modern learning organizations. This platform supports rapid consumption of quality content, has many user-friendly applications, enables

interactivity and provides an on-demand environment in which employees can collaborate. We expect the use of mobile apps in business to increase exponentially over the next two years, trending with the continued growth in mobile device use across the globe.

If your organization is ready to begin the transition to a modern learning organization and is looking to leverage informal learning (include mobile learning), mobile videos are a cost-effective, just-in-time training and information-sharing approach.

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- **IMPACT® Conference: *The Business Of Talent*** – Attendance at special sessions of our annual, best-practices IMPACT® conference; and,
- **Workshops** – Bersin & Associates analysts and advisors conduct onsite workshops on a wide range of topics to educate, inform and inspire HR and L&D professionals and leaders.

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