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Mobile learning in the workplace

Practical perspectives on implementing mobile learning

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This report has been written by Towards Maturity, building on its extensive benchmark research since 2003 with over 2900 organisations.

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June 2014

Foreword by Amit Garg, Director of Custom Learning Solutions at Upside Learning

We have always believed that mobile is the future of learning and have continually strived to evolve our offerings in line with that belief. As predicted early last year, 2013 saw an explosion of mobile devices in the learning field, with tablets in particular being in the forefront of this growth. Being associated with and contributing to Towards Maturity's 'In-Focus' report seemed a natural extension of our belief and involvement in all things mobile. We also strongly believe in sharing our knowledge and experience to help others get started with mobile learning and in our endeavour to 'keep learning'.

It is with this background that we are proud to bring you the report on 'Mobile Learning in the Workplace' – a comprehensive report aimed at helping organisations to take an informed approach to adopting and implementing mobile learning. We believe that this report will help and guide organisations to formulate and implement their mobile learning strategy, with a level of confidence drawn from the analysis and insights of a wealth of hard facts and very real research data.

Tablets are proving to be a real and viable device for the adoption of mobile learning in the work place and we are witnessing a rapid increase in the adoption and use of these devices in organisations. What is significant are the drivers and reasons for adoption, which are all around mobility, portability and to service a mobile or remote workforce. All the very reasons and benefits that mobile learning has promised and is now delivering! Eric Schmidt, entrepreneur and Executive Chairman of Google says, "*It looks to us like the majority of enterprise computing is being done on mobile devices, in particular on tablets*." Meanwhile the transition of the mobile phone to a 'smartphone' is almost complete, with changes in their size and capability enabling them to play a more frequent role in our work place and to be considered a viable medium for delivery of knowledge and information, albeit on a slightly smaller screen.

The growth of mobile and mobile devices has spawned a new world – the multi-device world! It is a fact that a very large percentage of today's mobile users are "multi device" users, using two or more devices in a day. While this is still largely on a personal usage level, we are seeing this enter the enterprise too, with users initiating an action on one device and completing it on another.

The need to embrace and exploit the mobile medium has never been stronger and the opportunity has never been bigger. The benefits the medium offers through our ability to provide support and access to our people at critical moments of need and the speed at which we are now able to do it, promises to change the way we work!

We would like to acknowledge and applaud Towards Maturity's efforts in putting this report together and we are sure it will encourage organisations to take the leap of faith into the world of mobile learning backed by the tremendously valuable data and insights this report provides.

Amit Garg
Director of Custom Learning Solutions
Upside Learning

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Introduction

2013 was the year when mobile learning (mLearning) became the norm rather than the exception. With seven out of ten businesses now adopting mobile learning solutions, the factors that influence success are becoming clear. This report gives practical ideas to help *address the perceived challenges* faced, *build confidence* in the results and support the *implementation of mLearning i*n the workplace.

The Towards Maturity New Learning Agenda[1] stresses that learning needs to be tailored to modern-day work practices - and that means supporting and facilitating a continuous learning process rather than discrete learning events.

Embrace new ways of learning to support new ways of working

This report is our second **In-Focus** on Mobile Learning. We look at what has changed in the 12 months since we published 'Mobile Learning at Work'[2] and explore how mobile learning can help innovative and flexible organisations to engage in the New Learning Agenda.

Usage of mobile devices in workplace learning has been tracked by Towards Maturity since 2006. Data in this report is drawn from the Towards Maturity 2013-14 online Benchmark review[1] with contributions from 538 Learning and Development professionals across 44 nations. Data is also drawn from the 2013 Learning Landscape[3] study with over 2000 learners from private sector organisations.

Rapid growth in usage

Mobile phones are becoming ubiquitous. Some 22% of the world population now have smartphones[4] (up from 15% in November 2012) and 38% have phone internet data connections (up from 24% in November 2011 and 31% in November 2012). In the UK, in Spring 2013 (the

latest Communications Market report published by Ofcom[5]):

- **94%** of adults have a mobile phone
- **51%** have a smartphone
- **24%** of homes have a tablet device.
- **49%** use their mobile to access the internet

Some researchers predict that 90% of adults in the UK will have smartphones by 2016[6] and that superfast 4G mobile services will be accessible across the UK. In the US, over 91% of the population already have 3G/4G subscriptions. In nations with low PC and fixed-line penetration, mobile devices are the de facto communications devices for accessing the web. Indeed, by the end of 2016, over half the world population will have phone internet data connections.

However, 'mobile' doesn't automatically mean 'on the move.' Some 85% of tablet usage is actually in the home and a large proportion of this use is for entertainment purposes[3], an indication of the convenience and suitability of the tablet for multimedia display.

The opportunity offered for learning and development is enormous and many L&D professionals seek to use mobile technology to make learning more accessible, more integrated into the way of life – and more fun.

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[1] www.towardsmaturity.org/benchmark2013
[2] See references on page 23.
[3] www.towardsmaturity.org/learner
[4] www.phonecount.com

[5] http://tinyurl.com/ofcom-comms-2013
[6] http://tinyurl.com/marketingland

Towards Maturity Benchmark

In past studies, we analysed the implementation activity of "e-mature" organisations and grouped behaviours into six workstreams that we describe in the **Towards Maturity Model**.[7] We define *top learning companies* as those that are in the top quartile for the Towards Maturity Index (see References for further detail).

Our study of mobile learning in this report focuses on the adoption of the technology and how it is being successfully implemented in top learning companies, rather than describing its many applications and success stories.

Ashridge[8] provides a useful definition of mobile learning:

"Handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning."

Don't get left behind

Top learning companies are more likely to be using mobile devices in learning – including smartphones, PDAs, tablets, and other handheld devices. They are also the organisations realising the greatest impact from their use of learning technologies as a whole. However, supporting mLearning is just one of many factors contributing to their success.

71% of respondents are using mobile devices (up from 36% in 2010 and 47% in 2012)
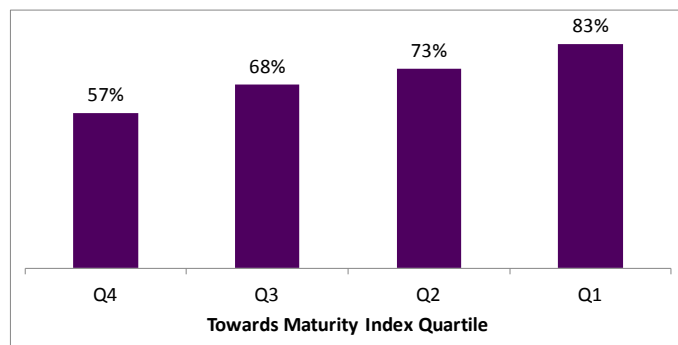
This proportion rises to **83%** (up from 65% last year) of top learning companies.

Top learning companies are also more likely to be using and developing mobile apps.

This year, there is little difference in uptake between those working in different sectors:

- Not-for-profit sector (74%)
- Public sector (73%)
- Private sector (69%)

Figure 1. Uptake of mobile devices related to Towards Maturity Index
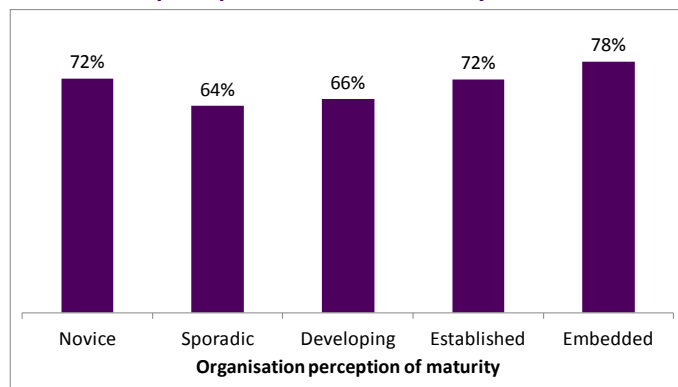

The private sector industries with the highest use of mobile devices in our sample are:

- Commercial training providers (90% - up from 60% last year)
- Manufacturing, science and engineering (79%)
- Professional and technical services (72%)
- Finance and insurance (69%)

Those that have been using learning technologies for a longer period and have successfully embedded eLearning in every aspect of their business are also more likely to offer mLearning.

Figure 2. Use of mobile devices across organisations with different self-perception of their e-maturity

Those with several years' experience in using technology-enabled learning report higher levels of mobile usage, but we also see a spike in usage in those that are new to using learning technologies, implying that some are adopting mobile solutions as part of their first steps with learning technologies.

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[7] Described in full at **http://tinyurl/TMModel**.
[8] Going Mobile in Executive Education. Ashridge, 2011.
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Figure 3. Usage of mobile devices varying with length of time using learning technologies

Although it might be expected that large and highly distributed organisations might be more dependent on mobile telephony for communications, fewer in multinational or multiple site organisations are using mobile devices for learning than those in single site organisations:

- **67%** Multiple location, single nation
- **72%** Multinational
- **79%** Single site

However, organisation size has little effect on the likelihood of using mobile devices or plans to use them in the future.

Uptake varies across the world:

- **66%** UK
- **77%** Other European countries
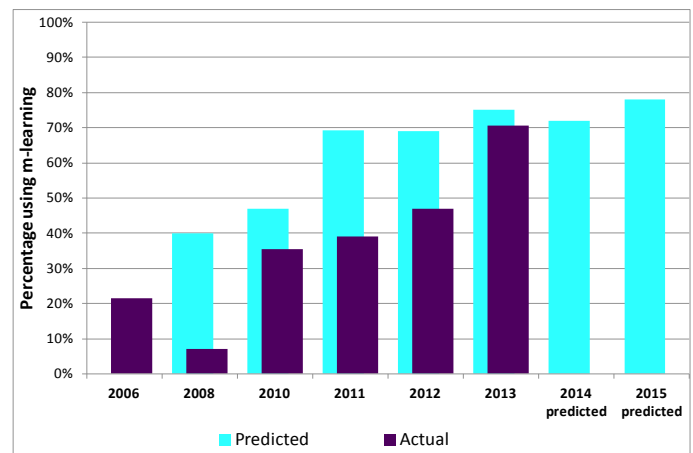- **85%** Australasia
- **87%** Canada/USA

Sample sizes from other continents are too small to report individually.

Perception of adoption across the organisation also appears to vary quite widely according to the job role of the respondent. Those in Content Developer roles are not so convinced. They report significantly less usage at 50% compared with the sample average of 71%. This may have implications for development of content specifically enabled for mobile delivery.

Future plans

Usage of mobile devices is predicted to increase to 78% in the next 2 years[9], rising to 88% in top learning companies. Several respondents specifically mention increasing their use of iPads and tablet computers. However, the forecast increase appears to be tailing off as shown in Figure 4.

Figure 4 Actual and predicted levels of mobile use

52% provide learners with smartphones, rising to 60% of top learning companies

48% provide learners with tablets, rising to 57% of top learning companies

41% have a policy of Bring Your Own Device, rising to 66% of top learning companies

"Our organisation is moving towards more remote working supported by mobile technology. This will have a major impact on how people will access learning opportunities and particularly upon how we are able to evaluate what learning has taken place and what impact it will have."

[9] Both actual and predicted usage represent a higher proportion of the TM sample of 538 organisations than reported in the June 2012 ASTD report '**Mobile Learning – Delivering Learning in a Connected World'** (Similar sized survey reporting that one-third are using mobile devices now: over half will be using them within the next 3 years).

Some 1 in 4 organisations would consider that they are still 'experimenting' with aspects of mobile learning.

Table 1. Those using or experimenting with mobile learning

Mobile learning	% using now (using +experimenting)	% planning to use in next 2 years
All mobile learning	**71%** (46% + 25%)	78%
Provide mobiles e.g. smartphones	**52%** (48% + 4%)	59%
Provide tablet devices	**48%** (34% + 14%)	59%
Support Bring Your Own Device (BYOD)	**41%** (32% + 9%)	50%

Drivers for going mobile

Expectations from technology-enabled learning are high. Over 90% of respondents to the TM 2013 Benchmark want to:

- Increase learning access and flexibility
- Increase on-the-job productivity
- Support organisational change and provide a faster response to changing business conditions
- Increase the reach of learning solutions
- Increase the ongoing sharing of good practice.
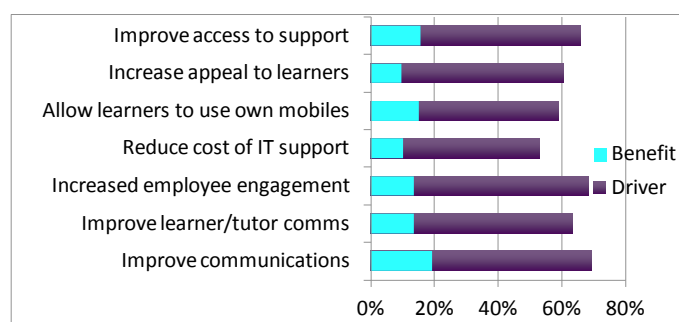

Top drivers for mLearning in 2013

- **80%** access support at the point of need
- **79%** improve employee engagement
- **77%** improve communication between individuals
- **76%** learners can use their own mobile devices
- **74%** improve communications between learners and tutors
- **71%** Increase appeal to the millennial learner
- **68%** Reduce cost of IT support/delivery

The box above illustrates the specific goals related to mobile use.

All these drivers have increased significantly since one year earlier. They are also highest in the public sector, larger companies and those with a longer experience of using learning technologies.

However, we see major gaps between the expectation and the reality of the improvement. The short blue bars in Figure 5 below indicate the proportion of those seeking each benefit that can actually report its achievement!

Figure 5. Drivers and benefits of mLearning

Of the 80% seeking the benefit, only 9% manage to improve access to support at the point of need. 88% are looking at technology to help engage new types of learner, and 86% want to push updated information to employees at the point of need. Achievement of these benefits is low at 18% and 26% respectively.

Notably, even fewer are reporting every one of these benefits than one year ago.

What barriers are people reporting?

In the TM 2013 Benchmark, the main barrier to progress was the cost of development, set-up and maintenance – reported by 71% of respondents. For those implementing mobile learning, cost is also a primary concern:

"Cost of new technologies and keeping up with the latest equipment alongside our internal IT infrastructure"

"The new IT director has decided not to invest time or money in mobile technologies"

"Cost of supplying mobile technologies to staff"

However issues of security and difficulties with existing IT infrastructure or technical support are important to many:
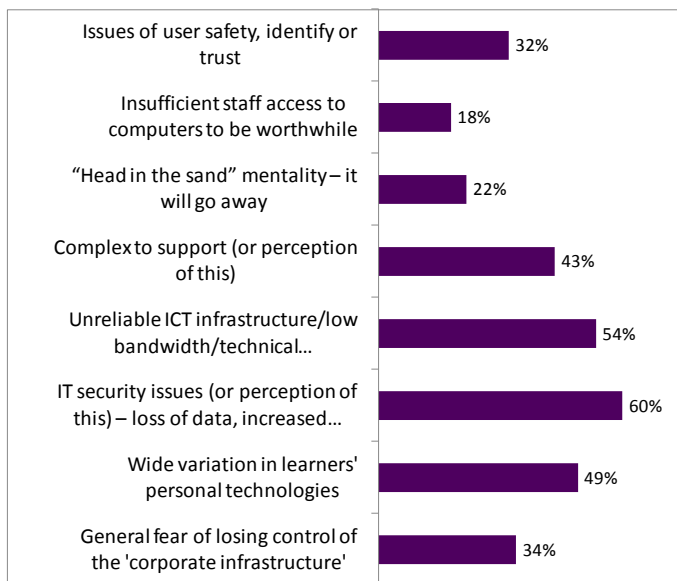
- **60%** IT security issues
- **54%** Unreliable ICT infrastructure
- **43%** Complex to support

1 in 2 organisations cite the wide variation in learners own personal technologies as a real barrier to implementation of mobile learning.

52% of organisations get around this problem by providing learners with smartphones that they know are compatible with their IT architecture – an increase from just 31% a year earlier.

Other barriers are illustrated in Figure 6.

Figure 6. Barriers to mobile and social learning

Barrier	Percentage
Issues of user safety, identify or trust	32%
Insufficient staff access to computers to be worthwhile	18%
"Head in the sand" mentality – it will go away	22%
Complex to support (or perception of this)	43%
Unreliable ICT infrastructure/low bandwidth/technical…	54%
IT security issues (or perception of this) – loss of data, increased…	60%
Wide variation in learners' personal technologies	49%
General fear of losing control of the 'corporate infrastructure'	34%

"Thorough design and comprehensive testing will be needed to adjust design of e-materials for social and mobile technologies. The branding may also need redesign."

Barriers to progress can be related to organisation culture and restrictions on the use of mobile devices in the workplace. Particularly in large organisations there can be a reluctance on the part of senior and line managers to encourage new ways of learning (reported by 18% of micros businesses and 51% of large businesses with over 1000 staff).

"Due to working in the financial services industry, use of mobile phone is prohibited in the office and training rooms"

"Managers and older staff members in late 50s or older are reluctant to see change they don't understand in their time!"

However, not everyone is having these difficulties:

"No challenges. We are all over it!"

Getting started

Supporting the learner at their point of need can be simplified through the adoption and use of mobile learning. As more and more learners are using their own devices to access resources when they need them, the innovative L&D team is embracing the opportunities that mLearning can offer and ensuring that their resources are optimised for mobile platforms.

Understanding the benefits

We illustrated in our previous report in 2013 that mobile users not only increased the proportion of staff on L&D programmes, but *when compared to non-mobile users* found that they gained:

- 70% improvement in productivity
- 47% improvement in manager perception of additional business benefit
- 25% improvement in revenue.

They also gained significant benefits in improved staff behaviour and engagement.

In 2014, these benefits have continued. When *compared with the 2013 Benchmark average* values, those that specifically enable their content for mobile devices have gained

- 43% improvement in productivity
- 73% improvement in revenue
- 44% improvement in time to competency
- 75% improvement in the number noticing positive changes in staff behaviour

Notably, those using mobile learning are at least twice as likely as non-users to exceed benchmark values and be in the top quartile for Towards Maturity Index.
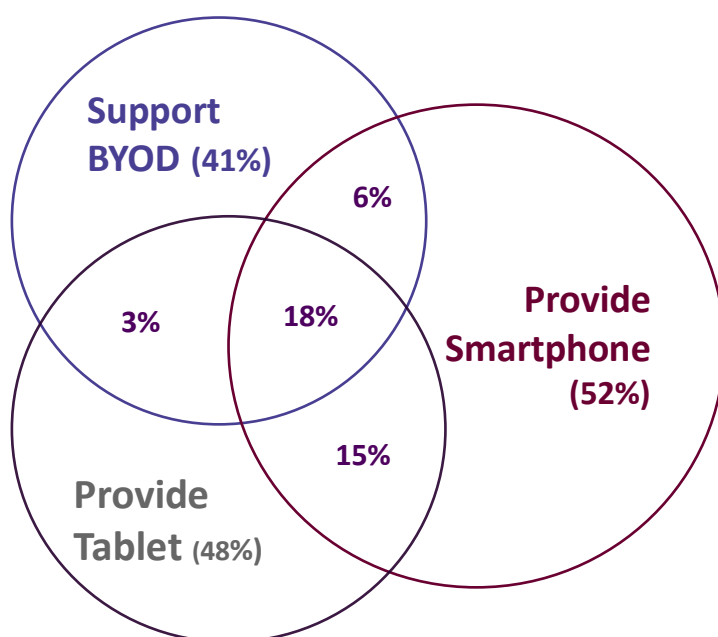
Selecting the approach

Although it is not a straight choice, a key issue for L&D is whether they should adopt a policy of Bring Your Own Device, or provide mobile devices (Smartphones or Tablets) to learners. In this paper, we investigate the evidence to see if there is any discernible difference

between the results or approach of these two groups. The 'BYOD' group comprise 115 organisations that currently support Bring Your Own Device – some of whom may also provide devices to their learners. The 'Provide' group simply provide either smartphones or tablet computers to their learners or both.

In addition, we look at those that provide tablet devices (137) versus those that are providing smartphones (150).

Many organisations have embraced mobile learning whole-heartedly, by setting out their policy on BYOD, and providing both smartphones and tablet devices to learners – potentially for different purposes or different groups, although this needs further exploration. The degree of overlap between these groups makes any differences all the more significant.

Support BYOD (41%)

6%

Provide Smartphone (52%)

3%   18%

15%

Provide Tablet (48%)

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What types of organisations offer BYOD?

BYOD is more frequently seen in

- Large organisations of 20,000+ (22% of BYOD group vs. 17% of whole sample)
- Multinationals (55% vs. 47% of whole sample)
- Those with over 10 years' experience of using eLearning (37% vs. 29% of whole sample)

38% of these organisations fall into the top quartile for the Towards Maturity Index, illustrating a high degree of e-maturity in this group.

Business benefits

- **43%** of the BYOD group report that eLearning has contributed to improvements in organisational productivity (vs. 31% all and 21% of tablet/smartphone providers)
- **48%** of their managers report additional business benefits (38% all, 33% providers)
- **29%** report it has made a significant contribution to increasing organisational revenue (24% all, 19% providers)

Staff benefits

- **37%** of the BYOD group agree that learners put what they learn into practice quickly (vs. 26% all and 22% of device providers)
- **34%** report that learners recommend eLearning to colleagues to improve job performance (21% all, 17% providers)
- **35%** have noticed positive changes in staff behaviour (22% all, 18% providers)

Those supporting BYOD report 11% increase in staff retention (6% for those providing devices)

The small improvements in Key Performance Indicators between those that provide tablets as opposed to smartphones are not significant, reflecting the degree of overlap between the two datasets.

Matching the device to the delivery

Although 71% of organisations are now using mLearning in some form, it is surprising that there is not a corresponding increase in the learning tools that might be considered best suited to mobile delivery.

35% enable content for mobile use, rising to 53% of top learning companies

35% specifically enable their content for mobile use - including 8% who would consider that they are just experimenting with this. 38% of organisations are now developing content that is platform independent, using for example, HTML5 (an advanced open standard that allows applications to run on any mobile platform or operating system) although one in four of these are just experimenting with HTML5. A further 16% do plan to develop platform independent content within the next 2 years.

For those that invest in the provision of mobile devices for learners, only 42% of those providing smartphones and 52% of those providing tablets are specifically enabling their content for mobile devices (this rises to 64% of those supporting BYOD).

Table 2: Developing content for mobile platforms

Mobile learning (whole sample)	% doing now (top) (using +experimenting)	% planned in 2 years
Specifically enable content for mobile devices	**35%** (53%) (27% + 8%)	60%
Develop content that is platform-independent (e.g. in HTML5)	**38%** (59%) (29% + 9%)	54%
Integrate mobile apps within the LMS	**21%** (38%) (14% + 7%)	50%

"Our eLearning development team is just starting to move away from Flash and experiment with HTML5. We are also looking at purchasing training tools that "mimic" the system, rather than just capture screenshots with hotspots."

Using Apps

Providing mobile devices, or enabling content for mobile access is only part of the story. Mobile Apps are not necessarily the answer however. Ofcom estimate that while nearly half (48%) of smartphone users have downloaded an app, two-thirds of the apps downloaded were not regularly used.

In our research, only 1 in 3 smartphone providers are using mobile app development tools and even fewer (21%) integrate mobile apps within their LMS.

How easy is it to create bespoke apps?

Accessing standard apps and tools is only part of the mobile solution. Whilst many proprietary productivity tools and communications systems offer apps to support the mobile enterprise (e.g. Hootsuite, YouTube, MailChimp and Skype), many organisations are developing or commissioning their own bespoke apps. Mobile technology features can add new dimensions to the learning design, for example using location-based services, built in cameras, voice control, device shaking or orientation.

Organising apps

Some 24% are now using tools to download and organise mobile apps. This 'app store' can simply be a web server to access internal content available to internal users, or part of a larger system offering functionality similar to the iTunes App Store™ in which multiple devices can be synchronised and all the apps maintained current and fully compliant.

Only 44% of tablet providers have security policies to handle leavers/device loss

Mobile security

Although 60% of respondents in the TM2013 Benchmark were concerned about IT security and potential data loss, just 32% create advanced security policies to manage leavers and device loss (rising to 50% of those in top learning companies). This begs the question as to why organisations are not more proactive in regards to security; when the mobile device is used almost as much as the desktop system and so many are watching costs closely. Nevertheless, the ability for learners to use their own mobile devices is a real driver for learning in 76% of organisations.

Tablet or Smartphone?

As manufacturers reduce the screen size of the tablet to little larger than a smartphone, some of the advantages of display and readability of the tablet over the smartphone become less pronounced. As the price of the tablet comes down and more learners have their own tablets, we see a corresponding increase in tablet usage.

In the Towards Maturity 2013 Learning Landscape report on 2000 learners, more learners were using their own tablet than one provided by their work:

- 10% are using their own tablet often to access work-related resources and information
- 4% are using tablets provided by their work

43% of learners find accessing learning from their mobile device 'essential' or 'very useful'

It is important to understand learner preferences in order to make the right choice for the organisation.

Table 3 Considerations for implementing tablet-based solutions over the laptop/PC

Tablet Pros	Tablet Cons
Longer battery life than a laptop	Possibly shorter overall life
Light and small – handy for carrying around	More likely to be lost
Multi-function: built in camera and video, respond to voice, position and motion inputs	Low processing power for running standard office applications or memory-intensive operations
Better for working in groups	Small display less suitable for graphic-hungry applications
Always-on capability – quick to 'wake-up'	

6 things to consider when getting started with mobile learning

☑ Is the demand for mobile learning driven by business need?

☑ Is this something that your learners are requesting?

☑ What type of mobile devices are your learners using and are they willing to use them for work-related purposes?

☑ Is your existing content scalable for use on mobile devices?

☑ Are there new programmes planned that could act as a pilot for mobile learning?

☑ Is there a formal policy or procedure in place for learners to use their own mobile devices to access your systems?

What technology choices are staff making to support learning?

43% agree accessing learning from their mobile is essential or very useful
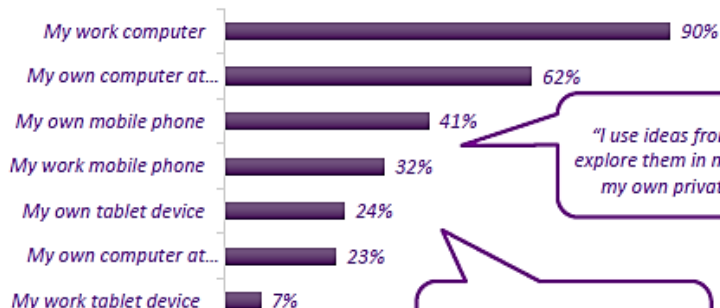
78% own a smartphone or tablet device

26% use their own devices to access work-related resources
- Of the **74%** that don't:
  - **23%** would be happy to if the right resources were available
  - **8%** don't know what is available
  - **33%** prefer to keep work and personal separate
  - **6%** don't want to use up their monthly data allowance

What technology do you use to access resources to help you do your job?

Technology	%
My work computer	90%
My own computer at...	62%
My own mobile phone	41%
My work mobile phone	32%
My own tablet device	24%
My own computer at...	23%
My work tablet device	7%

"I use ideas from work and explore them in more detail on my own private devices"

"Yes, but the IT restrictions and support make this challenging where it should be easy"

- **78%** of staff download apps to their own mobile devices
  - 26% education or training (33% of managers)
  - 21% productivity tools
  - 18% pod or video casts

Differences

Managers are most likely to use their home computer (70%) and own tablets (38%) to access learning

Those in role <6mths are most likely to use own mobile (52%)

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Source: Towards Maturity: The Learner Voice Part 1

Designing for secure mobile content delivery

With such a wealth of learning resources available to the L&D professional to draw on, some may be more suitable for mobile delivery than others. Designing content from scratch to fit a mobile technology platform may be a step too far, but understanding the benefits – and risks – of mobile delivery will help L&D to make informed choices about learning resources.

Types of content

Organisations that have adopted mLearning are using a different spectrum of learning content and support technologies than others. Differences also emerge between the different types of mLearning supported.

When compared with those providing smartphones, tablet providers are more likely to be using job aids (76% vs. 68%), open-source development tools (46% vs. 39%) and online books (53% vs. 46%).

They are also and significantly more likely to be using podcasts, blogs and videos of good practice (both from within the organisation and externally produced).

Those supporting BYOD are **twice** as likely to be using cloud-based content and user-generated content as those without such policies.

Table 4. Technologies used by mobile users

Technology	All	All mobile providers	BYOD
Cloud computing (e.g. Google docs)	30%	27%	50%
User generated content	23%	15%	38%
Video – best practice external	41%	37%	55%
Video – best practice internal	52%	47%	66%
Podcasting	26%	21%	38%
Job aids	63%	62%	75%
Online books	42%	38%	61%
Rapid application development tools	62%	57%	79%
Feeds/curation and social bookmarking	15%	4%	33%

Table 5. Aspects of adoption for mobile learning

Mobile learning	% using now (top) (using +experimenting)	% planned in 2 years
Mobile app development tools (e.g. GoMo, LineStream)	**24% (45%)** (15% + 9%)	43%
QR codes	**26%** (38%) (18% + 8%)	37%
Tools to organise and download mobile apps	**18%** (37%) (12% + 6%)	35%

Those enabling their content specifically for mobile also report they are more likely to be using social media:

- **78%** allow staff access to third-party social networking sites (64% sample average)
- **75%** use VOIP conferencing (49% all)
- **66%** also use such third-party social networking sites for learning and development (46% all)
- **48%** use in-house social media (38% all)
- **58%** use learning communities such as action learning sets (42% all).

Enabling across technology platforms

There is evidence to show that those with BYOD are getting significant benefits. However, in order to make these realities there are some challenges to be faced.

6 out of 10 organisations expressed concern around IT security. Loss of data or the perceived increased risk of viruses was a greater barrier to progressing mobile learning than problems of unreliability or restrictive firewalls or low bandwidth (reported by 54%). However, only 48% of L&D professionals would agree that they

have a good relationship with the IT department, and only 43% agree that they actually know what technology-enabled learning their IT systems can deliver.

Formal BYOD policies have reduced the risk attached to proliferation of mobile devices by bringing them back under the control of the IT department. However, just 29% of L&D professionals would agree that their organisation has a clear policy around BYOD, and only 13% agree that they are influencing that policy.

No wonder that 34% report a fear of losing control of the corporate infrastructure.

However, security continues to be an issue for many IT departments. Employees often have a mix of business and personal applications on the same device, which is then used to access corporate networks. Unrestricted download of apps onto the personal device can expose business systems to malicious software attack or unauthorised access to internal networks. Loss or theft of the device itself can lead to headline-grabbing loss of sensitive business and personal information.

The wide variation in learners' personal technologies also presents problems for 1 in 2 organisations, particularly those using native applications that run directly on the device operating system. In fact, many have been working under similar constraints for many years as they grapple with replacing older PC hardware

or managing multiple learning management systems in use in different geographic locations/subsidiary companies. For many businesses, any investment of time or money on IT must firstly go to upgrade or develop their primary business systems for mainstream use.

"We know that many of our colleagues use their own devices for all sorts of things, probably including self-learning. However we simply have no official idea of this or ways of measuring how much learning people are doing using their devices. We recently introduced Blackberry devices for our staff and this could potentially be a way of engaging colleagues in self-learning. However I'll admit feeling daunted at the level of workload that may be involved in getting this up and running."

To some extent this can be got round by using web-based applications that run within the device's own web browser. However, more complex solutions may be required for the higher performance native applications that run directly on the device operating system (e.g. iOS apps are distributed via the Apple App Store: Android apps can be hosted on a business website for users to download directly).

Integrating mobile learning options within an existing LMS can also present technical problems, for example in tracking or auditing learner progress where compliance is a critical issue.

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7 things to consider in your BYOD policy

- ☑ Which devices are allowed – and which are not
- ☑ Procedure for reporting faults, lost or stolen devices or use of device by 'strangers'
- ☑ Which apps are allowed – are there any blacklisted apps; what safeguards are in place for using third-party social networks
- ☑ Process for installing business security software and what changes will be made on the user device
- ☑ Personal security precautions and how best to protect self and data from threats and protect identity
- ☑ Protection of personal data stored on the employee device – and the visibility of this to the business
- ☑ Policy enforcement and implications of failing to comply!

Providing users with a smartphone or tablet can minimise the security risk and limit the number of unmanaged devices accessing the organisation's network. However, cost can be a significant barrier to the organisation, and the learner is likely to have to juggle with multiple devices.

Using *VPN technology* to access company information can minimise the security risk and allow users to log in remotely to email systems and other company information, but user authentication becomes a critical issue at several levels:

- Granting the user access to the device, e.g. through password or biometrics
- Authenticating the physical device to the enterprise.
- Granting user access to the enterprise

Legacy and bespoke systems are less likely to have been designed with mobile systems in mind although they may still be vital to the organisation. Using a VPN can provide remote access to desktop applications but these may not be optimised for mobile delivery. Document distribution security systems allow staff to access, edit and save files remotely and securely from their own device, ensuring they are always connected to the latest version.

The *device operating system* is likely to handle the user access securely, provide encryption of data when the device is closed and protect against virus infection and other harmful events, although this varies between devices.

Generic software solutions will ensure data reliability and currency e.g. through synchronisation of mobile files, contacts and calendars (e.g. ActiveSync, Windows Mobile Device Centre, iCloud) between handheld and

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11 things to look for in Mobile Device Management

- ☑ Automated renewal of non-compliant devices
- ☑ Remote locking, wiping and revoke credentials
- ☑ Built in encryption – e.g. on device closing
- ☑ Malicious code detection and prevention
- ☑ App management system
- ☑ Standardised administration policies
- ☑ Access control – for example job role-based rules and assign privileges and restriction for handling sensitive data
- ☑ Monitoring of device usage and automating event/incident reporting
- ☑ Secure document distribution (e.g. Secure Content Locker)
- ☑ Support for legacy applications
- ☑ Virus and malware blocking

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desktop devices such as PDAs. Version control is very important, particularly where a number of users are accessing and working on the same file simultaneously. Cloud-based services for this can be free (e.g. Google Docs) or available on a per-user subscription model which is ideal for the smaller business.

Bespoke Mobile Management Systems add additional functionality, for example to enforce passwords, locate or wipe lost or stolen devices or track learner activity.

Kick-Start your mLearning with Tablets

Most of us use two or more devices in a day – for communication, learning, work, entertainment, and decision making. We are on the move both within and outside the workplace; we want information at the time of need or interest; we multi-task; and we expect to use our downtime or waiting time effectively.

All perfect conditions for mobile learning. And yet, many organisations are finding it difficult to transition to mLearning.

That's where tablets come in. Tablets can be a great starting point to drive the implementation of mLearning.

What makes them special? Well, there are several reasons.

1. Tablets have been THE fastest ever growing category amongst all mobile devices. Market intelligence firm International Data Corporation (IDC) predicts that tablet sales will continue to increase in 2014 as well, albeit at a slower rate, and that tablets will outsell PCs by 2015. IDC also predicts an increase in the proportion of commercial sales, with more tablets destined for small, medium, and large businesses than in previous years. Meanwhile Forrester Research predicts that tablets will play an increasingly critical role at work, and that one in every five tablets will be an enterprise tablet.

2. The Bring Your Own Device (BYOD) trend is catching on, and employees are increasingly bringing their own devices to work to access business applications on them. IDC Global Solutions discovered that the BYOD trend is especially popular in Asia Pacific, with almost one in three people using their personal tablets for work; and Gartner predicts that by 2017, 50% of organisations will demand that employees bring their own devices to work. The introduction of hybrids and convertibles could also contribute to faster adoption of tablets in the enterprise.

3. Tablets are changing the way we interact with computers. The abstract layer of mouse and keypad is gone and people who earlier may not have been so comfortable with computers can now intuitively use tablets without any training. This in itself is a great opportunity in many enterprises - for instance you can now train people on the shop floor using tablets even if they've never learned computers formally. Tablets are redefining the computing paradigm for those who are comfortable with computers too, by providing new modes of interaction.

4. Tablets are the in-between devices that combine features of desktops/laptops and mobile phones. Like mobile phones, they are portable touch-based mobile devices. However, their screen size (~7-10") is closer to that of desktops and laptops, which allows for larger information and multimedia displays. Like smartphones, they also have unique features that can be exploited for effective learning interventions and performance support - for example, built-in cameras, GPS, and accelerometers. And since they aren't quite as personal as mobile phones, employees may be more inclined to access them for training and work-related reasons.

Kick-Start your mLearning with Tablets (continued)

5. The very nature of work and the workplace is changing. Employees require immediate access to information, resources, and work-related systems and applications. The portability of tablets makes them available at the moment and place of 'desperation' and 'inspiration', where they provide immediate access to content and experts alike and allow learning to merge with work. From this perspective, tablets can effectively provide informal learning and performance support opportunities for the last three of Mosher and Gottfredson's Five Moments of Need: Applying what you've learnt, learning when things go wrong, and learning when things change. Also, with organisations offering more flexibility in work timings and locations, a larger proportion of people are spending some part of their work time away from their offices - in meetings, at client or vendor sites, travelling, or at home. The portability of tablets, combined with their larger screen size, makes them a convenient device for mobile and 'away' workers to access all types of business applications.

All the above reasons combine to make tablets a common starting point of mLearning in the workplace.

For an organisation that already has traditional desktop-based eLearning, one of the simplest first steps can be to mEnable their eLearning by converting it to Tablet Learning. This normally requires minimal repurposing, and since the content, interface, and navigation are familiar, it's an effective strategy to ease learners onto mobile devices.

The next step would then be to design new eLearning specifically for tablets. Interestingly here, tablets are also playing a key role in driving HTML5 in the learning domain, with many organisations choosing to create new eLearning in HTML5 just so that it can be available on both tablets and desktops.

From there on, the last step would be to extend to designing eLearning for multiple mobile devices including tablets, phablets, and smartphones - in other words, to extend to mLearning.

Contributed by Upside Learning

Implementing the New Learning Agenda

Learning innovation, done well, is delivering significant business benefit.

Top learning companies are consistently achieving higher benefits and reporting fewer barriers than most. As well as reporting increased benefits, those who have introduced mobile devices are reporting at least 20% fewer barriers than average.

In this section we explore two themes from the Towards Maturity 2013 New Learning Agenda and look at how successful implementation of mobile learning at work can impact on organisational learning culture and performance support practice.

Transform traditional training

Formal learning is not dead! Three out of five learners still report that the course is one of the most effective opportunities for learning what they need for the job, yet 88% of learners want to be able to learn at their own pace. This means thinking differently about how formal learning is designed.

Support a culture of learning within the workflow

Learning does not just take place in formal interventions – it is a continuum. Across the board, employers are looking to provide content to employees at the point of need with 86% looking to technology to push updated information to their staff. However, only 26% are achieving this. 94% of organisations want to speed up the application of learning back in the workplace but only 19% are achieving this. With only 14% using defined performance support practices to support learning transfer after formal training, it is time to recognise the importance of supporting staff in the heart of the workflow.

Top learning companies are able to achieve more of the benefits they seek than the non-mobile users. We have seen, through our Towards Maturity Model[7], that those with a clear strategy, management support at all levels, and the right enthusiasm and skills in the learning and development team are 'bridging the performance gap'[10] getting the best results.

This year, differences are more pronounced, with top learning companies more than 20% ahead of the non-users in all areas of the model, and more than 45% in some areas (*more than 50% ahead).

- Individual choices*
- Technical environment
- Talent management*
- Supporting performance
- Transferring learning
- Facilitating collaboration*
- Involving leaders
- Measuring effectiveness and
- Communicating benefits*

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[10] See Towards Maturity 2012 Benchmark: Bridging the Gap

Transforming traditional training

The course is still a critical activity for L&D and the principal medium to quickly and reliably ensure that staff are using up-to-date methods and have a common and full understanding of essential information and company practices and values to help them to do their job.

However, on average, 56% of L&D professionals in the 2013 benchmark agreed that 'L&D staff consider the 'course' as only one of many options for building skills and performance' – or conversely that 44% consider the course as the only option! For top learning companies, this proportion falls to 26%.

Fewer than **1 in 4** organisations are successfully supporting the application of formal learning back into the workplace. For those using mobile learning, the proportion rises to **1 in 3**. Why is there such a difference?

When formal classroom-based learning is supported by *content* that has been optimised for mobile delivery, learners can refresh newly learned skills and knowledge as the need arises. Mobile *communications* open up the ability to work with other learners or with tutors or with subject matter experts via instant messaging. Mobile *connection* joins up internal or external networks and communities of practice.

Top learning companies are thinking differently about how the course is designed to take advantage of the opportunities that mobile technologies can present.

- **57%** use storytelling techniques in the instructional design (26% of non users)
- **41%** include highly interactive methods, such as games and simulations (14% of non users)
- **56%** blend use of several different learning technologies (14% of non users)
- **52%** involve users in the design of the most appropriate learning approach (17% of non users)

Support a learning culture

The empowered mobile learner is more likely to discover things for themselves, manage their own learning process and prepare for forthcoming activities.

- **45%** of mobile users encourage learners to organise their own personal learning strategies (32% of non users)
- **44%** of mobile users encourage peer-to-peer feedback (33%)
- **18%** of mobile users encourage learners to share experiences and solve problems online using social media tools (8%).

Organisations that are users of mobile learning are not only more likely to embed learning into the workflow but also enjoy higher levels of management support and engagement:

- **53%** agree that managers recognise the value of on-the-job learning (35% of non users)
- **25%** agree that managers allow staff time to learn at home (16%)
- **17%** encourage and provide time for reflection (8%)
- **48%** senior managers demonstrate a commitment to learning (39%)

An integrated learning management system can help embed learning and development into all aspects of HR business processes such as induction, talent management or performance management.

- **53%** of mobile users integrate their LMS with HR or other business systems (45% of non users)
- **41%** of mobile users link their LMS to competency and talent management systems (26%)
- **26%** of mobile users integrate external video libraries into their LMS (13%)

Top learning companies are more than **twice as likely** as non-mobile users to:

- Use defined performance support practices to support learning and knowledge transfer (35% vs. 15% non-mobile users)
- Use technologies to simulate the work environment for assessment (32% vs. 15%)

They are also more likely to use technologies to simplify the administration of assessment (64% vs. 42%) and to help prove compliance (78% vs. 56%).

Supporting performance at the point of need

1 in 2 organisations that do not offer mobile learning cite the reluctance by learners to learn with new technology as a barrier to progress. However, this proportion drops to **39%** using mobile technologies.

There are a number of practical lessons to be learned from the top learning companies that could make a significant difference. Mobile devices can help in providing the right performance support, at the right time – just where it is needed. When staff don't have easy access to a PC, mobile technologies can give them access to support systems such as job aids, helpdesks, or in-house expertise to support informal learning – as well as an easy means of referencing resources from formal training (2012 percentages in brackets):

- **52%** (42%) of top learning companies offer staff access to job aids online vs. 33% (20%) of non users)
- **71%** (70%) integrate performance management with their learning and development vs. 35% (39%)
- **78%** (74%) of managers recognise the value of on-the-job learning vs. 35% (43%)
- **81%** (64%) understand the support systems available to staff vs. 38% (42%)

- **67%** (69%) help staff locate in-house experts when they need them vs. 31% (36%)
- **48%** (59%) equip line managers with resources to support their teams vs. 17% (15%)

Too rarely, L&D teams are integrating performance support practices into their learning solutions. When compared with non-users, L&D teams promoting mobile learning are twice as likely to use available support systems to promote self-reliance rather than a culture of dependency amongst learners.

Table 6 Impact of mobile learning on performance support

	All	Mobile	Non-mobile
Individuals have access to a tutor or subject expert when learning online	16%	19%	11%
The objectives and aims of learning are discussed with individuals before they start learning	38%	42%	33%
We use available support systems to promote self-reliance, not a culture of dependency	22%	29%	14%
We have content curation strategies in place to help staff make sense of the resources available to them	11%	13%	10%
We help people locate in-house experts when they need them	38%	41%	31%
We understand the support systems available to our staff (e.g. help desk, peer support, manager support)	46%	53%	38%

Top tips for making the benefits of mobile learning a reality

The following hints and tips can help you succeed with mLearning in your organisation – whether you have already established multi-platform delivery and are looking for even greater benefits, or are just experimenting with new ideas. There is no on-size-fits-all solution! Why not use this checklist to review how your current approach to mLearning compares with the ideas suggested in this In-Focus report?

10 Tips for Mobile Learning Implementation

☑ Identify the need, objective(s), and role.

Identify the challenge, problem, or need, and clearly articulate how mLearning will help address or solve it.

☑ Design to support the use context.

Identify how and for what the material will be used, and design accordingly.

☑ Tablet Learning could be a good start.

Their size resembles that of desktops, so they may be more easily accepted and used.
mEnabling existing eLearning gives access to familiar material on a new device.

☑ Responsive is the way to go!

Deliver a consistent, efficient, and engaging learning experience on a wide variety of device-platform-browser combinations.

☑ Don't miss out on videos.

Video-based content is easy to understand and can be used in multiple scenarios - and it's easily portable to mobile devices.

☑ Encourage sharing and collaboration.

Exploit users' social media familiarity and experience as well as the unique affordances of mobile devices to capture, share, and collaborate.

☑ Align mobile to mainstream knowledge and learning.

Integrate mobile as a component into your overall learning strategy.

☑ Have a BYOD policy.

This is a quick and cost-effective way to adopt mLearning - but make sure to evaluate the associated security risks.

☑ Revisit and re-evaluate.

Review and re-engineer to keep in line with mobile technology changes.
Ensure that the technology and design allow for changes and additions.

Tips provided by Upside Learning

TOWARDS MATURITY

Case Study: Mobile Learning

Vocollect:

Development of a library of eLearning snippets for desktops and iPads to supplement and reinforce in-house instructor-led training

Snippets reuse content from longer Flash-based courses – with minor additions or modifications - to present information in smaller topical chunks.

Each snippet contains approximately 1 to 4 pages, with an average seat time of about 3-4 minutes.

Existing Flash animations were tweaked as required, published as videos, and integrated into a custom HTML framework. Where required, interactivities were coded in HTML.

Snippets were packaged into courses which were grouped into curricula in the LMS.

Each snippet launches as a separate SCO and is tagged with role and keyword metadata to implement searchability.

Search results list all snippets whose title contains the searched keyword(s) as well as all snippets whose metadata tags include the searched keyword(s).

Jangro:

Development of HTML-based eLearning courses for delivery on desktops and iPads, together with a unified system that integrated UpsideLMS with Up-side2Go (a mobile learning platform)

eLearning courses were developed in HTML using an adaptive design approach with predefined layouts for portrait and landscape iPads.

UpsideLMS was integrated with Upside2Go to create a single system to create, deliver, and manage training and resources.

The eLearning courses can be accessed via UpsideLMS on desktops and iPads.

Customized versions of Upside2Go can be installed on iOS, Android, and BlackBerry smartphones, through which users can access just-in-time references in the form of videos and documents.

Videos are short 'how to use' media-rich animations created based on Product User Guides. These are developed in Flash and published as videos for delivery via Upside2Go.

Documents include PDFs on product usage; COSHH guides, risk assessment guides, and guides on other health and safety aspects; and any other documentation related to a product.

Al Jesr:

Development of five English language lessons for viewing on mobile phones together with a framework for creation of subsequent lessons and a mobile app to deliver the lessons (iOS, Android, BlackBerry versions)

The first five lessons were created in HTML4. They included a variety of grammar, vocabulary, and comprehension interactivities and exercises.

The HTML-based Framework, together with a template library and a user guide for framework integration, were provided to Al Jesr. Al Jesr was able to use these to create subsequent lessons.

A customized version of the Upside2Go mobile app was created to suit the branding, design, and functionality requirements. This is a free app that can be downloaded from the relevant app store. On downloading the app, users get the first two lessons free.

To purchase additional lessons, users must register with a mobile phone number, on which they then receive their login credentials via an SMS.

The in-app purchase feature was implemented for the iOS version of the app; and the OneCard payment gateway was incorporated into the Android and BlackBerry versions.

Case Study from Upside Learning

Recommended resources and references

Towards Maturity reports referenced in this In-Focus report
New Learning Agenda: Talent: Technology: Change. Towards Maturity Benchmark Review 2013
www.towardwmaturity.org/2013benchmark

Towards Maturity 2014 In-Focus: Learning in the Mobile Enterprise www.towardsmaturity.org/in-focus/mobility2014

Towards Maturity 2013 In-Focus: Mobile learning at Work
http://www.towardsmaturity.org/article/2013/01/15/towards-maturity-focus-report-mobile-learning-work/

Towards Maturity 2014. The Learner Voice. http://www.towardsmaturity.org/article/2014/04/09/towards-maturity-learner-voice-part-1/

Whitepaper and case studies from Upside Learning
Mobile learning, here and now whitepaper:
http://www.upsidelearning.com/uk/white-papers.asp

Jangro case study:
http://www.upsidelearning.com/uk/casestudy-delivering-training-internal-external-stakeholders-unified-learning-system-mobile.asp

PMI case study:
http://www.upsidelearning.com/uk/casestudy-PMI-ebook-project-leadership-kindle2.asp

Toyota case study:
http://www.upsidelearning.com/uk/casestudy-toyota-yaris-ipad-app.asp

Additional reading and references
Towards Maturity case studies, white papers and articles
 http://www.towardsmaturity.org/tag/mobile/

Ofcom Communications Market Report 2013
http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013_UK_CMR.pdf and
http://media.ofcom.org.uk/facts/

Delivering learning in a connected world. ASTD, 2012.
http://www.astd.org/Publications/Research-Reports/2012/2012-Mobile-Learning-Delivering-Learning-in-a-Connected-World
Going mobile in executive education. Ashridge, 2011.
http://tinyurl.com/ashridgemobile-pdf

http://hbr.org/2013/01/how-people-really-use-mobile

http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats/d#mobilebehavior

The National Technical Authority for Information Assurance http://www.cesg.gov.uk/Pages/homepage.aspx

Notes on the 2013 research

The Towards Maturity 2013-14 Benchmark review

Individuals with responsibility for implementing learning technologies in the workplace were invited to participate in the Towards Maturity 2013-14 online benchmark reviews between June and August 2013. Data in this report is also derived from similar studies in previous years.

538 respondents from 481 organisations took part in the study. Although 72% of respondents were from the UK, L&D professionals from 44 different nations took part. Organisations spanned a range of industries, sectors, types and sizes:

- 28 different industries
- 54% private sector; 30% public sector; 16% not-for-profit sector
- 23% small organisations (fewer than 250 staff); 42% medium sized (under 5000 staff) and 35% large (over 5000 staff)
- 41% from multinational organisations

Towards Maturity Learning Landscape

Over 10000 learners from private sector companies took part in the Towards Maturity Learning Landscape during 2013. Results from a sample of 2000 learners (selecting every 5th learner) have been analysed in this report. The full methodology is reported in Appendix A of the TM2013 Benchmark.

The Towards Maturity Model

In past studies we have analysed the implementation activity of the more e-mature organisations and grouped their behaviours into six workstreams that we describe in the **Towards Maturity Model**.

Figure 7. The Towards Maturity Model

These six workstreams of effective practice are at the heart of the **Towards Maturity Index (TMI)** that each respondent received to objectively benchmark the maturity of their own implementation of learning technologies. In this report we look at the results achieved by the top learning companies with the highest TMI, in order to see how others can learn from their approaches.

About Upside Learning

Upside Learning is one of the world's leading provider of learning technology solutions and for over 10 years, we have helped over 200 organisations around the world to manage and deliver their learning through our wide range of solutions and services.

These include UpsideLMS - our multi award winning Learning Management System; Upside2Go – our mobile performance support platform and our bespoke content development services for desktops and mobile devices. We have recently launched a Framework for Responsive eLearning Development (FRED), which develops responsive learning and performance support interventions for multiple devices.

As great believers in the mantra of 'Keep Learning', we help build learning environments that enable continuous learning in the workplace and facilitate this through our wide range of innovative learning and technology solutions. We take great pride in serving some of the world's most recognised blue chip companies like L'Oreal, Kraft Foods, Unisys & Saint-Gobain to name a few. Having worked with a range of global clients, successfully delivered hundreds of unique projects, our impeccable work ethic has translated into 30+ awards and recognitions to date.

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www.upsidelearning.com/uk
www.upsidelearning.com/blog

About Towards Maturity

Towards Maturity is a benchmarking practice that provides authoritative research and expert consultancy services to help assess and improve the effectiveness and consistency of L&D performance within organisations. The Towards Maturity portfolio includes:

The Towards Maturity Benchmark Study

http://towardsmaturity.org/static/survey/

The Towards Maturity Benchmark Study is an internationally recognized longitudinal study on the effective implementation of learning innovation based on the input of 2,900 organisations and 10,000 learners over ten years. Towards Maturity continuously surveys and studies how people learn at work, and uses this data to help L&D professionals assess and improve the appropriateness, effectiveness and efficiency of their learning provision. Previous research papers and sector specific reports are available through the Towards Maturity Shop.

Towards Maturity Benchmark Centre

http://mybenchmark.towardsmaturity.org/

Applying everything we know about good practice to provide personal practical time saving advice through an online three-step continuous improvement process. Benchmark your current approach with your peers.

Towards Maturity Strategic Review

http://www.towardsmaturity.org/strategicreview

The Towards Maturity Strategic Review is an extra helping hand to help you turn good ideas into good practice in your organisation. It helps you analyse and interpret your personal benchmark report to establish a base line and identify the next action steps for performance improvement.

Towards Maturity Learning Landscape

www.towardsmaturity.org/learner

The Towards Maturity Learning Landscape Study helps you understand the behaviours of your staff so you can design learning solutions that can be embedded more effectively into the workflow. It provides structured feedback across companies, locations and departments.

Towards Maturity Sector Benchmark groups

www.towardsmaturity.org/benchmarkgroups

Join senior L&D leaders in your sector three times a year to use the Towards Maturity Benchmark to support performance improvement, prioritise action planning and accelerate progress.

Visit www.towardsmaturity.org for more information.

Please click below for our terms and conditions relating to this report on the Towards Maturity site.
http://www.towardsmaturity.org/static/terms-and-conditions/

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Mobile learning in the workplace

Practical perspectives on implementing mobile learning

Download and share: www.towardsmaturity.org/mobile2014

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Foreword by Amit Garg, Director of Custom Learning Solutions at Upside Learning

We have always believed that mobile is the future of learning and have continually strived to evolve our offerings in line with that belief. As predicted early last year, 2013 saw an explosion of mobile devices in the learning field, with tablets in particular being in the forefront of this growth. Being associated with and contributing to Towards Maturity's 'In-Focus' report seemed a natural extension of our belief and involvement in all things mobile. We also strongly believe in sharing our knowledge and experience to help others get started with mobile learning and in our endeavour to 'keep learning'.

It is with this background that we are proud to bring you the report on 'Mobile Learning in the Workplace' – a comprehensive report aimed at helping organisations to take an informed approach to adopting and implementing mobile learning. We believe that this report will help and guide organisations to formulate and implement their mobile learning strategy, with a level of confidence drawn from the analysis and insights of a wealth of hard facts and very real research data.

Tablets are proving to be a real and viable device for the adoption of mobile learning in the work place and we are witnessing a rapid increase in the adoption and use of these devices in organisations. What is significant are the drivers and reasons for adoption, which are all around mobility, portability and to service a mobile or remote workforce. All the very reasons and benefits that mobile learning has promised and is now delivering! Eric Schmidt, entrepreneur and Executive Chairman of Google says, "*It looks to us like the majority of enterprise computing is being done on mobile devices, in particular on tablets*." Meanwhile the transition of the mobile phone to a 'smartphone' is almost complete, with changes in their size and capability enabling them to play a more frequent role in our work place and to be considered a viable medium for delivery of knowledge and information, albeit on a slightly smaller screen.

The growth of mobile and mobile devices has spawned a new world – the multi-device world! It is a fact that a very large percentage of today's mobile users are "multi device" users, using two or more devices in a day. While this is still largely on a personal usage level, we are seeing this enter the enterprise too, with users initiating an action on one device and completing it on another.

The need to embrace and exploit the mobile medium has never been stronger and the opportunity has never been bigger. The benefits the medium offers through our ability to provide support and access to our people at critical moments of need and the speed at which we are now able to do it, promises to change the way we work!

We would like to acknowledge and applaud Towards Maturity's efforts in putting this report together and we are sure it will encourage organisations to take the leap of faith into the world of mobile learning backed by the tremendously valuable data and insights this report provides.

Amit Garg
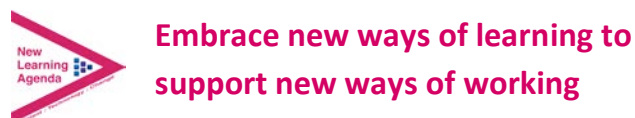*Director of Custom Learning Solutions*
Upside Learning

Contents

Introduction

2013 was the year when mobile learning (mLearning) became the norm rather than the exception. With seven out of ten businesses now adopting mobile learning solutions, the factors that influence success are becoming clear. This report gives practical ideas to help *address the perceived challenges* faced, *build confidence* in the results and support the *implementation of mLearning i*n the workplace.

The Towards Maturity New Learning Agenda[1] stresses that learning needs to be tailored to modern-day work practices - and that means supporting and facilitating a continuous learning process rather than discrete learning events.

Embrace new ways of learning to support new ways of working

This report is our second **In-Focus** on Mobile Learning. We look at what has changed in the 12 months since we published 'Mobile Learning at Work'[2] and explore how mobile learning can help innovative and flexible organisations to engage in the New Learning Agenda.

Usage of mobile devices in workplace learning has been tracked by Towards Maturity since 2006. Data in this report is drawn from the Towards Maturity 2013-14 online Benchmark review[1] with contributions from 538 Learning and Development professionals across 44 nations. Data is also drawn from the 2013 Learning Landscape[3] study with over 2000 learners from private sector organisations.

Rapid growth in usage

Mobile phones are becoming ubiquitous. Some 22% of the world population now have smartphones[4] (up from 15% in November 2012) and 38% have phone internet data connections (up from 24% in November 2011 and 31% in November 2012). In the UK, in Spring 2013 (the

latest Communications Market report published by Ofcom[5]):

- **94%** of adults have a mobile phone
- **51%** have a smartphone
- **24%** of homes have a tablet device.
- **49%** use their mobile to access the internet

Some researchers predict that 90% of adults in the UK will have smartphones by 2016[6] and that superfast 4G mobile services will be accessible across the UK. In the US, over 91% of the population already have 3G/4G subscriptions. In nations with low PC and fixed-line penetration, mobile devices are the de facto communications devices for accessing the web. Indeed, by the end of 2016, over half the world population will have phone internet data connections.

However, 'mobile' doesn't automatically mean 'on the move.' Some 85% of tablet usage is actually in the home and a large proportion of this use is for entertainment purposes[3], an indication of the convenience and suitability of the tablet for multimedia display.

The opportunity offered for learning and development is enormous and many L&D professionals seek to use mobile technology to make learning more accessible, more integrated into the way of life – and more fun.

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[1] www.towardsmaturity.org/benchmark2013
[2] See references on page 23.
[3] www.towardsmaturity.org/learner
[4] www.phonecount.com

[5] http://tinyurl.com/ofcom-comms-2013
[6] http://tinyurl.com/marketingland

Towards Maturity Benchmark

In past studies, we analysed the implementation activity of "e-mature" organisations and grouped behaviours into six workstreams that we describe in the **Towards Maturity Model**.[7] We define *top learning companies* as those that are in the top quartile for the Towards Maturity Index (see References for further detail).

Our study of mobile learning in this report focuses on the adoption of the technology and how it is being successfully implemented in top learning companies, rather than describing its many applications and success stories.

Ashridge[8] provides a useful definition of mobile learning:

"Handheld technologies, together with wireless and mobile phone networks, to facilitate, support, enhance and extend the reach of teaching and learning."

Don't get left behind

Top learning companies are more likely to be using mobile devices in learning – including smartphones, PDAs, tablets, and other handheld devices. They are also the organisations realising the greatest impact from their use of learning technologies as a whole. However, supporting mLearning is just one of many factors contributing to their success.

71% of respondents are using mobile devices (up from 36% in 2010 and 47% in 2012)
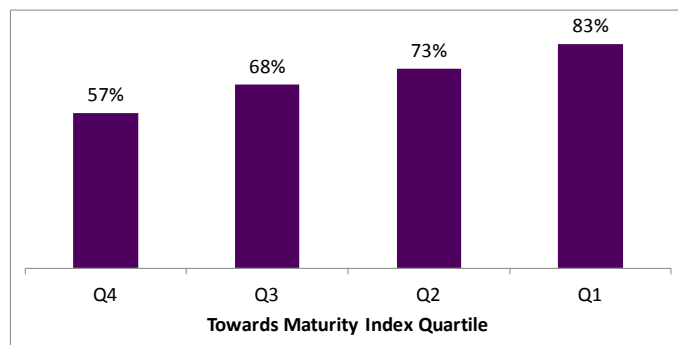
This proportion rises to **83%** (up from 65% last year) of top learning companies.

Top learning companies are also more likely to be using and developing mobile apps.

This year, there is little difference in uptake between those working in different sectors:

- Not-for-profit sector (74%)
- Public sector (73%)
- Private sector (69%)

Figure 1. Uptake of mobile devices related to Towards Maturity Index

The private sector industries with the highest use of mobile devices in our sample are:

- Commercial training providers (90% - up from 60% last year)
- Manufacturing, science and engineering (79%)
- Professional and technical services (72%)
- Finance and insurance (69%)

Those that have been using learning technologies for a longer period and have successfully embedded eLearning in every aspect of their business are also more likely to offer mLearning.

Figure 2. Use of mobile devices across organisations with different self-perception of their e-maturity

Those with several years' experience in using technology-enabled learning report higher levels of mobile usage, but we also see a spike in usage in those that are new to using learning technologies, implying that some are adopting mobile solutions as part of their first steps with learning technologies.

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[7] Described in full at **http://tinyurl/TMModel**.
[8] Going Mobile in Executive Education. Ashridge, 2011.

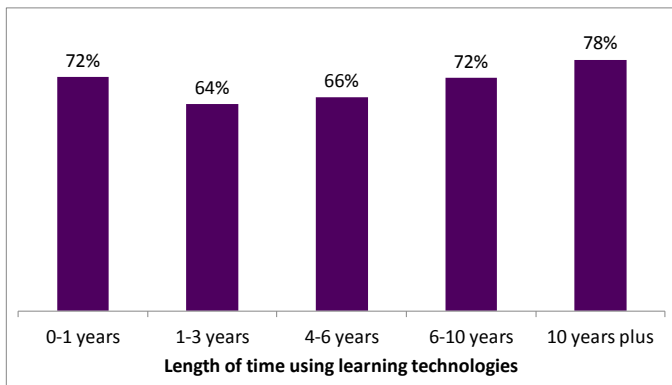**TOWARDS MATURITY**

Figure 3. Usage of mobile devices varying with length of time using learning technologies

Although it might be expected that large and highly distributed organisations might be more dependent on mobile telephony for communications, fewer in multinational or multiple site organisations are using mobile devices for learning than those in single site organisations:

- **67%** Multiple location, single nation
- **72%** Multinational
- **79%** Single site

However, organisation size has little effect on the likelihood of using mobile devices or plans to use them in the future.

Uptake varies across the world:

- **66%** UK
- **77%** Other European countries
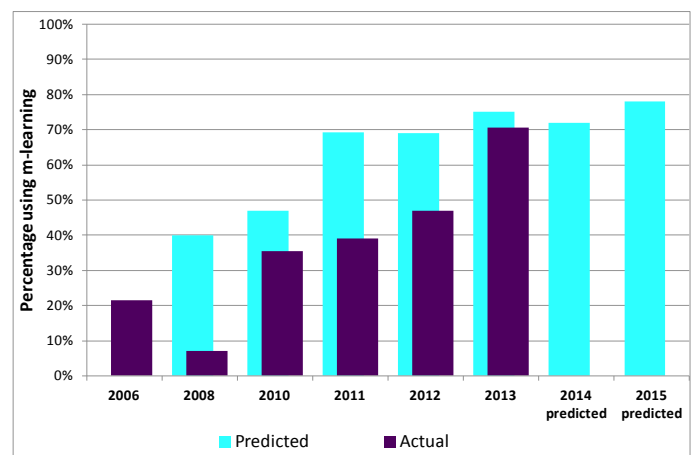- **85%** Australasia
- **87%** Canada/USA

Sample sizes from other continents are too small to report individually.

Perception of adoption across the organisation also appears to vary quite widely according to the job role of the respondent. Those in Content Developer roles are not so convinced. They report significantly less usage at 50% compared with the sample average of 71%. This may have implications for development of content specifically enabled for mobile delivery.

Future plans

Usage of mobile devices is predicted to increase to 78% in the next 2 years[9], rising to 88% in top learning companies. Several respondents specifically mention increasing their use of iPads and tablet computers. However, the forecast increase appears to be tailing off as shown in Figure 4.

Figure 4 Actual and predicted levels of mobile use

52% provide learners with smartphones, rising to *60%* of top learning companies

48% provide learners with tablets, rising to *57%* of top learning companies

41% have a policy of Bring Your Own Device, rising to *66%* of top learning companies

"Our organisation is moving towards more remote working supported by mobile technology. This will have a major impact on how people will access learning opportunities and particularly upon how we are able to evaluate what learning has taken place and what impact it will have."

[9] Both actual and predicted usage represent a higher proportion of the TM sample of 538 organisations than reported in the June 2012 ASTD report '**Mobile Learning – Delivering Learning in a Connected World'** (Similar sized survey reporting that one-third are using mobile devices now: over half will be using them within the next 3 years).

Some 1 in 4 organisations would consider that they are still 'experimenting' with aspects of mobile learning.

Table 1. Those using or experimenting with mobile learning

Mobile learning	% using now (using +experimenting)	% planning to use in next 2 years
All mobile learning	**71%** (46% + 25%)	78%
Provide mobiles e.g. smartphones	**52%** (48% + 4%)	59%
Provide tablet devices	**48%** (34% + 14%)	59%
Support Bring Your Own Device (BYOD)	**41%** (32% + 9%)	50%

Drivers for going mobile

Expectations from technology-enabled learning are high. Over 90% of respondents to the TM 2013 Benchmark want to:

- Increase learning access and flexibility
- Increase on-the-job productivity
- Support organisational change and provide a faster response to changing business conditions
- Increase the reach of learning solutions
- Increase the ongoing sharing of good practice.
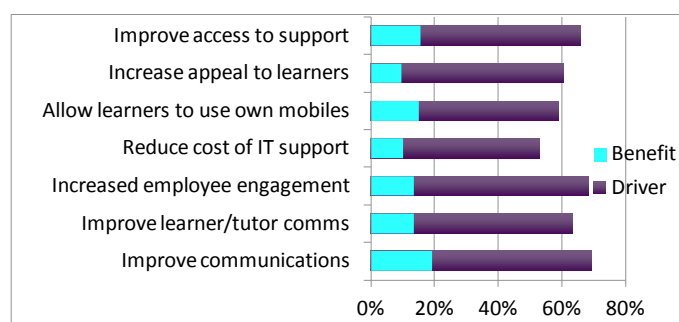

Top drivers for mLearning in 2013

- **80%** access support at the point of need
- **79%** improve employee engagement
- **77%** improve communication between individuals
- **76%** learners can use their own mobile devices
- **74%** improve communications between learners and tutors
- **71%** Increase appeal to the millennial learner
- **68%** Reduce cost of IT support/delivery

The box above illustrates the specific goals related to mobile use.

All these drivers have increased significantly since one year earlier. They are also highest in the public sector, larger companies and those with a longer experience of using learning technologies.

However, we see major gaps between the expectation and the reality of the improvement. The short blue bars in Figure 5 below indicate the proportion of those seeking each benefit that can actually report its achievement!

Figure 5. Drivers and benefits of mLearning

Of the 80% seeking the benefit, only 9% manage to improve access to support at the point of need. 88% are looking at technology to help engage new types of learner, and 86% want to push updated information to employees at the point of need. Achievement of these benefits is low at 18% and 26% respectively.

Notably, even fewer are reporting every one of these benefits than one year ago.

What barriers are people reporting?

In the TM 2013 Benchmark, the main barrier to progress was the cost of development, set-up and maintenance – reported by 71% of respondents. For those implementing mobile learning, cost is also a primary concern:

"Cost of new technologies and keeping up with the latest equipment alongside our internal IT infrastructure"

"The new IT director has decided not to invest time or money in mobile technologies"

"Cost of supplying mobile technologies to staff"

However issues of security and difficulties with existing IT infrastructure or technical support are important to many:
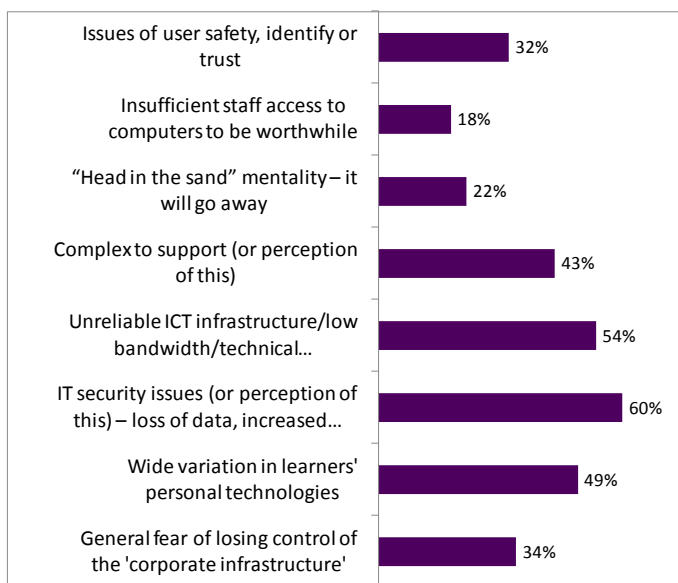
- **60%** IT security issues
- **54%** Unreliable ICT infrastructure
- **43%** Complex to support

1 in 2 organisations cite the wide variation in learners own personal technologies as a real barrier to implementation of mobile learning.

52% of organisations get around this problem by providing learners with smartphones that they know are compatible with their IT architecture – an increase from just 31% a year earlier.

Other barriers are illustrated in Figure 6.

Figure 6. Barriers to mobile and social learning

Issues of user safety, identify or trust — 32%
Insufficient staff access to computers to be worthwhile — 18%
"Head in the sand" mentality – it will go away — 22%
Complex to support (or perception of this) — 43%
Unreliable ICT infrastructure/low bandwidth/technical... — 54%
IT security issues (or perception of this) – loss of data, increased... — 60%
Wide variation in learners' personal technologies — 49%
General fear of losing control of the 'corporate infrastructure' — 34%

"Thorough design and comprehensive testing will be needed to adjust design of e-materials for social and mobile technologies. The branding may also need redesign."

Barriers to progress can be related to organisation culture and restrictions on the use of mobile devices in the workplace. Particularly in large organisations there can be a reluctance on the part of senior and line managers to encourage new ways of learning (reported by 18% of micros businesses and 51% of large businesses with over 1000 staff).

"Due to working in the financial services industry, use of mobile phone is prohibited in the office and training rooms"

"Managers and older staff members in late 50s or older are reluctant to see change they don't understand in their time!"

However, not everyone is having these difficulties:

"No challenges. We are all over it!"

Getting started

Supporting the learner at their point of need can be simplified through the adoption and use of mobile learning. As more and more learners are using their own devices to access resources when they need them, the innovative L&D team is embracing the opportunities that mLearning can offer and ensuring that their resources are optimised for mobile platforms.

Understanding the benefits

We illustrated in our previous report in 2013 that mobile users not only increased the proportion of staff on L&D programmes, but *when compared to non-mobile users* found that they gained:

- 70% improvement in productivity
- 47% improvement in manager perception of additional business benefit
- 25% improvement in revenue.

They also gained significant benefits in improved staff behaviour and engagement.

In 2014, these benefits have continued. When *compared with the 2013 Benchmark average* values, those that specifically enable their content for mobile devices have gained

- 43% improvement in productivity
- 73% improvement in revenue
- 44% improvement in time to competency
- 75% improvement in the number noticing positive changes in staff behaviour

Notably, those using mobile learning are at least twice as likely as non-users to exceed benchmark values and be in the top quartile for Towards Maturity Index.

Selecting the approach

Although it is not a straight choice, a key issue for L&D is whether they should adopt a policy of Bring Your Own Device, or provide mobile devices (Smartphones or Tablets) to learners. In this paper, we investigate the evidence to see if there is any discernible difference

between the results or approach of these two groups. The 'BYOD' group comprise 115 organisations that currently support Bring Your Own Device – some of whom may also provide devices to their learners. The 'Provide' group simply provide either smartphones or tablet computers to their learners or both.

In addition, we look at those that provide tablet devices (137) versus those that are providing smartphones (150).

Many organisations have embraced mobile learning whole-heartedly, by setting out their policy on BYOD, and providing both smartphones and tablet devices to learners – potentially for different purposes or different groups, although this needs further exploration. The degree of overlap between these groups makes any differences all the more significant.

What types of organisations offer BYOD?

BYOD is more frequently seen in

- Large organisations of 20,000+ (22% of BYOD group vs. 17% of whole sample)
- Multinationals (55% vs. 47% of whole sample)
- Those with over 10 years' experience of using eLearning (37% vs. 29% of whole sample)

38% of these organisations fall into the top quartile for the Towards Maturity Index, illustrating a high degree of e-maturity in this group.

Business benefits

- **43%** of the BYOD group report that eLearning has contributed to improvements in organisational productivity (vs. 31% all and 21% of tablet/smartphone providers)
- **48%** of their managers report additional business benefits (38% all, 33% providers)
- **29%** report it has made a significant contribution to increasing organisational revenue (24% all, 19% providers)

Staff benefits

- **37%** of the BYOD group agree that learners put what they learn into practice quickly (vs. 26% all and 22% of device providers)
- **34%** report that learners recommend eLearning to colleagues to improve job performance (21% all, 17% providers)
- **35%** have noticed positive changes in staff behaviour (22% all, 18% providers)

Those supporting BYOD report 11% increase in staff retention (6% for those providing devices)

The small improvements in Key Performance Indicators between those that provide tablets as opposed to smartphones are not significant, reflecting the degree of overlap between the two datasets.

Matching the device to the delivery

Although 71% of organisations are now using mLearning in some form, it is surprising that there is not a corresponding increase in the learning tools that might be considered best suited to mobile delivery.

35% enable content for mobile use, rising to 53% of top learning companies

35% specifically enable their content for mobile use - including 8% who would consider that they are just experimenting with this. 38% of organisations are now developing content that is platform independent, using for example, HTML5 (an advanced open standard that allows applications to run on any mobile platform or operating system) although one in four of these are just experimenting with HTML5. A further 16% do plan to develop platform independent content within the next 2 years.

For those that invest in the provision of mobile devices for learners, only 42% of those providing smartphones and 52% of those providing tablets are specifically enabling their content for mobile devices (this rises to 64% of those supporting BYOD).

Table 2: Developing content for mobile platforms

Mobile learning (whole sample)	% doing now (top) (using +experimenting)	% planned in 2 years
Specifically enable content for mobile devices	**35%** (53%) (27% + 8%)	60%
Develop content that is platform-independent (e.g. in HTML5)	**38%** (59%) (29% + 9%)	54%
Integrate mobile apps within the LMS	**21%** (38%) (14% + 7%)	50%

"Our eLearning development team is just starting to move away from Flash and experiment with HTML5. We are also looking at purchasing training tools that "mimic" the system, rather than just capture screenshots with hotspots."

Using Apps

Providing mobile devices, or enabling content for mobile access is only part of the story. Mobile Apps are not necessarily the answer however. Ofcom estimate that while nearly half (48%) of smartphone users have downloaded an app, two-thirds of the apps downloaded were not regularly used.

In our research, only 1 in 3 smartphone providers are using mobile app development tools and even fewer (21%) integrate mobile apps within their LMS.

How easy is it to create bespoke apps?

Accessing standard apps and tools is only part of the mobile solution. Whilst many proprietary productivity tools and communications systems offer apps to support the mobile enterprise (e.g. Hootsuite, YouTube, MailChimp and Skype), many organisations are developing or commissioning their own bespoke apps. Mobile technology features can add new dimensions to the learning design, for example using location-based services, built in cameras, voice control, device shaking or orientation.

Organising apps

Some 24% are now using tools to download and organise mobile apps. This 'app store' can simply be a web server to access internal content available to internal users, or part of a larger system offering functionality similar to the iTunes App Store™ in which multiple devices can be synchronised and all the apps maintained current and fully compliant.

Only 44% of tablet providers have security policies to handle leavers/device loss

Mobile security

Although 60% of respondents in the TM2013 Benchmark were concerned about IT security and potential data loss, just 32% create advanced security policies to manage leavers and device loss (rising to 50% of those in top learning companies). This begs the question as to why organisations are not more proactive in regards to security; when the mobile device is used almost as much as the desktop system and so many are watching costs closely. Nevertheless, the ability for learners to use their own mobile devices is a real driver for learning in 76% of organisations.

Tablet or Smartphone?

As manufacturers reduce the screen size of the tablet to little larger than a smartphone, some of the advantages of display and readability of the tablet over the smartphone become less pronounced. As the price of the tablet comes down and more learners have their own tablets, we see a corresponding increase in tablet usage.

In the Towards Maturity 2013 Learning Landscape report on 2000 learners, more learners were using their own tablet than one provided by their work:

- 10% are using their own tablet often to access work-related resources and information
- 4% are using tablets provided by their work

43% of learners find accessing learning from their mobile device 'essential' or 'very useful'

It is important to understand learner preferences in order to make the right choice for the organisation.

Table 3 Considerations for implementing tablet-based solutions over the laptop/PC

Tablet Pros	Tablet Cons
Longer battery life than a laptop	Possibly shorter overall life
Light and small – handy for carrying around	More likely to be lost
Multi-function: built in camera and video, respond to voice, position and motion inputs	Low processing power for running standard office applications or memory-intensive operations
Better for working in groups	Small display less suitable for graphic-hungry applications
Always-on capability – quick to 'wake-up'	

TOWARDS MATURITY

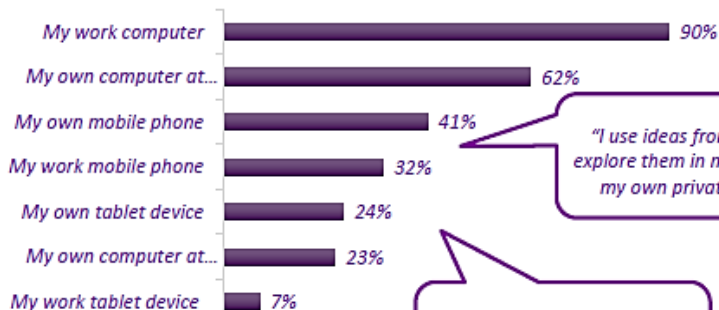**6 things to consider when getting started with mobile learning**

- ☑ Is the demand for mobile learning driven by business need?

- ☑ Is this something that your learners are requesting?

- ☑ What type of mobile devices are your learners using and are they willing to use them for work-related purposes?

- ☑ Is your existing content scalable for use on mobile devices?

- ☑ Are there new programmes planned that could act as a pilot for mobile learning?

- ☑ Is there a formal policy or procedure in place for learners to use their own mobile devices to access your systems?

What technology choices are staff making to support learning?

43% agree accessing learning from their mobile is essential or very useful

78% own a smartphone or tablet device

26% use their own devices to access work-related resources
- Of the **74%** that don't:
  - **23%** would be happy to if the right resources were available
  - **8%** don't know what is available
  - **33%** prefer to keep work and personal separate
  - **6%** don't want to use up their monthly data allowance

- **78%** of staff download apps to their own mobile devices
  - 26% education or training (33% of managers)
  - 21% productivity tools
  - 18% pod or video casts

What technology do you use to access resources to help you do your job?

My work computer	90%
My own computer at…	62%
My own mobile phone	41%
My work mobile phone	32%
My own tablet device	24%
My own computer at…	23%
My work tablet device	7%

"I use ideas from work and explore them in more detail on my own private devices"

"Yes, but the IT restrictions and support make this challenging where it should be easy"

Differences

Managers are most likely to use their home computer (70%) and own tablets (38%) to access learning Those in role <6mths are most likely to use own mobile (52%)

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Source: Towards Maturity: The Learner Voice Part 1

Designing for secure mobile content delivery

With such a wealth of learning resources available to the L&D professional to draw on, some may be more suitable for mobile delivery than others. Designing content from scratch to fit a mobile technology platform may be a step too far, but understanding the benefits – and risks – of mobile delivery will help L&D to make informed choices about learning resources.

Types of content

Organisations that have adopted mLearning are using a different spectrum of learning content and support technologies than others. Differences also emerge between the different types of mLearning supported.

When compared with those providing smartphones, tablet providers are more likely to be using job aids (76% vs. 68%), open-source development tools (46% vs. 39%) and online books (53% vs. 46%).

They are also and significantly more likely to be using podcasts, blogs and videos of good practice (both from within the organisation and externally produced).

Those supporting BYOD are **twice** as likely to be using cloud-based content and user-generated content as those without such policies.

Table 4. Technologies used by mobile users

Technology	All	All mobile providers	BYOD
Cloud computing (e.g. Google docs)	30%	27%	50%
User generated content	23%	15%	38%
Video – best practice external	41%	37%	55%
Video – best practice internal	52%	47%	66%
Podcasting	26%	21%	38%
Job aids	63%	62%	75%
Online books	42%	38%	61%
Rapid application development tools	62%	57%	79%
Feeds/curation and social bookmarking	15%	4%	33%

Table 5. Aspects of adoption for mobile learning

Mobile learning	% using now (top) (using +experimenting)	% planned in 2 years
Mobile app development tools (e.g. GoMo, LineStream)	**24% (45%)** (15% + 9%)	43%
QR codes	**26%** (38%) (18% + 8%)	37%
Tools to organise and download mobile apps	**18%** (37%) (12% + 6%)	35%

Those enabling their content specifically for mobile also report they are more likely to be using social media:

- **78%** allow staff access to third-party social networking sites (64% sample average)
- **75%** use VOIP conferencing (49% all)
- **66%** also use such third-party social networking sites for learning and development (46% all)
- **48%** use in-house social media (38% all)
- **58%** use learning communities such as action learning sets (42% all).

Enabling across technology platforms

There is evidence to show that those with BYOD are getting significant benefits. However, in order to make these realities there are some challenges to be faced.

6 out of 10 organisations expressed concern around IT security. Loss of data or the perceived increased risk of viruses was a greater barrier to progressing mobile learning than problems of unreliability or restrictive firewalls or low bandwidth (reported by 54%). However, only 48% of L&D professionals would agree that they

have a good relationship with the IT department, and only 43% agree that they actually know what technology-enabled learning their IT systems can deliver.

Formal BYOD policies have reduced the risk attached to proliferation of mobile devices by bringing them back under the control of the IT department. However, just 29% of L&D professionals would agree that their organisation has a clear policy around BYOD, and only 13% agree that they are influencing that policy.

No wonder that 34% report a fear of losing control of the corporate infrastructure.

However, security continues to be an issue for many IT departments. Employees often have a mix of business and personal applications on the same device, which is then used to access corporate networks. Unrestricted download of apps onto the personal device can expose business systems to malicious software attack or unauthorised access to internal networks. Loss or theft of the device itself can lead to headline-grabbing loss of sensitive business and personal information.

The wide variation in learners' personal technologies also presents problems for 1 in 2 organisations, particularly those using native applications that run directly on the device operating system. In fact, many have been working under similar constraints for many years as they grapple with replacing older PC hardware or managing multiple learning management systems in use in different geographic locations/subsidiary companies. For many businesses, any investment of time or money on IT must firstly go to upgrade or develop their primary business systems for mainstream use.

"We know that many of our colleagues use their own devices for all sorts of things, probably including self-learning. However we simply have no official idea of this or ways of measuring how much learning people are doing using their devices. We recently introduced Blackberry devices for our staff and this could potentially be a way of engaging colleagues in self-learning. However I'll admit feeling daunted at the level of workload that may be involved in getting this up and running."

To some extent this can be got round by using web-based applications that run within the device's own web browser. However, more complex solutions may be required for the higher performance native applications that run directly on the device operating system (e.g. iOS apps are distributed via the Apple App Store: Android apps can be hosted on a business website for users to download directly).

Integrating mobile learning options within an existing LMS can also present technical problems, for example in tracking or auditing learner progress where compliance is a critical issue.

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7 things to consider in your BYOD policy

☑ Which devices are allowed – and which are not

☑ Procedure for reporting faults, lost or stolen devices or use of device by 'strangers'

☑ Which apps are allowed – are there any blacklisted apps; what safeguards are in place for using third-party social networks

☑ Process for installing business security software and what changes will be made on the user device

☑ Personal security precautions and how best to protect self and data from threats and protect identity

☑ Protection of personal data stored on the employee device – and the visibility of this to the business

☑ Policy enforcement and implications of failing to comply!

Providing users with a smartphone or tablet can minimise the security risk and limit the number of unmanaged devices accessing the organisation's network. However, cost can be a significant barrier to the organisation, and the learner is likely to have to juggle with multiple devices.

Using *VPN technology* to access company information can minimise the security risk and allow users to log in remotely to email systems and other company information, but user authentication becomes a critical issue at several levels:

- Granting the user access to the device, e.g. through password or biometrics
- Authenticating the physical device to the enterprise.
- Granting user access to the enterprise

Legacy and bespoke systems are less likely to have been designed with mobile systems in mind although they may still be vital to the organisation. Using a VPN can provide remote access to desktop applications but these may not be optimised for mobile delivery. Document distribution security systems allow staff to access, edit and save files remotely and securely from their own device, ensuring they are always connected to the latest version.

The *device operating system* is likely to handle the user access securely, provide encryption of data when the device is closed and protect against virus infection and other harmful events, although this varies between devices.

Generic software solutions will ensure data reliability and currency e.g. through synchronisation of mobile files, contacts and calendars (e.g. ActiveSync, Windows Mobile Device Centre, iCloud) between handheld and

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11 things to look for in Mobile Device Management

- ☑ Automated renewal of non-compliant devices
- ☑ Remote locking, wiping and revoke credentials
- ☑ Built in encryption – e.g. on device closing
- ☑ Malicious code detection and prevention
- ☑ App management system
- ☑ Standardised administration policies
- ☑ Access control – for example job role-based rules and assign privileges and restriction for handling sensitive data
- ☑ Monitoring of device usage and automating event/incident reporting
- ☑ Secure document distribution (e.g. Secure Content Locker)
- ☑ Support for legacy applications
- ☑ Virus and malware blocking

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desktop devices such as PDAs. Version control is very important, particularly where a number of users are accessing and working on the same file simultaneously. Cloud-based services for this can be free (e.g. Google Docs) or available on a per-user subscription model which is ideal for the smaller business.

Bespoke Mobile Management Systems add additional functionality, for example to enforce passwords, locate or wipe lost or stolen devices or track learner activity.

Kick-Start your mLearning with Tablets

Most of us use two or more devices in a day – for communication, learning, work, entertainment, and decision making. We are on the move both within and outside the workplace; we want information at the time of need or interest; we multi-task; and we expect to use our downtime or waiting time effectively.

All perfect conditions for mobile learning. And yet, many organisations are finding it difficult to transition to mLearning.

That's where tablets come in. Tablets can be a great starting point to drive the implementation of mLearning.

What makes them special? Well, there are several reasons.

1. Tablets have been THE fastest ever growing category amongst all mobile devices. Market intelligence firm International Data Corporation (IDC) predicts that tablet sales will continue to increase in 2014 as well, albeit at a slower rate, and that tablets will outsell PCs by 2015. IDC also predicts an increase in the proportion of commercial sales, with more tablets destined for small, medium, and large businesses than in previous years. Meanwhile Forrester Research predicts that tablets will play an increasingly critical role at work, and that one in every five tablets will be an enterprise tablet.

2. The Bring Your Own Device (BYOD) trend is catching on, and employees are increasingly bringing their own devices to work to access business applications on them. IDC Global Solutions discovered that the BYOD trend is especially popular in Asia Pacific, with almost one in three people using their personal tablets for work; and Gartner predicts that by 2017, 50% of organisations will demand that employees bring their own devices to work. The introduction of hybrids and convertibles could also contribute to faster adoption of tablets in the enterprise.

3. Tablets are changing the way we interact with computers. The abstract layer of mouse and keypad is gone and people who earlier may not have been so comfortable with computers can now intuitively use tablets without any training. This in itself is a great opportunity in many enterprises - for instance you can now train people on the shop floor using tablets even if they've never learned computers formally. Tablets are redefining the computing paradigm for those who are comfortable with computers too, by providing new modes of interaction.

4. Tablets are the in-between devices that combine features of desktops/laptops and mobile phones. Like mobile phones, they are portable touch-based mobile devices. However, their screen size (~7-10") is closer to that of desktops and laptops, which allows for larger information and multimedia displays. Like smartphones, they also have unique features that can be exploited for effective learning interventions and performance support - for example, built-in cameras, GPS, and accelerometers. And since they aren't quite as personal as mobile phones, employees may be more inclined to access them for training and work-related reasons.

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Kick-Start your mLearning with Tablets (continued)

5. The very nature of work and the workplace is changing. Employees require immediate access to information, resources, and work-related systems and applications. The portability of tablets makes them available at the moment and place of 'desperation' and 'inspiration', where they provide immediate access to content and experts alike and allow learning to merge with work. From this perspective, tablets can effectively provide informal learning and performance support opportunities for the last three of Mosher and Gottfredson's Five Moments of Need: Applying what you've learnt, learning when things go wrong, and learning when things change. Also, with organisations offering more flexibility in work timings and locations, a larger proportion of people are spending some part of their work time away from their offices - in meetings, at client or vendor sites, travelling, or at home. The portability of tablets, combined with their larger screen size, makes them a convenient device for mobile and 'away' workers to access all types of business applications.

All the above reasons combine to make tablets a common starting point of mLearning in the workplace.

For an organisation that already has traditional desktop-based eLearning, one of the simplest first steps can be to mEnable their eLearning by converting it to Tablet Learning. This normally requires minimal repurposing, and since the content, interface, and navigation are familiar, it's an effective strategy to ease learners onto mobile devices.

The next step would then be to design new eLearning specifically for tablets. Interestingly here, tablets are also playing a key role in driving HTML5 in the learning domain, with many organisations choosing to create new eLearning in HTML5 just so that it can be available on both tablets and desktops.

From there on, the last step would be to extend to designing eLearning for multiple mobile devices including tablets, phablets, and smartphones - in other words, to extend to mLearning.

Contributed by Upside Learning

Implementing the New Learning Agenda

Learning innovation, done well, is delivering significant business benefit.

Top learning companies are consistently achieving higher benefits and reporting fewer barriers than most. As well as reporting increased benefits, those who have introduced mobile devices are reporting at least 20% fewer barriers than average.

In this section we explore two themes from the Towards Maturity 2013 New Learning Agenda and look at how successful implementation of mobile learning at work can impact on organisational learning culture and performance support practice.

Transform traditional training

Formal learning is not dead! Three out of five learners still report that the course is one of the most effective opportunities for learning what they need for the job, yet 88% of learners want to be able to learn at their own pace. This means thinking differently about how formal learning is designed.

Support a culture of learning within the workflow

Learning does not just take place in formal interventions – it is a continuum. Across the board, employers are looking to provide content to employees at the point of need with 86% looking to technology to push updated information to their staff. However, only 26% are achieving this. 94% of organisations want to speed up the application of learning back in the workplace but only 19% are achieving this. With only 14% using defined performance support practices to support learning transfer after formal training, it is time to recognise the importance of supporting staff in the heart of the workflow.

Top learning companies are able to achieve more of the benefits they seek than the non-mobile users. We have seen, through our Towards Maturity Model[7], that those with a clear strategy, management support at all levels, and the right enthusiasm and skills in the learning and development team are 'bridging the performance gap'[10] getting the best results.

This year, differences are more pronounced, with top learning companies more than 20% ahead of the non-users in all areas of the model, and more than 45% in some areas (*more than 50% ahead).

- Individual choices*
- Technical environment
- Talent management*
- Supporting performance
- Transferring learning
- Facilitating collaboration*
- Involving leaders
- Measuring effectiveness and
- Communicating benefits*

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[10] See Towards Maturity 2012 Benchmark: Bridging the Gap

Transforming traditional training

The course is still a critical activity for L&D and the principal medium to quickly and reliably ensure that staff are using up-to-date methods and have a common and full understanding of essential information and company practices and values to help them to do their job.

However, on average, 56% of L&D professionals in the 2013 benchmark agreed that 'L&D staff consider the 'course' as only one of many options for building skills and performance' – or conversely that 44% consider the course as the only option! For top learning companies, this proportion falls to 26%.

Fewer than **1 in 4** organisations are successfully supporting the application of formal learning back into the workplace. For those using mobile learning, the proportion rises to **1 in 3**. Why is there such a difference?

When formal classroom-based learning is supported by *content* that has been optimised for mobile delivery, learners can refresh newly learned skills and knowledge as the need arises. Mobile *communications* open up the ability to work with other learners or with tutors or with subject matter experts via instant messaging. Mobile *connection* joins up internal or external networks and communities of practice.

Top learning companies are thinking differently about how the course is designed to take advantage of the opportunities that mobile technologies can present.

- **57%** use storytelling techniques in the instructional design (26% of non users)
- **41%** include highly interactive methods, such as games and simulations (14% of non users)
- **56%** blend use of several different learning technologies (14% of non users)
- **52%** involve users in the design of the most appropriate learning approach (17% of non users)

Support a learning culture

The empowered mobile learner is more likely to discover things for themselves, manage their own learning process and prepare for forthcoming activities.

- **45%** of mobile users encourage learners to organise their own personal learning strategies (32% of non users)
- **44%** of mobile users encourage peer-to-peer feedback (33%)
- **18%** of mobile users encourage learners to share experiences and solve problems online using social media tools (8%).

Organisations that are users of mobile learning are not only more likely to embed learning into the workflow but also enjoy higher levels of management support and engagement:

- **53%** agree that managers recognise the value of on-the-job learning (35% of non users)
- **25%** agree that managers allow staff time to learn at home (16%)
- **17%** encourage and provide time for reflection (8%)
- **48%** senior managers demonstrate a commitment to learning (39%)

An integrated learning management system can help embed learning and development into all aspects of HR business processes such as induction, talent management or performance management.

- **53%** of mobile users integrate their LMS with HR or other business systems (45% of non users)
- **41%** of mobile users link their LMS to competency and talent management systems (26%)
- **26%** of mobile users integrate external video libraries into their LMS (13%)

Top learning companies are more than **twice as likely** as non-mobile users to:

- Use defined performance support practices to support learning and knowledge transfer (35% vs. 15% non-mobile users)
- Use technologies to simulate the work environment for assessment (32% vs. 15%)

They are also more likely to use technologies to simplify the administration of assessment (64% vs. 42%) and to help prove compliance (78% vs. 56%).

Supporting performance at the point of need

1 in 2 organisations that do not offer mobile learning cite the reluctance by learners to learn with new technology as a barrier to progress. However, this proportion drops to **39%** using mobile technologies.

There are a number of practical lessons to be learned from the top learning companies that could make a significant difference. Mobile devices can help in providing the right performance support, at the right time – just where it is needed. When staff don't have easy access to a PC, mobile technologies can give them access to support systems such as job aids, helpdesks, or in-house expertise to support informal learning – as well as an easy means of referencing resources from formal training (2012 percentages in brackets):

- **52%** (42%) of top learning companies offer staff access to job aids online vs. 33% (20%) of non users)
- **71%** (70%) integrate performance management with their learning and development vs. 35% (39%)
- **78%** (74%) of managers recognise the value of on-the-job learning vs. 35% (43%)
- **81%** (64%) understand the support systems available to staff vs. 38% (42%)

- **67%** (69%) help staff locate in-house experts when they need them vs. 31% (36%)
- **48%** (59%) equip line managers with resources to support their teams vs. 17% (15%)

Too rarely, L&D teams are integrating performance support practices into their learning solutions. When compared with non-users, L&D teams promoting mobile learning are twice as likely to use available support systems to promote self-reliance rather than a culture of dependency amongst learners.

Table 6 Impact of mobile learning on performance support

	All	Mobile	Non-mobile
Individuals have access to a tutor or subject expert when learning online	16%	19%	11%
The objectives and aims of learning are discussed with individuals before they start learning	38%	42%	33%
We use available support systems to promote self-reliance, not a culture of dependency	22%	29%	14%
We have content curation strategies in place to help staff make sense of the resources available to them	11%	13%	10%
We help people locate in-house experts when they need them	38%	41%	31%
We understand the support systems available to our staff (e.g. help desk, peer support, manager support)	46%	53%	38%

Top tips for making the benefits of mobile learning a reality

The following hints and tips can help you succeed with mLearning in your organisation – whether you have already established multi-platform delivery and are looking for even greater benefits, or are just experimenting with new ideas. There is no on-size-fits-all solution! Why not use this checklist to review how your current approach to mLearning compares with the ideas suggested in this In-Focus report?

10 Tips for Mobile Learning Implementation

☑ Identify the need, objective(s), and role.

Identify the challenge, problem, or need, and clearly articulate how mLearning will help address or solve it.

☑ Design to support the use context.

Identify how and for what the material will be used, and design accordingly.

☑ Tablet Learning could be a good start.

Their size resembles that of desktops, so they may be more easily accepted and used. mEnabling existing eLearning gives access to familiar material on a new device.

☑ Responsive is the way to go!

Deliver a consistent, efficient, and engaging learning experience on a wide variety of device-platform-browser combinations.

☑ Don't miss out on videos.

Video-based content is easy to understand and can be used in multiple scenarios - and it's easily portable to mobile devices.

☑ Encourage sharing and collaboration.

Exploit users' social media familiarity and experience as well as the unique affordances of mobile devices to capture, share, and collaborate.

☑ Align mobile to mainstream knowledge and learning.

Integrate mobile as a component into your overall learning strategy.

☑ Have a BYOD policy.

This is a quick and cost-effective way to adopt mLearning - but make sure to evaluate the associated security risks.

☑ Revisit and re-evaluate.

Review and re-engineer to keep in line with mobile technology changes. Ensure that the technology and design allow for changes and additions.

Tips provided by Upside Learning

TOWARDS MATURITY

Case Study: Mobile Learning

Vocollect:

Development of a library of eLearning snippets for desktops and iPads to supplement and reinforce in-house instructor-led training

Snippets reuse content from longer Flash-based courses – with minor additions or modifications - to present information in smaller topical chunks.

Each snippet contains approximately 1 to 4 pages, with an average seat time of about 3-4 minutes.

Existing Flash animations were tweaked as required, published as videos, and integrated into a custom HTML framework. Where required, interactivities were coded in HTML.

Snippets were packaged into courses which were grouped into curricula in the LMS.

Each snippet launches as a separate SCO and is tagged with role and keyword metadata to implement searchability.

Search results list all snippets whose title contains the searched keyword(s) as well as all snippets whose metadata tags include the searched keyword(s).

Jangro:

Development of HTML-based eLearning courses for delivery on desktops and iPads, together with a unified system that integrated UpsideLMS with Upside2Go (a mobile learning platform)

eLearning courses were developed in HTML using an adaptive design approach with predefined layouts for portrait and landscape iPads.

UpsideLMS was integrated with Upside2Go to create a single system to create, deliver, and manage training and resources.

The eLearning courses can be accessed via UpsideLMS on desktops and iPads.

Customized versions of Upside2Go can be installed on iOS, Android, and BlackBerry smartphones, through which users can access just-in-time references in the form of videos and documents.

Videos are short 'how to use' media-rich animations created based on Product User Guides. These are developed in Flash and published as videos for delivery via Upside2Go.

Documents include PDFs on product usage; COSHH guides, risk assessment guides, and guides on other health and safety aspects; and any other documentation related to a product.

Al Jesr:

Development of five English language lessons for viewing on mobile phones together with a framework for creation of subsequent lessons and a mobile app to deliver the lessons (iOS, Android, BlackBerry versions)

The first five lessons were created in HTML4. They included a variety of grammar, vocabulary, and comprehension interactivities and exercises.

The HTML-based Framework, together with a template library and a user guide for framework integration, were provided to Al Jesr. Al Jesr was able to use these to create subsequent lessons.

A customized version of the Upside2Go mobile app was created to suit the branding, design, and functionality requirements. This is a free app that can be downloaded from the relevant app store. On downloading the app, users get the first two lessons free.

To purchase additional lessons, users must register with a mobile phone number, on which they then receive their login credentials via an SMS.

The in-app purchase feature was implemented for the iOS version of the app; and the OneCard payment gateway was incorporated into the Android and BlackBerry versions.

Case Study from Upside Learning

Recommended resources and references

Towards Maturity reports referenced in this In-Focus report
New Learning Agenda: Talent: Technology: Change. Towards Maturity Benchmark Review 2013
www.towardwmaturity.org/2013benchmark

Towards Maturity 2014 In-Focus: Learning in the Mobile Enterprise www.towardsmaturity.org/in-focus/mobility2014

Towards Maturity 2013 In-Focus: Mobile learning at Work
http://www.towardsmaturity.org/article/2013/01/15/towards-maturity-focus-report-mobile-learning-work/

Towards Maturity 2014. The Learner Voice. http://www.towardsmaturity.org/article/2014/04/09/towards-maturity-learner-voice-part-1/

Whitepaper and case studies from Upside Learning
Mobile learning, here and now whitepaper:
http://www.upsidelearning.com/uk/white-papers.asp

Jangro case study:
http://www.upsidelearning.com/uk/casestudy-delivering-training-internal-external-stakeholders-unified-learning-system-mobile.asp

PMI case study:
http://www.upsidelearning.com/uk/casestudy-PMI-ebook-project-leadership-kindle2.asp

Toyota case study:
http://www.upsidelearning.com/uk/casestudy-toyota-yaris-ipad-app.asp

Additional reading and references
Towards Maturity case studies, white papers and articles
 http://www.towardsmaturity.org/tag/mobile/

Ofcom Communications Market Report 2013
http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr13/2013_UK_CMR.pdf and
http://media.ofcom.org.uk/facts/

Delivering learning in a connected world. ASTD, 2012.
http://www.astd.org/Publications/Research-Reports/2012/2012-Mobile-Learning-Delivering-Learning-in-a-Connected-World
Going mobile in executive education. Ashridge, 2011.
http://tinyurl.com/ashridgemobile-pdf

http://hbr.org/2013/01/how-people-really-use-mobile

http://mobithinking.com/mobile-marketing-tools/latest-mobile-stats/d#mobilebehavior

The National Technical Authority for Information Assurance http://www.cesg.gov.uk/Pages/homepage.aspx

Notes on the 2013-14 research

The Towards Maturity 2013-14 Benchmark review

Individuals with responsibility for implementing learning technologies in the workplace were invited to participate in the Towards Maturity 2013-14 online benchmark reviews between June and August 2013. Data in this report is also derived from similar studies in previous years.

538 respondents from 481 organisations took part in the study. Although 72% of respondents were from the UK, L&D professionals from 44 different nations took part. Organisations spanned a range of industries, sectors, types and sizes:

- 28 different industries
- 54% private sector; 30% public sector; 16% not-for-profit sector
- 23% small organisations (fewer than 250 staff); 42% medium sized (under 5000 staff) and 35% large (over 5000 staff)
- 41% from multinational organisations

Towards Maturity Learning Landscape

Over 10000 learners from private sector companies took part in the Towards Maturity Learning Landscape during 2013. Results from a sample of 2000 learners (selecting every 5th learner) have been analysed in this report. The full methodology is reported in Appendix A of the TM2013 Benchmark.

The Towards Maturity Model

In past studies we have analysed the implementation activity of the more e-mature organisations and grouped their behaviours into six workstreams that we describe in the **Towards Maturity Model**.

Figure 7. The Towards Maturity Model

These six workstreams of effective practice are at the heart of the **Towards Maturity Index (TMI)** that each respondent received to objectively benchmark the maturity of their own implementation of learning technologies. In this report we look at the results achieved by the top learning companies with the highest TMI, in order to see how others can learn from their approaches.

About Upside Learning

Upside Learning is one of the world's leading provider of learning technology solutions and for over 10 years, we have helped over 200 organisations around the world to manage and deliver their learning through our wide range of solutions and services.

These include UpsideLMS - our multi award winning Learning Management System; Upside2Go – our mobile performance support platform and our bespoke content development services for desktops and mobile devices. We have recently launched a Framework for Responsive eLearning Development (FRED), which develops responsive learning and performance support interventions for multiple devices.

As great believers in the mantra of 'Keep Learning', we help build learning environments that enable continuous learning in the workplace and facilitate this through our wide range of innovative learning and technology solutions. We take great pride in serving some of the world's most recognised blue chip companies like L'Oreal, Kraft Foods, Unisys & Saint-Gobain to name a few. Having worked with a range of global clients, successfully delivered hundreds of unique projects, our impeccable work ethic has translated into 30+ awards and recognitions to date.

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www.upsidelearning.com/uk
www.upsidelearning.com/blog

About Towards Maturity

Towards Maturity is a benchmarking practice that provides authoritative research and expert consultancy services to help assess and improve the effectiveness and consistency of L&D performance within organisations. The Towards Maturity portfolio includes:

The Towards Maturity Benchmark Study

http://towardsmaturity.org/static/survey/

The Towards Maturity Benchmark Study is an internationally recognized longitudinal study on the effective implementation of learning innovation based on the input of 2,900 organisations and 10,000 learners over ten years. Towards Maturity continuously surveys and studies how people learn at work, and uses this data to help L&D professionals assess and improve the appropriateness, effectiveness and efficiency of their learning provision. Previous research papers and sector specific reports are available through the Towards Maturity Shop.

Towards Maturity Benchmark Centre

http://mybenchmark.towardsmaturity.org/

Applying everything we know about good practice to provide personal practical time saving advice through an online three-step continuous improvement process. Benchmark your current approach with your peers.

Towards Maturity Strategic Review

http://www.towardsmaturity.org/strategicreview

The Towards Maturity Strategic Review is an extra helping hand to help you turn good ideas into good practice in your organisation. It helps you analyse and interpret your personal benchmark report to establish a base line and identify the next action steps for performance improvement.

Towards Maturity Learning Landscape

www.towardsmaturity.org/learner

The Towards Maturity Learning Landscape Study helps you understand the behaviours of your staff so you can design learning solutions that can be embedded more effectively into the workflow. It provides structured feedback across companies, locations and departments.

Towards Maturity Sector Benchmark groups

www.towardsmaturity.org/benchmarkgroups

Join senior L&D leaders in your sector three times a year to use the Towards Maturity Benchmark to support performance improvement, prioritise action planning and accelerate progress.

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