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Visual analytics component developed using Tableau Software. Profile database and back-end survey system developed by Cyclone Interactive.

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About the Getting Started Series

People who need to get e-Learning off the ground in their organizations are often overwhelmed. There are so many terms and concepts to understand, and so many options to consider — and it’s hard to consider the options when you are overwhelmed with new concepts and choices! Vendors can be helpful, but it’s hard to scrutinize vendors’ products and services when you don’t understand the terms, products, and services. And it’s easy to make mistakes under these conditions. Help!

The eLearning Guild’s Getting Started series of reports will help you understand the concepts common to e-Learning design, development, and delivery. We base each report on eLearning Guild member data and the experience and insights of many people and organizations, including this report’s author. Guild members with more experience have learned important lessons along the way that will be helpful to you as you get started. Each report will help you make sense of the options, and evaluate both your and your organization’s needs.

Executive Summary

The accelerating rate of adoption of mobile devices worldwide is truly astounding. Because they cost so little (especially compared to desktop PCs), their penetration into the lives of everyday people, even those you might not expect to have mobile devices, is increasing exponentially. People are increasingly using mobile devices as mobile computing and information access and sharing devices. The use of mobile devices for Internet access is expected to soon surpass the use of PCs for Web access!

What this means is that the time for considering Mobile Learning (mLearning) is right now. The range of potential learning activities afforded by mobile devices and technologies is much broader than most people in our field realize. Many are inexpensive and easily doable, as you will see in this report.

Guild members who responded to the survey, and who have started mLearning initiatives, say their employees are increasingly mobile (82.7%). Greater than 60% feel that mLearning is truly useful, will have to be part of their offerings, and allows them to better align learning with business and strategic initiatives.

More than 15% of Guild members who responded have either previously implemented mLearning or are currently designing their first mLearning offering. An additional 50% are either researching how other organizations are doing it or building a business case for mLearning in their organizations.

There are varieties of technologies that you can harness for mLearning. E-mail is a very popular mobile technology among Guild members who do mLearning. Although this may seem like a simplistic way to deliver
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mLearning, there are some engaging ways to deliver impactful and interactive e-mail mLearning. For example, one company provides a system by which you can e-mail learning scenarios to learners. When they e-mail back answers, feedback based on that answer is e-mailed back to the learner. Other ways to deliver simple mLearning include mobile documents, audio (MP3) files, and text messages.

More complex ways to deliver mLearning include mobile Web content, which can be very easy to build and implement, and standalone learning modules, which are often more difficult to build because they have to work with the operating systems of different mobile devices. And synchronous e-Learning (such as Webinars and virtual classroom session) is beginning to become available on some mobile devices.

Many mobile Web users already use social networking (such as Twitter and Facebook) applications or visit social networking mobile sites. The use of such tools affords numerous opportunities for mLearning.

Guild members who have adopted mLearning attribute a number of positive changes because of it. Some of these include the ability to accommodate learner needs and increase access and availability of learning opportunities. Many feel that they need to be using this approach.

Mobile learners have different needs than learners who can “attend” e-Learning from their desks. They typically deal with interruptions and distractions, operate with significant background noise, and may need to split their attention because of the need to engage in other concurrent activities. They may also be working in different lighting conditions and typically have limited time to work with mLearning content and tools. This means that porting typical e-Learning to mobile devices is the wrong approach and is unlikely to work.

mLearning has its own niche in learning strategy. It may be best for bite-sized learning “nuggets,” updates, introductory materials, reinforcement of objectives, reminders of key takeaways, social interaction and collaboration, and access to help and support tools. Design of mLearning is much different than design of typical e-Learning.

Even with the challenges, mLearning makes a lot of sense for a lot of organizations and institutions. Higher education is generally ahead of corporations in using mLearning. Some use mLearning to help students find their way around campus, allow students in classroom-based courses to provide instant feedback to instructors, provide alternate means for registering for courses, and allow students to set up study groups, listen to lectures, and communicate with students and instructors.
Introduction

You may not realize it, but you and many others in your organization or institution, have likely dabbled in mLearning. How can I say such a thing? Easy. If you have used a mobile device to get movie times, maps, check prices, track spending or calories, send or receive e-mail or a text message, or to tweet or update your Facebook page, you’ve used a mobile device to help you live your life. And it’s easy to consider the things you do that help you live your life as being learning tools.

Unlike more traditional forms of e-Learning, mLearning feels like something new to many e-Learning practitioners. That includes people who are new to e-Learning and those who have been doing e-Learning for a while. That’s because people often don’t perceive mLearning as being as feasible as the more familiar e-Learning modalities, such as Webinars or self-paced online lessons. I think this report will change how you feel about that!

But mLearning, while still an infant when compared to the late adolescent e-Learning modalities, has begun to take off. And there’s a good chance that it will become mainstream before long. And for good reason (keep reading to learn why). As a result, no matter whether you are new to e-Learning or only new to mLearning as a form of e-Learning, it’s time to get up to speed. It’s time to think about how to harness the ubiquity of mobile computing to help your learners work and learn.

Anywhere, Everywhere

Although we think of our desktop PCs as the principal means of connecting to the Internet, our habits are changing. In fact, many people now connect to the Internet through multiple means. The Gartner Top End User Predictions for 2010: Coping with the New Balance of Power report predicted that the combined usage of smartphones and browser-equipped phones will shortly be greater than the usage of PCs. And they predicted that because of their growing ubiquity, mobile phones, rather than PCs, will be the most common Web browsing device by 2013.

In 2009 there were almost four billion mobile phone users worldwide. Almost 60% of people around the world use mobile phones. According to the CTIA Wireless Industry Survey in December 2009, more than 285 million Americans are mobile subscribers, slightly over 90% of the total population.

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1 Gartner Highlights Key Predictions for IT Organizations and Users in 2010 and Beyond, January 2010. [http://www.gartner.com/it/page.jsp?id=1278413](http://www.gartner.com/it/page.jsp?id=1278413)

population. The use of mobile phone service is increasing and the use of residential landline telephone service is decreasing. The U.S. Bureau of Labor Statistics\(^3\) shows that expenditures for mobile phone services now exceed expenditures for residential landline phone services.

Do you want to know about mobile use in a given part of the world? MobileActive provides statistics on mobile usage, costs, coverage, and operators (mobileactive.org/mobiledata).

The Pew Research Center’s Internet & American Life Project’s March 2008 Mobile Access to Data and Information report said, “Not only are young people attuned to this kind of access, African Americans and English-speaking Latinos are more likely than white Americans to use non-voice data applications on their cell phones.”

Pew’s Seeding the Cloud: What Mobile Access Means for Usage Patterns and Online Content describes a more demographically diverse group of Americans using cell phones and accessing mobile content than accessing the Internet in more traditional ways. Mobile phones are easier to use and less expensive to buy. As a result, “Adoption patterns have therefore been very different for the device, which is a key platform for “on the go” information access. Cell phone users are ... likely to be found in groups that have generally lagged in internet adoption...”

Pew’s Wireless Internet Use report shows more than 50% of American adults having used wireless means to access the Internet. They reported that on a normal day, nearly one-fifth of respondents accessed the internet on a mobile device. That’s a growth of 73% since the last survey in 2007. Although respondents who accessed the Internet most commonly used a laptop or mobile phone, they also reported that 9% have used a game console, 7% have used a PDA, 5% have used an iPod or MP3 player, and 1% have used an eBook reader to go online. Amazing!

**Anything, Everything**

Calling mobile phones “phones” doesn’t really capture their capabilities anymore. Most mobile phones today have as much computing power as computers had not so long ago. Many allow us to carry around contact information and send text messages as well as make phone calls. Many have built-in cameras and can send and receive pictures. Many record and can send audio and video. Web browsing, mobile social applications (such as Twitter), and e-mail are increasingly available and used. Games on mobile phones are commonplace.

Some mobile phones store eBooks, audio books, and music files. Some provide navigation and other services requiring geo-location (using GPS or cell tower triangulation) capabilities. Some of the newest cell phones have touch screens, accelerometers, the ability to access faster (3G and

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4G) cellular networks as well as WiFi, and have a wide range of applications (apps) that can be used for a wide variety of purposes.

Mobile access to the Internet often connotes getting needed information. But some use mobile Internet access to give information. In the Pew research report, almost 20% said that they post online content using mobile phones and laptops. Increasingly, ubiquitous and small mobile devices allow us to stay in touch and share and consume information as desired.

And as the capabilities of these amazing devices expand, their capacity as learning tools will only expand. Hopefully, this short introduction has provided you with insights on the numerous ways that mobile devices are being, can be, and will be used as learning tools.

### Survey Methodology and Demographics

When reading *Guild* Getting Started reports, be sure to consider similarities and dissimilarities between your situation and the members who responded to survey questions. For example, organizations and institutions that are just getting started are likely to “do” e-Learning differently than those that have been involved in e-Learning for more than three years. People who primarily develop multimedia may have different opinions about authoring tools than those who primarily design learning content but are also starting to use tools to build the content as well. So it’s a good idea to consider how your company or institution is similar to or different from the people who answered the survey.

*Guild* demographics show that if you are just getting started with e-Learning, you are not alone. Slightly more than 25% of *Guild* members have less than two years of experience. And greater than 40% of *Guild* members have more than five years of experience. That means you can gain from the knowledge and the lessons they learned along the way. (All *Guild* demographics can be seen on page: [http://www.elearningguild.com/content.cfm?selection=doc.65](http://www.elearningguild.com/content.cfm?selection=doc.65))

*Guild* members have diverse jobs that involve a wide variety of knowledge and skills. Instructional designers make up almost 20% of *Guild* members. These people typically design learning content using a systematic process to analyze learning needs, build learning materials, and determine if they are effective. But the third largest category of *Guild* member work focus is “Do a lot or a little of everything.” If you are new to e-Learning, you can take comfort in the fact that although there is a lot of knowledge and skill that goes into good e-Learning, many companies and institutions start small, with one, or just a few people, who do most or all of it. To be sure, some of these people work with outside vendors, but some really do it all.

E-Learning is used in companies and institutions of all sizes, and *Guild* demographic data reflects this fact. Years ago, it was assumed that e-Learning made the most sense for bigger organizations and larger numbers of learners, but that has changed. As e-Learning has become
more and more mainstream, organizations of varying sizes and numbers of learners have begun to use it.

In the next section, we’ll start by considering some things people think they know about mLearning that are wrong.

### Things You Know about mLearning (That are Wrong)

We’ll start with some common misconceptions about mLearning that impact whether learning professionals think this is a good time to get started with mLearning.

1: **It’s not worth developing mLearning because only some people use mobile devices.**

The accelerating rate of adoption of mobile devices worldwide is truly astounding. Because they cost so little (especially compared to desktop PCs), mobile devices are expected to soon surpass PCs as the device most used for Web access.

Even in parts of the world where we might expect mobile connectivity and bandwidth to be low, connectivity and bandwidth are rapidly improving. A WebAIM survey of preferences of screen reader users (who typically have visually impairments) showed that 53% of those with disabilities use a screen reader on a mobile device! So if you think that mobile devices aren’t widely used, think again.

2: **mLearning content involves developing standalone learning applications specific to each mobile device operating system (Android, BlackBerry, iPhone, etc.).**

Actually, there is a lot of mobile learning–oriented content you can develop and deploy that does not involve building operating-system-specific standalone learning applications. When you see how much you can do without having to develop for each specific device, you’ll likely be amazed at how easy it is to get started. One approach is to build mobile Web content. Another approach is to build mobile-specific content that is compatible with a wide range of mobile-device operating systems.

Some organizations standardize the mobile devices used by their staff so they only have to develop for one platform. Don’t want to deal with standardizing mobile devices? Use one of the approaches that doesn’t involve doing that.

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3: Mobile content is expensive and hard to build

Most mobile phones can send and receive text messages and images. Many can send and receive e-mail and access the Web. All of these types of mobile content can be developed and deployed easily and cheaply. And because the cost can be so low, the ROI of mLearning using these technologies can be very high.

4: It’s too hard to use the screens on mobile devices.

Many mobile devices have screens that are quite usable for the purposes of concise, easy-to-use mLearning content. Many now contain QWERTY keyboards, touch screens, and trackballs that users can use as input and selection devices. Some mobile devices, such as the new iPad and eBook readers have larger screens, if document reading is important, friends with iPhones tell me that reading on it is a breeze.

So, ready to learn more?

What is mLearning?

Although we can consider any devices that can be used away from our desk as mobile devices, increasingly we are targeting mLearning to handheld devices that call on wireless and mobile phone networks. But mobile really refers to the learner, not the device.5 People are more mobile than ever and they use mobile devices to help them live, work, and learn where ever they are. Need directions? Get them with your mobile device? Need some background information before your meeting? Get it with your mobile device.

When people who are unfamiliar with the range of learning activities made possible with current mobile phone technologies think of mLearning, they typically think of standalone lessons that learners can use on their mobile phones. But the range of potential learning types afforded by mobile devices and technologies is much broader than this, as you can see from Table 1 on the next pages.

5 See Barbara Ballard’s book Designing the Mobile User Experience.
### Table 1: Types of learning activities that you may do on a mobile device.

<table>
<thead>
<tr>
<th>Learning Type</th>
<th>Description and Technologies&lt;sup&gt;6&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asynchronous (self-paced) learning&lt;sup&gt;7&lt;/sup&gt;</td>
<td>Modules you can access on the mLearning device. May or may not communicate with tracking systems such as a LMS. Some likely examples include:</td>
</tr>
<tr>
<td></td>
<td>- Stand alone, concise learning modules loaded on the mobile device</td>
</tr>
<tr>
<td></td>
<td>- Mobile Web content (Web pages, narrated PowerPoint slides, videos, etc.) viewed on the Web</td>
</tr>
<tr>
<td></td>
<td>- Podcasts and MP3 files loaded on the mobile device or listened to off the Web</td>
</tr>
<tr>
<td>Synchronous learning</td>
<td>Virtual classroom activities that share audio and other materials (such as slides) in real time with a group of learners. Some likely examples include:</td>
</tr>
<tr>
<td></td>
<td>- Conference calls</td>
</tr>
<tr>
<td></td>
<td>- Mobile Webinar tools</td>
</tr>
<tr>
<td>Help and information</td>
<td>Reference and other materials accessed on a mobile device. Some likely examples include:</td>
</tr>
<tr>
<td></td>
<td>- Mobile device-readable documents loaded onto the mobile device</td>
</tr>
<tr>
<td></td>
<td>- Mobile Web content (Web pages, documents, wikis, videos, etc.) viewed on the Web</td>
</tr>
<tr>
<td></td>
<td>- MMS (Multimedia Message Service), also called video or image texting</td>
</tr>
<tr>
<td></td>
<td>- Podcasts and MP3 files loaded on the mobile device or listened to off of the Web</td>
</tr>
</tbody>
</table>

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<sup>6</sup> We do not intend the list of technologies for each type of learning activity to be exhaustive. As mobile devices become more and more capable, additional technologies will, no doubt, become available.

<sup>7</sup> These are the activities most commonly thought of when contemplating mLearning. But as you can see, they are not alone!
Getting Started with Mobile Learning (mLearning)

### Table 1: Types of learning activities that you may do on a mobile device. – Continued

<table>
<thead>
<tr>
<th>Learning Type</th>
<th>Description and Technologies(^8)</th>
</tr>
</thead>
</table>
| Social networking and information sharing | Sharing information via a mobile device. Some likely examples include:  
  - E-mail, instant message (IM), and text SMS (Short Message Service), also called text messaging  
  - MMS (Multimedia Message Service), also called video or image texting  
  - Message questions and answers  
  - Updating social networking applications (blogs, Facebook, etc.) |
| Work support                      | Materials and tools to help us work. Some likely examples include:  
  - Standalone applications (“apps”) to facilitate work such as decision tools, help files, etc.  
  - E-mail, instant message, and text message alerts  
  - Mobile Web content (help files, job aids, information updates, etc.) viewed on the Web  
  - Updates via e-mail, IM, SMS, or MMS  
  - Check-ins with mentors or coaches  
  - Updates to social networking applications |
| Self-study                        | Tools and materials to help learners study. Some likely examples include:  
  - Standalone applications (“apps”) such as flash cards and memory aids  
  - Podcasts and MP3 files loaded on the device or listened to off of the Web  
  - Mobile Web content (Web pages, documents, wikis, videos, etc.) viewed on the Web |

\(^8\) We do not intend the list of technologies for each type of learning activity to be exhaustive. As mobile devices become more and more capable, additional technologies will, no doubt, become available.
Figures 1 to 3 show some examples of mobile applications and content that you can use on a mobile device to support work and learning. Figure 1 is an example of a Flashcard-building application that you can use on a mobile device to study.

**Table 1: Types of learning activities that you may do on a mobile device. – Continued**

<table>
<thead>
<tr>
<th>Learning Type</th>
<th>Description and Technologies⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessments</td>
<td>Applications that allow learners to take and submit tests.</td>
</tr>
<tr>
<td>Administrative</td>
<td>Mobile access to learning or course management systems to review course schedules, register for courses, obtain grades, set up study groups, and similar activities.</td>
</tr>
</tbody>
</table>

Figures 1 to 3 show some examples of mobile applications and content that you can use on a mobile device to support work and learning. Figure 1 is an example of a Flashcard-building application that you can use on a mobile device to study.

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⁹ For discussion about mobile device support (or lack of support) for Flash, which has become a standard way of delivering e-Learning content on PCs, search for Adobe Flash Player and mobile. Also look at related discussions on e-Learning LinkedIn groups, including the eLearning Guild LinkedIn group and the Lectora, Articulate, Captivate, and other authoring tool websites.
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Figure 2 shows an example of a notes creation and organization tool available for use on the BlackBerry.

Figure 2: Blackberry IdeaMatrix application.

Source: http://appworld.blackberry.com/webstore/content/screenshots/917 (used with permission)

Figure 3 shows Gmail (Google e-mail) on a mobile phone.

Figure 3: Gmail mobile application.

Source: www.google.com/mobile/mail

Clearly there are a lot of options for using mobile devices for learning today. It should also be obvious that many of the types of mLearning listed in Table 1 are inexpensive. Many require little to get started. Once you see the possibilities, it may very well seem obvious to consider using mLearning in your organization.
■ **Guild Members are Implementing mLearning**

Some eLearning Guild members have clearly started thinking about, planning for, and implementing mLearning projects. But it’s interesting to note than only about 10% of the members who usually answer the Guild surveys answered the mobile survey. I think this is because many Guild members have mistaken notions about mLearning and, as a result, didn’t answer the survey. See the section entitled Things You Know about mLearning (That are Wrong) on Page 8.

Let’s start by looking at Guild member survey respondents’ opinions about mLearning (Figure 4).

*Figure 4: Guild member opinions about mLearning*
Guild members who responded to the survey say their employees are increasingly mobile (82.7%). Greater than 60% feel that mLearning:

- Should be driven by choice rather than mandated (81.3%)
- Is truly useful (5.6%)
- Will have to be part of their offerings (66%)
- Allows them to better align learning with business and strategic initiatives (65.7%)
- Security is a huge issue (65.4%)
- mLearning isn’t hype (65.7%)
- People will use mobile devices for learning (70.8%)

Figure 5 shows the percentage of Guild members who answered the mLearning survey that are in different stages of mLearning.

Figure 6 on the next page shows the same information by sector.
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More than 15% of *Guild* members who responded to the survey have either implemented mLearning or are currently designing their first mLearning offering. More than 50% of *Guild* members who responded to the survey are either researching how other organizations are doing it or building a business case for mLearning in their organizations.

Respondents in the academic sector have implemented mLearning (13.3% of academic respondents) more than respondents in the other sectors. The second biggest group to have implemented mLearning is corporate respondents (8% of corporate respondents).

Judy Brown, a Mobile Education Technology Strategic Analyst, in the *Exploring Mobile Learning: Part One of the mLearning Series* report, explains that mLearning is already in use today in higher education institutions for delivery of audio and video lectures, access to syllabi and assignments, and user-generated content that can be shared with other students. She describes a large mobile initiative using smartphones at Tecnológico de Monterrey in Mexico and other initiatives at Abilene Christian University in Texas, The Robert H. Smith School of Business at the University of Maryland, and Wilfrid Laurier University in Ontario, Canada. In addition to providing course content, some universities are also providing mobile access to course registration and campus navigational aids. Some institutions and classes are using mobile phones for classroom-based audience response and polling (aka “clickers”).

![Figure 6: Guild member Stage of Mobile Learning, by sector](image-url)
Figure 7 shows the change in *Guild* member stage of mLearning from 2007-2010.

**Figure 7: Guild member Stage of Mobile Learning, 2007-2010**

<table>
<thead>
<tr>
<th>Year</th>
<th>0.4%</th>
<th>0.1%</th>
<th>9.2%</th>
<th>37.1%</th>
<th>40.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>6.6%</td>
<td>9.3%</td>
<td>9.1%</td>
<td>38.4%</td>
<td>38.3%</td>
</tr>
<tr>
<td>2009</td>
<td>6.7%</td>
<td>6.6%</td>
<td>8.7%</td>
<td>39.6%</td>
<td>38.3%</td>
</tr>
<tr>
<td>2010</td>
<td>7.3%</td>
<td>9.1%</td>
<td>12.0%</td>
<td>31.7%</td>
<td>39.9%</td>
</tr>
</tbody>
</table>

Source: The eLearning Guild Research

- We have started researching how other organizations are using it
- We have no plans to do mLearning
- We are building a business case for it
- We have implemented mLearning
- We are designing our first offering

From 2007 to 2010, the percentage of respondents with no plans to do mLearning has decreased and the percentage of respondents that are either building a business case for mLearning or are designing their first mLearning offering has increased.
Getting Started with Mobile Learning (mLearning)

Figure 8 shows *Guild* member responses about their plans for mLearning in the next 12 months. Figure 9 shows responses in the years 2007-2010.

<table>
<thead>
<tr>
<th>mLearning Plans</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Change</td>
<td>60.1%</td>
<td>57.6%</td>
<td>61.7%</td>
<td>51.0%</td>
</tr>
<tr>
<td>Do more mLearning</td>
<td>39.0%</td>
<td>40.9%</td>
<td>37.4%</td>
<td>47.8%</td>
</tr>
<tr>
<td>Do less mLearning</td>
<td>1.0%</td>
<td>0.5%</td>
<td>0.9%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

Source: The eLearning Guild Research

Many of the respondents, slightly more than 44%, intend to do more mLearning in the next 12 months.

The percentage of respondents who said they intend to do more in the next 12 months has risen from 39% in 2007 to 47.8% in 2010.

Source: The eLearning Guild Research
Mobile Technologies and Devices

mLearning can call on many different mobile device technologies. In this section, I’ll first discuss mobile operating systems (which may impact the types of mLearning you implement). Then I’ll describe some of the technologies you might harness and the benefits and challenges of using them for mLearning.

Mobile Operating Systems

Mobile devices, like PCs, have operating systems (software that controls the device and the device’s programming). And operating systems can be an important factor in what technologies are available for use for mLearning. There are numerous mobile operating systems (OS). Table 2 lists the most popular smartphone operating systems, their market share at the end of 2009, and some information about each. Smartphones are becoming increasingly popular as the mobile device of choice for mobile Web browsing and mLearning.

<table>
<thead>
<tr>
<th>Mobile OS</th>
<th>End-of-year 2009 Market Share</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbian</td>
<td>46.9%</td>
<td>Nokia acquired the Symbian OS in 2008 and this operating system is very popular outside of the United States.</td>
</tr>
<tr>
<td>BlackBerry</td>
<td>19.9%</td>
<td>Blackberry is owned by Research in Motion and is the most popular smartphone OS in the corporate world.</td>
</tr>
<tr>
<td>iPhone</td>
<td>14.4%</td>
<td>iPhone is owned by Apple Inc. and is the mobile version of Mac OSX. Its market share is increasing rapidly.</td>
</tr>
<tr>
<td>Windows Mobile</td>
<td>8.7%</td>
<td>Windows Mobile, developed by Microsoft to feel similar to Windows PC operating systems, has lost market share in the past few years.</td>
</tr>
<tr>
<td>Android</td>
<td>3.9%</td>
<td>Android is an OS based on a modified version of Linux. Initially developed by Android Inc., Google later purchased it. It is enjoying increasing market share.</td>
</tr>
</tbody>
</table>

Android and iPhone increased market share by 3.5% and 6.2% respectively from 2008.

Each mobile device operating system has a development environment with tools that allow a developer to write, test, and deploy applications for that operating system.

In the next section, I’ll touch on some of the mLearning technologies you can use for mLearning.

**Mobile Technologies**

Table 1, starting on Page 10, lists a variety of types of learning activities you can accomplish using mobile devices and the mobile technologies available for each type of activity. Clearly, many more available mobile technologies than the standalone learning modules typically thought of when considering mLearning exist! In this section, I’ll discuss some of the technology options and some of the considerations for using them for mLearning.

Figure 10 shows which technologies survey respondents who are doing mLearning are using for mLearning. We’ll be discussing some of these technologies in more depth next.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Use of Features in Current mLearning</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-mail</td>
<td>94.6%</td>
</tr>
<tr>
<td>audio (e.g. Podcasts)</td>
<td>73.6%</td>
</tr>
<tr>
<td>custom applications</td>
<td>73.6%</td>
</tr>
<tr>
<td>video</td>
<td>73.2%</td>
</tr>
<tr>
<td>SMS Messaging</td>
<td>71.2%</td>
</tr>
<tr>
<td>IM</td>
<td>66.9%</td>
</tr>
<tr>
<td>coaching/mentoring</td>
<td>53.8%</td>
</tr>
</tbody>
</table>

Figure 10: Technologies Guild members who are doing mLearning are using for mLearning

Source: The eLearning Guild Research

**E-mail and Texts**

E-mail is a very popular mobile technology among Guild members who do mLearning (see Figure 10) and is used by 94.6%. This makes sense, because sending and receiving e-mail on a mobile device is inexpensive, easy to do, and can get the job done with minimal development time.
71.2% of Guild members who are doing mLearning also often use SMS (Text) Messaging for mLearning.

Here are just a few of the potential uses for e-mail and texts for mLearning.

- Alerts
- Updates
- Work support (for example, getting answers to questions)

Figure 11 shows the Outlook Mobile e-mail client. There are numerous e-mail clients for mobile phones. Phones with e-mail capability typically come with an e-mail client.

Figure 11: Microsoft Outlook Mobile.

Source: www.microsoft.com/presspass/gallery/screenshots/mobile.mspx

E-mail may seem like a simplistic way to deliver mLearning but e-mail mLearning can be very effective and inexpensive. You can certainly use e-mails to send product updates or to answer learner's questions, of course. But you can also set up systems to automatically answer e-mail questions. An example of this kind of system is SnapAsk (snapask.com), which allows users to e-mail them using specific commands to get specific answers (flight status, traffic, weather, stock quotes, and others).
Getting Started with Mobile Learning (mLearning)

We can take this idea (automated e-mail responses) even further. One example is Cameo (www.cameo.net), an e-mail learning system that can send learning scenarios via e-mail. When learners send back their responses, they receive e-mail feedback on their responses.

Some of the higher-education online course management systems are developing applications that allow learners to interact with course discussions using mobile e-mail.

While e-mail, at first glance, sounds like a less-than-robust medium for mLearning it makes sense to use e-mail for some purposes, and to think beyond the obvious about what you can do with e-mail.

**Synchronous Meetings**

Webinars and Virtual Classroom sessions using tools such as Adobe Connect and Citrix GotoMeeting have become very popular for sharing information or holding online training sessions. The ability to attend these sessions via mobile device could be very handy for those people not regularly tied to a PC, or who travel regularly.

Adobe Connect Pro mobile is available for iPhone and GotoMeeting is available for iPhone and iPad (Figure 12).

![Figure 12: GoToMeeting for iPad.](Source: itunes.apple.com/us/app/gotomeeting/id363452804?mt=8)

Here are just two of the potential uses for e-mail and text for mLearning.

- Training sessions
- Work support (for example, troubleshooting sessions)
Web Content

Mobile devices increasingly have Web access. Mobile Web access means that developing mLearning Web content may make a lot of sense. There is obviously less screen real estate on a mobile browser, so Web pages developed for mobile viewing need to provide less content than PC-based Web pages. Newer mobile browsers typically will read HTML or XHTML content, but not all execute advanced Web programming. Some will play Flash and others won’t. Some will play MP3 audio files and MP4 video files and others won’t.¹¹

There are a number of ways to make Web content mobile friendly. You can use server-side filters to eliminate things a mobile device is unlikely to be able to handle, or to recognize mobile browsers and show a mobile-friendly version of the site. Figures 13 to 15 show screenshots of the Wikipedia mobile-friendly Web site, the YouTube mobile-friendly Web site, and the Fast Company mobile-friendly Website.

¹¹ There is a lot of discussion about mobile device support (or lack of support) for Flash, which has become a standard way of delivering e-Learning content on PCs. If you are interested in learning more about the issues, search on Adobe Flash Player for mobile and Adobe AIR for mobile. Apple has said that they will not be supporting Flash content on the iPhone or iPad (but it’s interesting to note that discussion on converting Flash into iPhone apps is all over the Internet).
Figure 14: YouTube mobile Website

Source: http://m.youtube.com

Figure 15: Fast Company mobile Website.

Source: http://m.fastcompany.com
Here are just a few of the potential uses for Web content for mLearning.

- Product and technical support
- Reference information
- Mobile mini-courses
- Watching and sending video

For Web content to work well with mobile devices, it must be concise and free of some of the things that are often used in normal Websites, such as extraneous graphics and complex or image-heavy navigation. When using media, you should take care to determine what capabilities learners’ Web-enabled mobile phone browsers have so you select the right media formats.

Some of the common Web development tools such as Adobe Dreamweaver include tools for developing mobile content. There are many additional tools for developing mobile Web content such as MobiSiteGalore (www.mobisitegalore.com) or Wapple (wapple.net). Even WordPress has plugins to make your WordPress site mobile-friendly (www.wordpress.org/extend/plugins/wordpress-mobile-edition).

To determine if your mobile Website content is mobile friendly, you can use the W3C mobileOK Checker (http://validator.w3.org/mobile/). The W3C also provides a best practices guide for designing mobile Web content (www.w3.org/TR/mobile-bp) and also provides training on mobile Web design (www.w3.org/Mobile/training). Content that follows W3C recommendations will be the most accessible from the largest number of mobile browsers.

Figure 16 on the next page shows examples of the same mLearning content in a variety of mobile Web browsers.

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12 Field reps, for example, may wish to record and send video to show product issues or innovative product uses.

13 See: http://gizmodo.com/5090988/mobile-browser-battlemodo-which-phones-deliver-the-real-web and http://3.bp.blogspot.com/_i8rNCdkcP7s/S7MMPrGz17I/AAAAAAAASo/PQKh4xZt2gI/s1600/browser-chart.gif to compare mobile browsers.

14 Mobile browser stats: http://gs.statcounter.com/#mobile_browser-ww-monthly-200904-201005

15 See http://www.adobe.com/products/creativesuite/devicecentral/
Figures 17 (below) and 18 (on Page 27) show a course developed using iWebKit for iPhone. iWebKit is one of a number of tools used to create iPhone-, iPod Touch- and iPad-compatible Websites.

Figure 16: The same course in different mobile device browsers.

Source: Learning Solutions Magazine and Anita Rosen

Figure 17: Web course.

Source: Paul Clothier and Learning Solutions Magazine
Getting Started with Mobile Learning (mLearning)

Here’s a tool available specifically for creating mLearning Web content: OnPoint Mobile Learning Solutions [www.onpointdigital.com](http://www.onpointdigital.com)

Documents

The success of the Amazon Kindle eBook reader attests to the fact that people like to be able to carry electronic versions of the things they want to read so they can use free time (like when standing in line or waiting for a meeting to start) to get needed reading done.

Different mobile-device operating systems handle document formats such as Microsoft Word and Adobe PDF documents (and other mobile-specific document formats)\(^\text{16}\). But it is clear that being able to read documents on mobile devices can be quite useful for mLearning.

Here are just a few of the potential uses for documents for mLearning.

- Study materials
- Case studies
- Domain-specific books

Mobile PDF readers typically have some limitations because of the smaller screens of mobile devices. Adobe provides some advice on how to optimize PDF files so they display well on mobile devices (www.adobe.com/products/acrobat/pdfs/MobileReaderWhitePaper.pdf).

Figure 19 shows an example of a Word document opened in Word Mobile.

**Figure 19: Microsoft Word Mobile.**

Source: http://www.microsoft.com/presspass/gallery/screenshots/mobile.mspx

**Standalone Learning Modules**

Standalone Learning Modules tend to be what folks who are less-than-familiar with mLearning think of when they think of mLearning. One thing that makes standalone modules different than mobile Web content is that they typically need to be downloaded (or transferred from a PC) whereas you may view Web content on the Web.

Authoring standalone learning modules is generally trickier than developing mobile Web content because you may have to author modules to work specifically with a given mobile device’s operating system. So if
your learners use different devices, you might need to author the modules (potentially using authoring tools for each specific device) to work on each that you want to support. Some vendors say their tools can author content for multiple devices.

One approach taken by numerous organizations and higher education institutions to get around the issue of authoring for separate devices is to standardize on the device to use (so you can develop for one device only). Today, many seem to choose Blackberry or iPhone. And since iPhone and iPad development seem to have a lot of crossover, I hear a lot of talk about developing for these devices.

Figure 20 shows standalone learning content developed for multiple mobile devices (shown in the iPhone).

This content is from an aircraft maintenance manual. Developed on an application called Nomad (developed by Hybrid Learning Systems), it runs on iPhone, Blackberry, and Android OS devices. The system helps developers select (using task analysis) and design content for job-reference-aids. Then they publish the content as Darwin Information Typed Architecture (DITA) XML.\(^\text{17}\)

\(^\text{17}\) DITA looks to be a very promising platform for multi-device mobile content distribution.
A few of the mobile authoring tools that are becoming available to produce standalone mLearning include:

- Chalk Pushcast Software (BlackBerry) [www.chalk.com/Products/Chalk_Pushcast_Software.aspx](http://www.chalk.com/Products/Chalk_Pushcast_Software.aspx)
- Hot Lava Mobile (multi-platform) [www.outstart.com/about-hot-lava-mobile.htm](http://www.outstart.com/about-hot-lava-mobile.htm)
- StreaMe (iPhone, iPod Touch, and iPad) [www.streamelearning.net](http://www.streamelearning.net)

mLearning applications can also be produced using software development kits (SDKs) available for mobile operating systems. Also search mobile device application stores to look for tools that can aid in mLearning development or mobile work support, such as the flashcard and notes development applications shown earlier in the report.

**Podcasts/MP3 Files**

Podcasts refer to digital media files (these can be audio or video) that are periodically released and downloaded using RSS (really simple syndication) readers. Downloadable spoken audio files (such as MP3, WMA, and AA file formats) are called “Podcasts” as well.

Audio files that you can download onto a mobile device or listen to on the Web from a mobile device have a great deal of potential as mLearning content.

Here are just a few of the potential uses for mobile podcasts.

- Updates
- Lectures
- Audio books

Figure 10 on Page 19 shows that 73.6% of Guild members who are doing mLearning use Podcasts.

Figure 21 on Page 31 shows the BBC’s mobile site for downloading Podcasts. It isn’t hard to imagine creating a Podcast download site (or using RSS technologies to download them automatically) for sales reps, managers, and other positions that are regularly on the move or traveling.

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Getting Started with Mobile Learning (mLearning)

A tool available specifically for creating mLearning audio content:
OnPoint Cellcast: [www.mlencoding.com/cellcast](http://www.mlencoding.com/cellcast)

Social Networking

Social networking sites such as Twitter and Facebook have long had mobile applications and mobile Website versions because people who are mobile often like to keep in touch with their network. Figure 22 shows a mobile Web version of Facebook and Figure 23 shows a Twitter application for BlackBerry smartphones.

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**Figure 21: BBC Podcasts for mobile downloading**

Source: [www.bbc.co.uk/radio/podcasts/mobile/podcasts.shtml](http://www.bbc.co.uk/radio/podcasts/mobile/podcasts.shtml)

**Figure 22: Mobile Web version of Facebook. Source: m.facebook.com**

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Here are just a few of the potential uses for mobile social networking sites and applications.

- Updates from the field
- Q&A
- Expert insights

Groups can share information of interest to that group using Twitter, Facebook, and other social networking sites.

An interesting hybrid e-mail/social networking application that I recently ran across is posterous (posterous.com). It allows you to e-mail photos, video, and mp3 files from your phone to the application. These are then available to share with others and to post to other social networking sites. How might this kind of thing be useful for mLearning? Imagine being a sales rep for over-the-counter drugs and being able to take pictures of and then post product-placement photos from a variety of grocery and drug stores, and then discuss how to get better placements with other reps and managers. Or taking videos related to your work that you can share and discuss with others.

A tool available specifically for creating mLearning social applications: OutStart: www.outstart.com

**Mobile Devices**

Figure 24 shows the types of mobile devices Guild members who answered the survey questions currently use or are considering for use. Smartphones are in the lead, and this is likely because they typically have more usable capabilities for mLearning. Still, all of the listed devices are either in use or being considered for use by greater than 55% of the respondents.
Getting Started with Mobile Learning (mLearning)

Since smartphones are often considered optimal mobile devices for mLearning, it is interesting to see which smartphones are being used or considered for mLearning by Guild members (Figure 25).

**Figure 25: Smartphone devices used or being considered for use for mLearning**

<table>
<thead>
<tr>
<th>Smartphones Used</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackberry</td>
<td>30.6%</td>
</tr>
<tr>
<td>iPhone</td>
<td>32.2%</td>
</tr>
<tr>
<td>Windows Mobile</td>
<td>9.0%</td>
</tr>
<tr>
<td>Symbian</td>
<td>4.6%</td>
</tr>
<tr>
<td>Android (Google)</td>
<td>3.6%</td>
</tr>
</tbody>
</table>

Source: The eLearning Guild Research
Getting Started with Mobile Learning (mLearning)

Blackberry is in the lead with respondents. This smartphone has traditionally had a strong following with business users and is considered an optimal device for checking and sending e-mail. And e-mail is currently the lead mLearning technology among respondents.

If you are considering getting started with mLearning, keep in mind that there are changes happening all the time in available devices (and available technologies on these devices). Touch screens are a relatively new innovation and have lots of proponents. The just-launched iPad currently has a lot of buzz about using it for mLearning.

Results from MLearning

*Guild* members who are involved in mLearning and who answered the survey generally feel that their investments and results have been worthwhile. Figure 26 shows the changes that they have attributed to adoption of mLearning.

The biggest positive changes attributed to adoption of mLearning are the ability to accommodate learner needs and an increase in access and availability. Both of these changes are especially important in meeting the shifting skills and mobility needs of so many workers.

Figure 27 on Page 35 shows the return on investment (ROI) that *Guild* members who answered the survey place on their adoption of mLearning.
As you can see, almost 50% of respondents attribute a modest to very good ROI to these initiatives. Many expect a positive ROI with mLearning initiatives because the cost of development and implementation can be a lot lower than traditional e-Learning initiatives.

Figure 28 shows the tasks that respondents emphasized in order to improve support for mLearning.
More than 70% of respondents made sure that mobile content was worthwhile and they got upper management endorsement. More than 60% of respondents used use of pilot groups, change management processes, and internal “advertising” and other marketing campaigns. When adopting new technologies or approaches, these practices can help assure success. Like anything new, you can expect that extra effort will get it off the ground.

■ Mobile Learners

Earlier in the report, I raised the issue of “mobile” applying to people as well as devices. In this section, I’ll follow up on what is different about mobile learners and what we need to think about as a result.

Mobile learners have different needs than learners who can “attend” e-Learning from their desks. They typically:

- Deal with interruptions and distractions (such as phone calls and other tasks).
- Operate with significant background noise (road, airport, etc.).
- Have variations in lighting, depending on whether they are indoors or outdoors.
- Have only one hand available to use (and that hand may be holding the phone).
- Have minimal tolerance for things that get in the way of getting what they need, especially if they need that information immediately.
- Engage in other activities that may need to take precedence over learning tasks (for example, talking, taking calls, listening for flight information).
- May be involved in and may need to split their attention in a variety of ways.

Typical e-Learning course designs don’t work well for mLearning, as you might imagine. Mobile learners may not be able to spend as much time on task. They may have to change tasks quickly and may forget what they were looking at before the interruption. They generally view mLearning on displays that are much smaller than most PC displays.

These issues all sound like major challenges, but they are opportunities as well. What can you do under these circumstances? Here are just a few of the uses for mLearning that tend to work well in these circumstances.

- Bite-sized learning “nuggets”
- Product, process, and other types of updates
- Introductions
- Reinforcement of objectives
- Reminders of key takeaways
- Background information
- Access to information that is needed right now
- Connections to people, for help, support, and information
Many of these uses connote mLearning as an adjunct to other types of learning, and that makes a lot of sense.

mLearning experts provide some general advice for designing and mLearning. They include:

**It's not a PC.** Don’t try to develop the same kind of content you develop for use at a PC. Think of what mobile is good for. Don’t forget that being able to connect to people while at a distance can be an important learning tool. Ditto for getting information as you need it. mLearning doesn’t always have to mean instructional content on a mobile phone.

**Make it speedy.** Make any processes to log in, register, wait for content, etc., simple and quick. Don’t require plug-in downloads. If any kinds of downloads are needed, keep file sizes small. (Remember that users may be paying for data transfer and usage time.)

**Make it easy to use.** Limit choice and navigation so that mobile content is easy to use while mobile. Don’t require lots of (or any) data input. Navigating and input is often hard to do on mobile devices and while mobile. Make sure there is good contrast between background and text.

**No scrolling, except vertically.** Avoid anything that necessitates horizontal scrolling. Vertical scrolling is much more acceptable than horizontal scrolling. One rule of thumb for acceptable vertical scrolling is twice the amount of content that is viewable on the screen at one time.

**Rethink audio and video.** Determine what media the devices you are targeting can handle. And don’t use media when it is not really needed. It takes up bandwidth and may be hard to hear or listen to in some of the environments your mobile learners find themselves in.

**Rethink graphics.** Use small graphics and logos and avoid background graphics. Avoid navigation bars that take up a large portion of the screen. Graphic icons should be small, or use word links such as “next” or “back.”

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**Getting Started**

I asked Clark Quinn, of Quinnovation and Paul Clothier of TapLearn for some advice on how to get started with mLearning.

Clark suggested multiple approaches. One is to jump in and make useful content such as PDFs, audio files, and video files available for mobile access. Another is to consider what your mobile workforce needs and then create it. He recommends job aids or content that reactivates what they learned earlier as a good way to start.
Paul agrees, and thinks valuable learning or performance support content that takes full advantage of how people use mobile devices is a great way to start. He suggests starting simple, using the approach he explains in his Learning Solutions article, Mobile Learning on the iPhone – Getting Started. In that article, he describes using PowerPoint and PDF as simple starting points and branching out from there. He suggests not starting with costly mobile development solutions.

Paul says that one of the biggest challenges in mLearning is delivering content to run on multiple mobile devices. When starting, he recommends picking a specific device and creating content for that one. You can start with more generic approaches that work across devices such as a text message, he explains, and this can be part of your mLearning approach, but it isn't too exciting by itself.

Clark suggests a Web-based approach rather than trying to develop for a specific device. Paul also thinks a Web-based approach makes sense. He explains how you can bump up the quality of Web-based content by letting the code recognize the device and redirecting the learner to an appropriate page for that device.

It’s important to understand the limitations of mLearning. Paul feels that in most cases, mLearning should be supplementary to other forms of learning. We really can’t port regular e-Learning courses to a mobile device. If we try, learners will feel mLearning isn’t so hot because the module they took on their mobile device wasn’t as in depth or interactive as the one on their desktop.

I asked Paul and Clark how mLearning fits into a learning strategy. Paul says that mLearning is a totally different animal than traditional e-Learning or classroom-based learning and we need to recognize it as such. Learners should use MLearning in short bursts. It will complement your overall learning strategy and should not be just a “cool” thing to do. Think about what you can do with mLearning to provide more than what you currently do in other ways.

Clark says mLearning is usable to augment learning and to augment performance on the job (while mobile). Of the two, he asserts, augmenting performance stands out as more valuable. He explains, “A person, augmented by technology, can be a more formidable performer than one without technology.”

To get up to speed, attend mLearning conferences (the Guild’s upcoming mLearnCon would be a wonderful place to get started, recommends Clark). Paul recommends setting up a Google alert for “mLearning.” Read as many mLearning blogs as possible. Call up mLearning companies and ask questions.
Final Thoughts

MLearning is a lot more interesting and achievable than most people in our field (who haven’t begun to do mLearning) realize. You can start doing mLearning with limited tools and a limited budget. It can expand what we are able to do with classroom and e-Learning, and can provide people with needed support to help them do their jobs and be successful.

Although many people in our field have not yet started harnessing mobile devices, clearly this is the right time to consider getting started in mLearning. Why? The people in your organization and institution are increasingly mobile. There’s a very good chance that they have mobile devices and know how to use them. Many devices have embedded tools and technologies that one can use for learning or to support learning and working. Many of the more popular devices can access e-mail and the Internet. If your learners don’t have these devices, chances are that the next mobile device they buy (typically, within 2 years) will be able to access e-mail and the Internet.

Like you, the learners you work with probably find themselves waiting in lines or waiting for a flight. We know that many of them are already interacting with their friends through their mobile devices. Many would welcome the opportunity to use downtime to get up to speed, get help, get a jump-start, or get ahead.

If you are new to mLearning, I hope this report has you as jazzed as I am on the possibilities, because so many of them are possible now.
Important Takeaways

The following is a list of some key takeaways from this report.

- **MLearning** refers to use of mobile devices and mobile learners. You have to consider both when considering mLearning.

- More than 15% of Guild members who responded to the survey have either implemented mLearning or are currently designing their first mLearning offering. An additional 50% of Guild members who responded to the survey are either researching how other organizations are doing it or building a business case for mLearning in their organizations.

- The accelerating rate of adoption of mobile devices worldwide is truly astounding. Because they cost so little (especially compared to desktop PCs), mobile devices are expected to soon surpass PCs as the device most used for Web access.

- The range of potential learning types afforded by mobile devices and technologies is much broader than most people in our field realize. Many are inexpensive and easily doable.

- Guild members say their employees are increasingly mobile (82.7%). Greater than 60% feel that mLearning is truly useful, will have to be part of their offerings, and allows them to better align learning with business and strategic initiatives.

- E-mail is a very popular mobile technology among Guild members who do mLearning. E-mail may seem like a simplistic way to deliver mLearning but there are ways to make e-mail-based mLearning engaging and effective.

- Synchronous e-Learning is beginning to become available from some mobile devices.

- Mobile devices increasingly support Web access, and mobile Web access means that developing mLearning Web content may make a lot of sense. There are a number of ways to make Web content mobile friendly. You can use server-side filters to eliminate things a mobile device is unlikely to be able to handle or to recognize mobile browsers and show a mobile-friendly version of the site.

- Mobile document formats (including Microsoft Word and Adobe PDF) make reading documents on mobile devices possible. Many mobile devices support mobile documents, so using this technology for mLearning makes sense.
• Authoring standalone learning modules is generally trickier than developing mobile Web content or mobile documents because you may have to author modules to work specifically with a given mobile device’s operating system.

• Audio files that you can download onto a mobile device or listen to on the Web from a mobile device have a great deal of potential for mLearning.

• Social networking presents numerous opportunities for mLearning.

• Different mobile devices are currently used or being considered for use by Guild members for mLearning. Smartphones are in the lead, and this is likely because they typically have more capabilities usable for mLearning.

• The biggest positive changes attributed to adoption of mLearning by Guild members are the ability to accommodate learner needs and an increase in access and availability.

• Mobile learners have different needs than learners who can “attend” e-Learning from their desks. They typically deal with interruptions and distractions, operate with significant background noise, and may need to split their attention because of the need to engage in other activities concurrently.

• It may be best to use mLearning for bite-sized learning “nuggets,” updates, introductory materials, reinforcement of objectives, reminders of key takeaways, social interaction and collaboration, and access to help and support tools.
References and Resources

From The eLearning Guild (www.eLearningGuild.com)

Learning Solutions articles:

Apple’s iPad: What Does It Offer for e-Learning?
Bill Brandon (January 27, 2010)

Apple’s iPhone OS 4.0: What Will it Mean for Mobile Learning?
Bill Brandon (April 8, 2010)

Building Mobile e-Learning
Anita Rosen (December 1, 2008)

On-the-Spot Learning: Coming Soon to Your Location?
Judy Brown, David Metcalf, David Rogers (July 14, 2008)

Mainstreaming Mobile Learning
Ellen Wagner (June 30, 2008)

Mobile Learning Coming Sooner than You Think
Bill Brandon (January 22, 2010)

Mobile Learning on the iPhone — Getting Started
Paul Clothier (April 19, 2010)

Rethinking e-Learning
Clark Quinn (April 28, 2010)

Sales Quenchers Case Study: Delivering Learning Nuggets by Smartphone
Robert Gadd (July 21, 2008)

Guild Research Reports:

Mobile Learning: What it is, why it matters, and how to incorporate it into your learning strategy
Steve Wexler, Judy Brown, David Metcalf, David Rogers, and Ellen Wagner
(July 17, 2008)

Mobile Learning: What it is, why it matters, and how to incorporate it into your learning strategy
Steve Wexler, Brent Schlenker, Judy Brown, David Metcalf, Clark Quinn, Ernie Thor, Angela van Barneveld, and Ellen Wagner
(August 7, 2007)

Mobile Learning Research Report
Joe Pulichino
(July 2006)
Other Resources:

Adobe Device Central
http://www.adobe.com/products/creativesuite/devicecentral/


Exploring Mobile Learning: Part Two of the mLearning Series, Judy Brown. (in press)

How do I make eLearning mobile? A step by step walk through of producing mobile eLearning content with Captivate and the eLearning Suite.
http://my.adobe.acrobat.com/p54002545/


Mobile Web Design, Cameron Moll. mobilewebbook.com

on the mobile: the effects of mobile telephones on social and individual life, Sadie Plant, August 2001


Tools Mentioned in this Report:

Adobe Connect Pro Mobile  


Cameo [www.cameo.net](http://www.cameo.net)

Chalk Pushcast Software  
[www.chalk.com/Products/Chalk_Pushcast_Software.aspx](http://www.chalk.com/Products/Chalk_Pushcast_Software.aspx)

Citrix GotoMeeting Mobile for iPad  

Flashcard Touch application  

Hot Lava Mobile  
[www.outstart.com/about-hot-lava-mobile.htm](http://www.outstart.com/about-hot-lava-mobile.htm)

IdeaMatrix application  
[app-world.blackberry.com/webstore/content/screenshots/917](http://app-world.blackberry.com/webstore/content/screenshots/917)

iWebKit [iwebkit.net](http://iwebkit.net)

MobiSiteGalore [www.mobisitegalore.com](http://www.mobisitegalore.com)

mobileOK Checker [http://validator.w3.org/mobile/](http://validator.w3.org/mobile/)

OnPoint Cellcast [www.mlearning.com/cellcast](http://www.mlearning.com/cellcast)

OnPoint Mobile Learning Solutions [www.onpointdigital.com](http://www.onpointdigital.com)


Wapple [http://www.wapple.net/](http://www.wapple.net/)

WordPress mobile plug-in  

StreaMe [http://www.streamelearning.net/](http://www.streamelearning.net/)
## Glossary

These definitions are the author’s definitions. Some are adapted from definitions for *Essential Articulate Studio '09* (Patti Shank, coauthor, Jones and Bartlett Publishers, June 2009).

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>3G</td>
<td>Third-generation broadband mobile communications that support higher data rates and both voice and data applications.</td>
</tr>
<tr>
<td>4G</td>
<td>Broadband mobile communications to follow 3G. Has increased data transmission rates over 3G and is supposed to improve interoperability.</td>
</tr>
<tr>
<td>Flash</td>
<td>An Adobe authoring tool and file format typically used to develop animations and simulations. Increasingly, it’s also used to develop Websites and Web applications.</td>
</tr>
<tr>
<td>HTML/XHTML</td>
<td>Hypertext Markup Language, the predominant coding language for Web pages.</td>
</tr>
<tr>
<td>mobile device</td>
<td>Handheld (or other small) device that can connect to mobile phone networks, computer networks, and/or the Internet.</td>
</tr>
<tr>
<td>MMS</td>
<td>Multimedia Messaging Service. Similar to short messaging service (SMS), but in addition to plain text, MMS messages may include images, audio, and video.</td>
</tr>
<tr>
<td>MP3</td>
<td>MPEG-1 Audio Layer 3, more commonly referred to as MP3. Audio encoding format with up to 10-to-1 data compression.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<tr>
<td>plug-in (or player)</td>
<td>An application that adds functionality to a Web browser, such as the ability to play animations, audio, or video (For example, you need the Flash “player” to view Flash content.)</td>
</tr>
<tr>
<td>Smartphone</td>
<td>A mobile device that provides advanced, often PC-like, capabilities and can run applications, play media, and connect to the Internet.</td>
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<tr>
<td>SMS</td>
<td>Short Messaging Service, also known as texting. Short text-based messages sent by a mobile device. They are usually limited in size (number of characters).</td>
</tr>
<tr>
<td>WiFi</td>
<td>Means for portable computing devices to connect to a network or the Internet wirelessly.</td>
</tr>
</tbody>
</table>
About the Author

Patti Shank, Ph.D., CPT, is the president of Learning Peaks, LLC, an internationally recognized instructional design consulting firm. Before starting her own company, she was involved in and managed training and health education, and she currently works with corporate, higher education, and professional development clients and content experts to improve information and instruction. Patti is listed in *Who’s Who in Instructional Technology* and is an often-requested speaker at training and instructional technology conferences, including The eLearning Guild conferences (which she LOVES!). She is the co-author of *Making Sense of Online Learning* (Pfeiffer, 2004), editor of *The Online Learning Idea Book* (Pfeiffer, 2007), co-editor of *The E-Learning Handbook* (Pfeiffer, 2008), and co-author of *Essential Articulate Studio ’09* (Jones and Bartlett, 2009). Patti is an award-winning writer, and has written articles for *Learning Solutions Magazine*, Adobe’s Resource Center, *Training Magazine*, and Magna Publication’s *The Online Classroom*. She is passionate and outspoken about improving outcomes from performance improvement and instructional projects, and her research on new online learners won an EDMEDIA (2002) best research paper award.