



Mobile Learning Research Report 2006

ANALYSIS AND COMMENTARY BY JOE PULICHINO

The long-awaited advent of mobile learning appears finally to be upon us. In The Guild's recently published *Future Trends in e-Learning Research Report 2006*, more than half of our respondents (57%) reported that their organizations are using mobile learning, and more than one-third (38%) indicate that this usage will increase in the year ahead. With over 1.5 billion mobile devices world-wide currently connecting people to each other as well as to myriad information sources, it is not surprising that so many organizations are using these devices to deliver formal learning and to enable new opportunities for informal learning.

But what exactly is mobile learning? Many define it simply as "learning delivered on a mobile device," but some might choose to modify "learning" to read "e-Learning." Mobile learning, while rightly set apart as a learning modality due to the specific nature of the delivery device, is essentially a form of e-Learning, defined here simply as any learning delivered electronically. Mobile learning is a subset of e-Learning, yet it has its own distinctive, expansive, and restrictive qualities.

Back in 2001, Dr. Clark Quinn wrote about the future of mobile learning in *mLearning: Mobile, Wireless, In-Your-Pocket Learning*,

"The vision is clear. mLearning is the intersection of mobile computing and e-Learning: accessible resources wherever you are, strong search capabilities, rich inter-

action, powerful support for effective learning, and performance-based assessment, elearning independent of time or space. What is less clear is where we are now and how we will deliver on this vision."

Now, five years later, The Guild Research Committee has undertaken this study to find out just where we are, and to explore how we are delivering on this vision. One of the contributors to this study, Bob Sanregret of Hot Lava Software, notes that the results support what he is seeing in the market, "This research underscores two key points: one, that the mobile learning space is growing fast, and two, that the space is still in the definition stage."

As a supplement to this study, we recommend reading Dr. Ellen D. Wagner's article, *Enabling Mobile Learning*, as

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she has summed up the current state of mobile learning quite well,

“Whether we like it or not, whether we are ready for it or not, mobile learning represents the next step in a long tradition of technology-mediated learning. It will feature new strategies, practices, tools, applications, and resources to realize the promise of ubiquitous, pervasive, personal, and connected learning. It responds to the on-demand learning interests of connected citizens in an information-centric world.”

Finally, the chance to do learning anytime, anywhere has arrived. So, now what do we do? Well, before doing anything, Dr. Wagner advises that we remember our “lessons e-Learned” as they are highly appropriate to the mobile learning endeavor. The lessons e-Learned are: a) learning is deeply personal; b) different learning modalities require different strategies, tools and resources; c) the technology in and of itself will not guarantee the learning; and finally, d) make the learning experience compelling and the results highly intentional.

Over the past five years, there has been considerable research on mobile learning, especially in Europe. A European Commission study conducted under the auspices of several agencies and universities was published by the Learning and Skills Council in the United Kingdom. It reported that mobile learning encourages both independent and collaborative learning experiences; enables learners to identify areas where they need assistance and support; and even helps them to focus on their learning for longer periods of time.

In a literature review of mobile learning research, Anna Trifonova of the University of Trento in Italy concludes that the “... nature of mobile devices, with their small screens and poor input capabilities leads to the assumption that they cannot replace the standard desktop computers or laptops. But the same properties can make them efficient in the learning domain, if certain constraints are kept,” as in: keep it short, keep it simple, and keep it contextual on every level possible.

All of these lessons learned, and more, should provide a solid foundation for the many new mobile learning initiatives just getting underway: 26% of the respondents in this Guild study indicate that they will be doing mobile learning for the first time sometime in the next twelve months. And so, while mobile learning has arrived, many of us are in the early stages of learning how best to do it — 85% of the soon-to-be mobile learning newbies participating in this study have no well-developed grounding in mobile learning best practices. Among those who are doing mobile learning today, 22% have very well, or highly, developed best practices. So there is some knowledge transfer ready to happen in the community — perhaps some of it will occur via mobile learning.

The Guild would like to thank the following Research Committee members for their contributions to the development of the survey instrument and for the commentary and analysis presented in this report: Ms. Paula Cancro of IFMG, Inc.; Dr. Silvia Folts of Distance Instruction; Mr. Joe Ganci of Dazzle Technologies; Ms. Sheila Jagannathan of the World Bank; and Dr. Warren Longmire of Apple. We also want to thank Mr. Bob Sanregret, CEO of Hot Lava Software, for his contributions to this study.

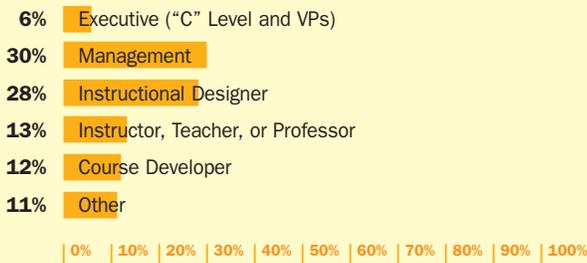
Demographics

We asked our respondents to identify themselves and their organizations by five attributes: their role in their organization, the size of their organization, the type of their organization, their organization’s primary business focus, and the department they work in. This section presents demographic data about our survey sample.

Overview of Survey Methodology

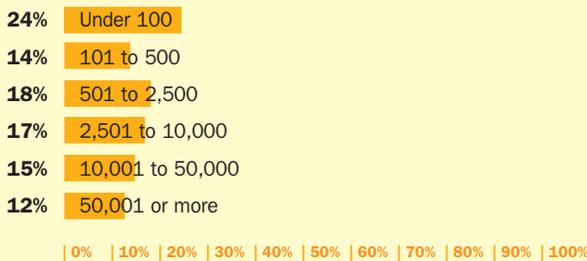
This survey, like all other Guild surveys, was open to Guild Members and Associates as well as to occasional Guild Website visitors. Respondents complete these surveys by accessing the survey link on the home page of the Website. Naturally, Guild Members and Associates are more likely to participate than non-members are, because each of the more than 21,200 Members and Associates receive an email notifying them of the survey and inviting them to participate.

Q1. What is your role in your organization?



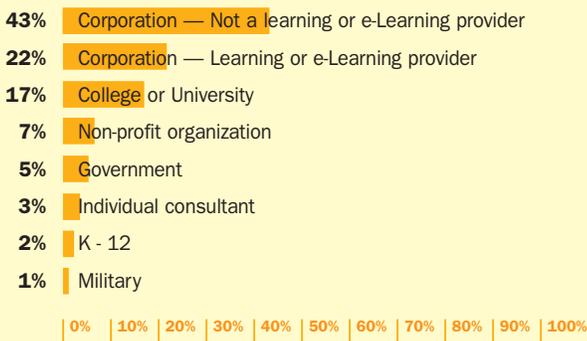
A respondent to this survey is most likely to be working as a manager or executive (36%), although almost one-third are in an instructional designer role (28%). There is almost the same number of instructors, teachers, or professors (13%) as course developers (12%), and those who selected “Other” (11%) are mostly individual consultants, students, and technical or other professional staff.

Q2. How many employees work in your organization?



Our respondents work in organizations of all sizes. Organizations with less than 100 employees have the highest frequency (24%) and those with 50,000 or more employees have the lowest frequency (12%). Thus, there is a 12% range between the highest and lowest of the six size categories.

Q3. What type of organization do you work for?



By a significant majority, our respondents work in corporate environments (65%), divided between e-Learning product or service providers (22%) and those corporations that are not in the e-Learning business (43%). Institutions of higher education make up 17% of the sample.

Demographics

Q4. What is your organization's primary business focus?



The most frequently-cited primary business focus for our respondents' organizations is "Higher Education" (16%), followed by "Healthcare" (9%), "Technology" (9%), and "Commercial Training or Education Services" (8%). More than half of the respondents (58%) selected one of the remaining eighteen sectors, including "Other" (8%).

Q5. What department do you work in?

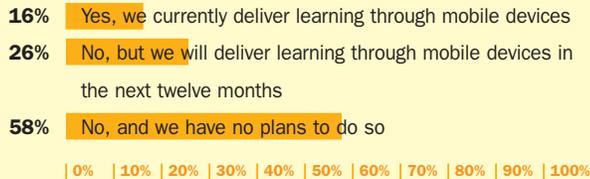


A majority of our respondents work in a "Training or Education" department (54%), followed at a distance by "Information Technology" (12%), and "Human Resources" (10%). Those who selected "Other" (11%) are mostly independent consultants, or those who work in small or non-traditional organizations that do not have these types of departmental structures.

Adoption Rates of Mobile Learning

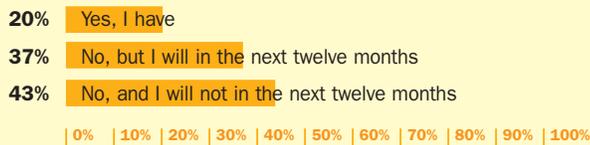
Mobile learning is still in its infancy; however, according to our respondents we should see explosive growth in the use of mobile learning throughout 2006 and into 2007. The trends in adoption forecast by our respondents predict that by May 2007, a majority of respondents (57%) will have tried mobile learning, and a near majority (42%) of our respondents' organizations will be using mobile learning.

Q6. Does your organization currently deliver learning through mobile devices?



Only 16% of the respondents' organizations are doing mobile learning today, yet almost twice as many (26%) indicate that they will be doing so in the year ahead.

Q7. Have you ever taken a mobile learning course or program?



The adoption rate among respondents as mobile learners is slightly higher. One-fifth (20%) have taken some form of mobile learning and 37% expect to do so in the next twelve months.

Q6a. Adoption Rates by Type of Organization

	College or University	Corporation	Learning Services Provider
Yes, we currently deliver learning through mobile devices	29%	11%	15%
No, but we will deliver learning through mobile devices in the next twelve months	36%	21%	35%
No, and we have no plans to do so	35%	68%	50%

Apparently, colleges and universities have taken the lead in mobile learning adoption by a three-to-one ratio over corporations (29% : 11%), and a two-to-one ratio over learning services providers (29% : 15%). In the next twelve months, over one-third of colleges and universities (36%) and learning services providers (35%) will adopt mobile learning, but just one-fifth of corporations (21%) will follow suit.

As this survey data indicates, higher education as a sector has been among the early adopters of mobile learning. For example, Stanford and Duke have put a huge amount of their classroom materials on a customized iTunes server. Some of this content is available to the public, but most of it is only for their registered students. Stanford's public iTunes implementation can be seen at <http://itunes.stanford.edu/> The link on this page opens a Stanford custom interface within iTunes, similar to the iTunes Music Store. Once in the Stanford "store" you can browse, search, and download the Podcasts and other content.

The corporate training field has taken longer to adopt but, again, as the data shows, adoption is growing. For example, we have read how companies as varied as Prentice Hall and Capital One are using Podcasts for their sales force. Please refer to the recently published, "Just-in-Time Training: With MP3 players, iPods, and other mobile devices, employee training is truly on the go" by Elizabeth Agnvall (<http://www.shrm.org/hrmagazine/articles/0506/0506SRagnvall.asp>).

Adoption Rates of Mobile Learning

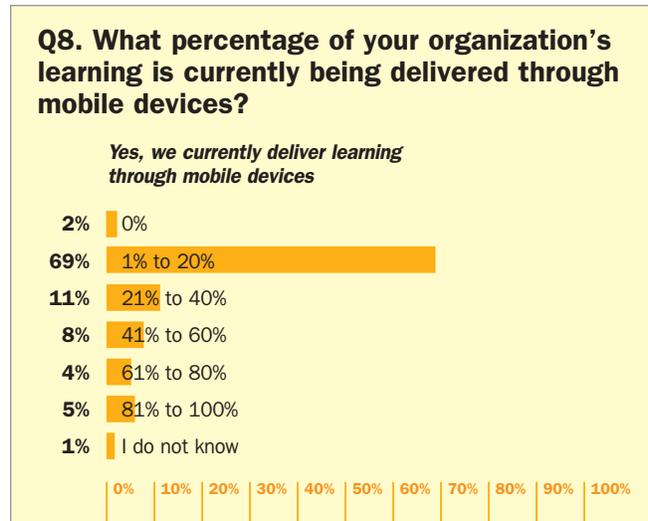
Notes on the Filtering and Presentation of the Following Data

Note that those respondents who selected the “No, and we have no plans to do so” choice for Question 6 (58%), did not answer Questions 8 to 24.

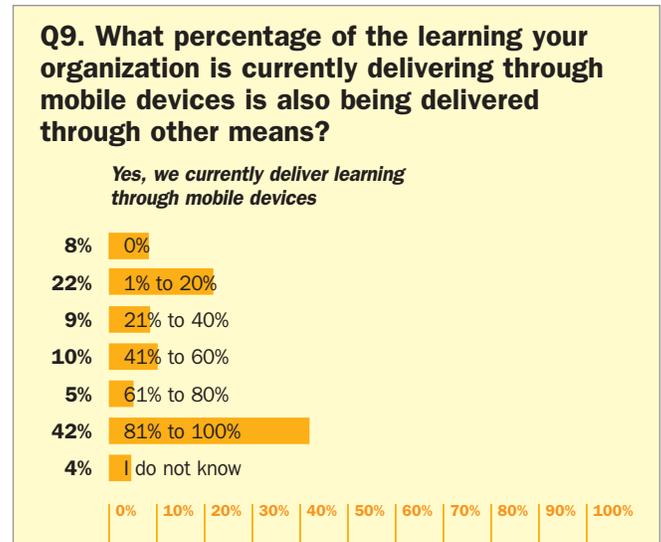
Only those respondents who selected the “Yes, we currently deliver learning through mobile devices” (16%) and the “No, but we will deliver learning through mobile devices in the next twelve months” (26%) choices for Question 6 answered Questions 8 to 24.

For Questions 8 and 9, we present only the responses of those respondents who selected the “Yes, we currently deliver learning through mobile devices” (16%) as these two questions deal only with current usage of mobile learning.

In the presentation of the data for Questions 10 to 24, we have separated these two groups to compare the responses of those respondents whose organizations are currently using mobile learning with those who will be using mobile learning in the next twelve months.



The vast majority of respondents’ organizations currently delivering learning through mobile devices (69%) are delivering up to 20% of their learning by this means. As mobile learning adoption grows, it will be interesting to see whether this percentage will increase accordingly, or whether organizations will restrict mobile learning to specific content types and audiences, and use it only for a limited percentage of its learning programs.

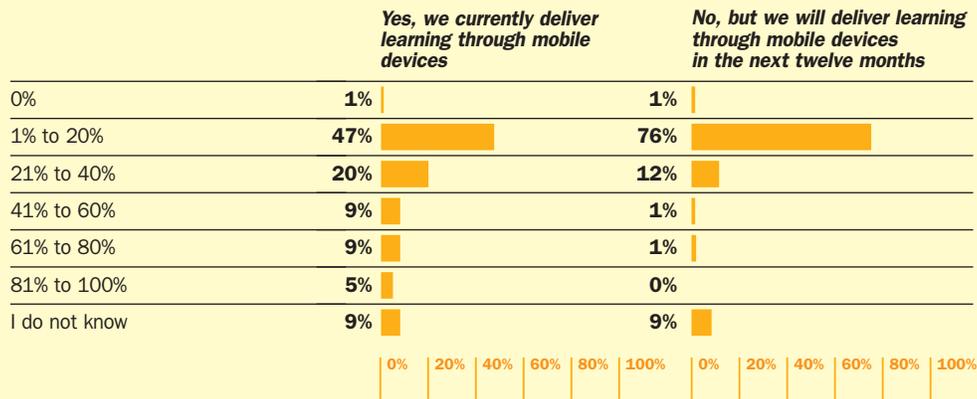


It appears, based on these data, that mobile learning is often an alternative vehicle for organizations delivering content that they also deliver through other means. Almost half of the respondents’ organizations (47%) report that they deliver between 61% and 100% of their mobile learning content via other means. Nonetheless, a significant minority (22%) reports that they deliver less than 20% of their mobile learning otherwise.

As e-Learning professionals further evolve mobile learning design and delivery practices, it will be interesting to see how content types and forms emerge. Some content will, no doubt, be shared across various delivery modalities, while others will be developed exclusively for mobile learning.

Adoption Rates of Mobile Learning

Q10. What percentage of your organization's learning offerings will be delivered through mobile devices in the next twelve months?

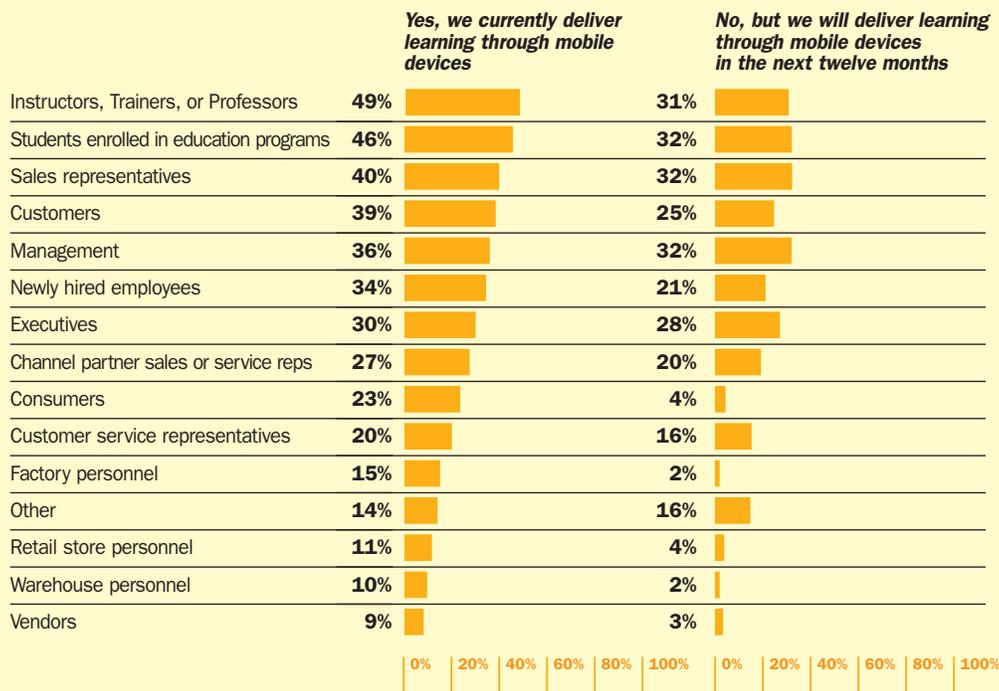


Not surprisingly, those respondents from organizations who will be delivering mobile learning in the next twelve months are expecting that much lower percentages of their learning offerings will be delivered via mobile learning in comparison to those who are already doing mobile learning. We are likely witnessing a gradual, though certain, re-purposing of more and more learning content to mobile formats. Time will tell where the appropriate mix of mobile learning and other learning modalities will eventually settle.

Who Are the Mobile Learners?

Is a mobile learner more likely to work in certain roles because of the mobile nature of his or her job? We asked respondents to identify their audiences for mobile learning in order to get a better understanding of just who mobile learners are.

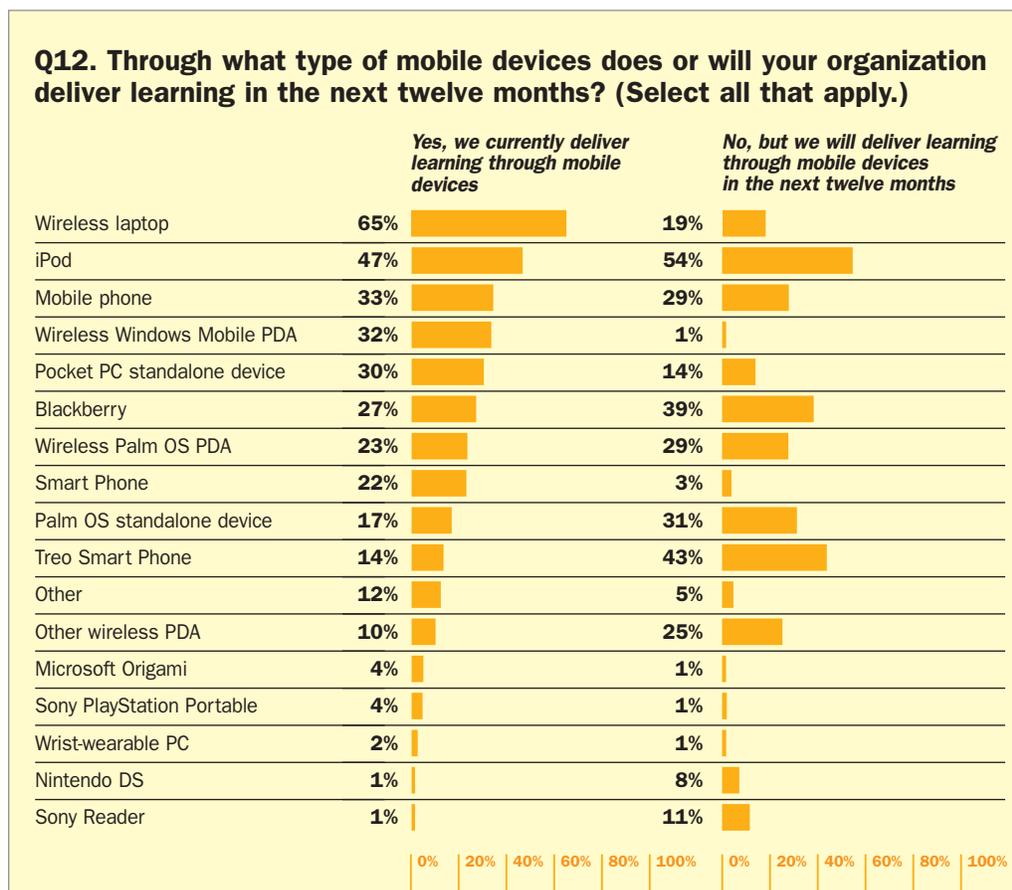
Q11. To what audiences do or will your organization deliver learning through mobile devices in the next twelve months? (Select all that apply.)



These results expose some rather interesting variances between these two groups. A surprising data point is that for most organizations currently using mobile learning, the primary audiences are "Instructors, Trainers, or Professors" (49%) and "Students enrolled in education programs" (46%). This finding comports with the results presented in Chart Q6a that shows that colleges and universities are ahead of the mobile learning adoption curve. We will likely see this number come down as corporations catch up and begin shifting the mix. Although this may not happen quite so soon if higher education adoption rates continue, also as reported in Chart Q6a. When and if corporations do begin to meet similar levels of adoption, we expect that the frequencies for categories like sales representatives will increase.

Mobile Learning Devices and Infrastructure

Is a wireless laptop a mobile device? Most would agree that it is. But can learning delivered through a wireless laptop be called mobile learning? Many would say, “Not necessarily so.” Why? Because they opine that it is the content not the delivery device that distinguishes mobile learning from traditional e-Learning. For example, a learner can take an e-Learning course from his or her office on a laptop wired right into the organization’s LMS or learning portal. The same learner can take that same laptop down to the nearest WiFi hot spot and take that same e-Learning course. Many would say that this is not mobile learning, but rather wireless e-Learning. Mobile learning, this group contends, uses content designed specifically and especially for delivery exclusively through mobile devices that are mobile devices only. The Guild Research Committee debated this distinction thoroughly, and in the end decided to include the wireless laptop in our list of choices for the question about the types of devices in use. We did so because, even though we were swayed by the arguments of the mobile learning “purists,” we wanted to see how many of our respondents would consider the wireless laptop a mobile device.



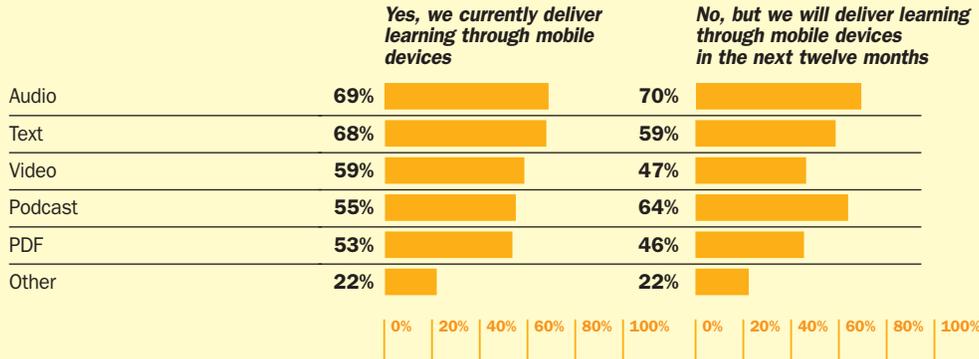
Firstly, despite the distinctions between the wireless laptop and other mobile devices raised by the Research Committee in the preparation of this study, we find that the respondents listed the “Wireless laptop” most frequently (65%) as a device currently used by their organizations to deliver mobile learning. Despite the reservations of our experts concerning the wireless laptop, people consider it a mobile learning device. Clearly, the distinctions we have discussed need further debate and perhaps clarification in the community at large.

There are several significant variances between the two groups. Among those currently using mobile devices, many more report using “Wireless laptops” (65% vs. 19%), “Wireless Windows Mobile PDAs” (32% vs. 1%), and generic “Smart Phones” (22% vs. 3%). Yet, those in the planning stages anticipate greater use for “Other wireless PDAs” (25% vs. 10%), the “Treo Smart Phone” (43% vs. 14%), and the Sony Reader (11% vs. 1%). It will be interesting to see how these preferences and choices sort themselves out over the next twelve months.

We were surprised that the “iPod” ranked second behind wireless laptops. We asked Research Committee Member Dr. Warren Longmire about this who replied, “Many people use iPods for m-Learning, at greater numbers in education but clearly in corporate learning as well. This is because Podcasts are incredibly easy to make on a PC, and even easier on a Mac. The cost to get started is really low — you just need a voice, a microphone, and some sort of audio editing application. Then you create a Podcast subscription page (with RSS feed) and you can subscribe using iTunes so that every time there is a new Podcast issued in the series, your iTunes automatically downloads it.”

Mobile Learning Devices and Infrastructure

Q13. What is (or will be) the form or media type of the content your organization delivers (or will deliver) through mobile devices in the next twelve months? (Select all that apply.)

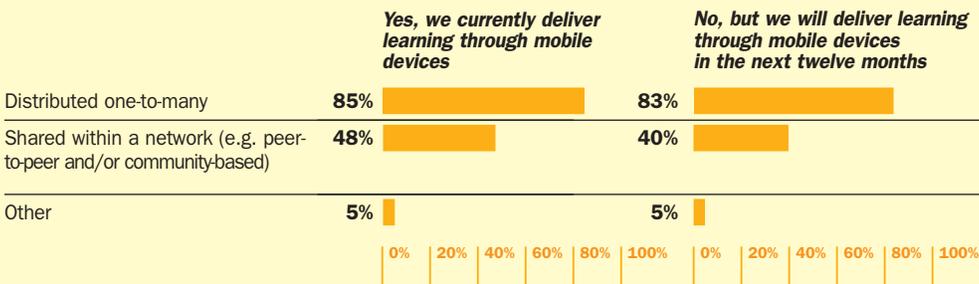


As expected, “Audio” and “Text” rank highly as content forms or media types for both groups, although video is not far behind. See Chart Q13a for a selection of the “Other” write-in responses.

Q13a. “Other” write-in responses

- 3D
- Animations
- Dynamic Content
- e-Learning courseware
- Flash
- Full applications
- Graphic images
- HTML
- Internet Websites
- Live Meeting
- Mixed-synched Media
- Multimedia
- Photos
- PowerPoint presentations
- Shockwave
- Traditional Web-based Training

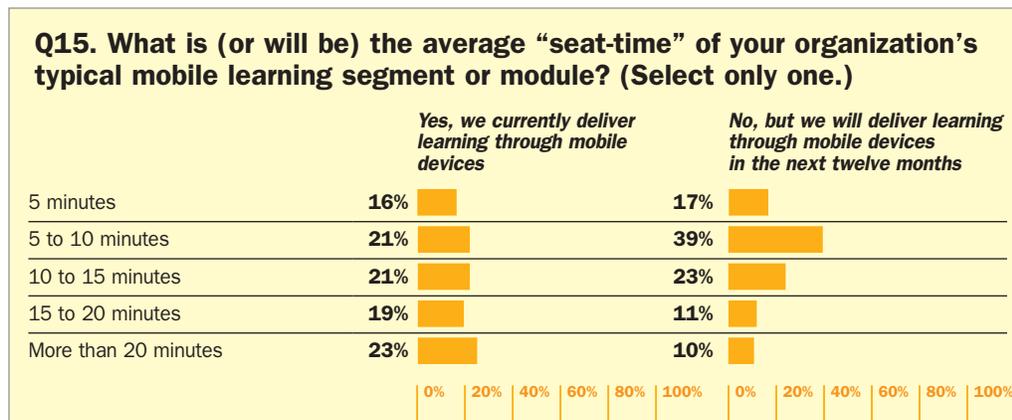
Q14. What form of distribution for mobile learning does or will your organization use? (Select all that apply.)



“Distributed one-to-many” is clearly the standard form of distribution for mobile learning. However, we wonder if “Shared within a network” will increase in frequency as mobile learning becomes more common, and both designers and learners adapt to the possibility of shared mobile learning within segments of an organization (e.g., a sales force or the faculty of a given department) or within a community of practice.

Mobile Learning Seat-time

By its very nature, mobile learning suggests an “on-the-go,” “just-in-time” modality in which learning sessions are relatively short. Seat-time refers to the length of time that it takes a person to complete a mobile learning segment or module. The issue of seat-time in mobile learning raises questions for learners and designers alike. For example, how much time can we reasonably expect a mobile learner to spend learning on a mobile device? Moreover, how then do designers best design content structures that accommodate these optimal seat-times, while maintaining linkages between associated individual mobile learning sessions?

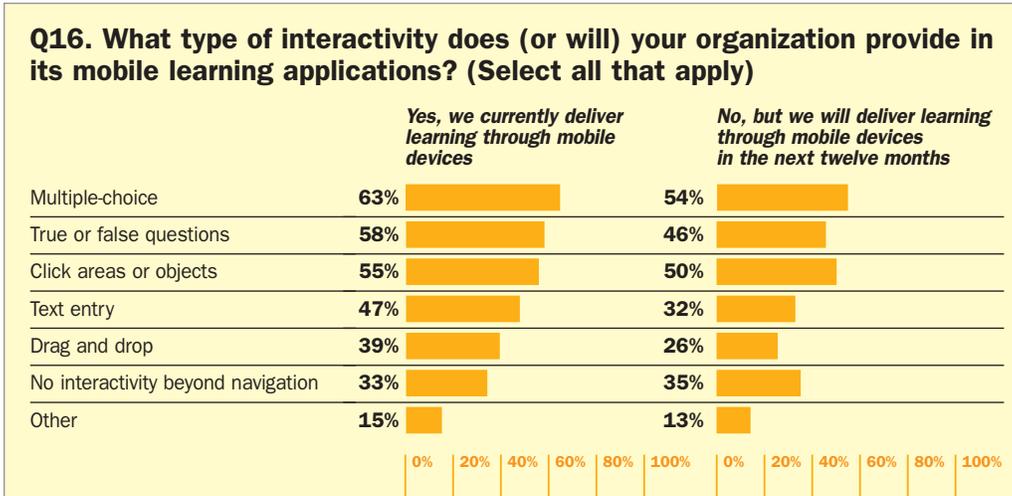


The results show that the average seat-time varies between those organizations that are currently delivering mobile learning and those that will be doing so in the next twelve months. Those delivering mobile learning now generally offer mobile learning segments that are longer than those still in the planning stages expect to offer. Just over one-third (37%) of current mobile learning organizations offer an average seat-time of ten minutes or less, while over half (56%) of organizations not yet doing mobile learning expect seat-time of the same duration. Similarly, 23% of current mobile learning organizations offer an average seat-time of more than twenty minutes as compared to only 10% of those who will be delivering mobile learning.

The lesson here seems to be that mobile learning segments tend to be longer in practice than might be originally anticipated. The question remains why this is so. Maybe learners can handle longer sessions than we expect. Maybe it is very difficult to produce effective segments of shorter duration.

Interactivity in Mobile Learning

One of the perceived disadvantages of mobile learning is limited interactivity (Refer to Question 21). In Question 16, we asked respondents to identify all the types of interactivity that they are or will be providing in their mobile learning activities.



“Multiple choice” is the leader among both groups, although somewhat more so among the organizations currently delivering mobile learning (63% vs. 54%). Just the same, many more among this group use “True and false questions” (58% vs. 46%), “Text entry” (47% vs. 32%), “Click areas or objects” (55% vs. 50%), and “Drag and drop” (39% vs. 26%). Is this because incipient mobile learning efforts tend to take a cautious, first things first approach? Or is it because the experienced mobile learning organizations find that these various interactions are easier to do than might be expected?

Roughly the same percent, only about one-third, of both groups offer no interactivity beyond navigation. We wonder how effective these programs are, and how learners rate them, especially in comparison to those programs that include more interactivity.

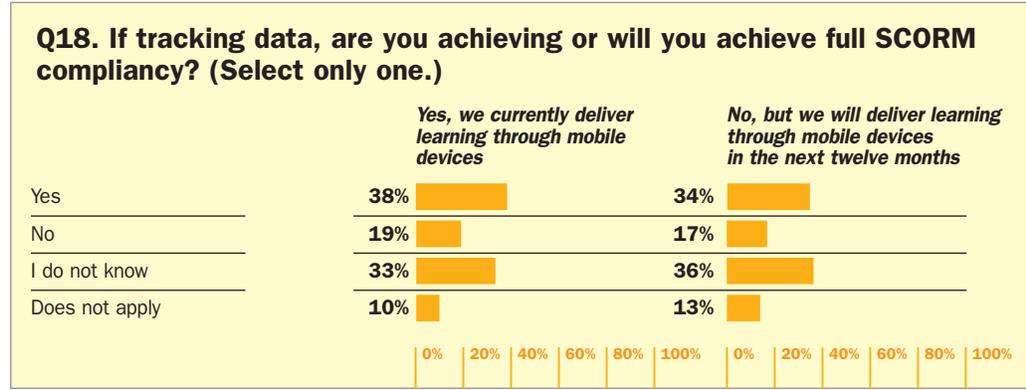
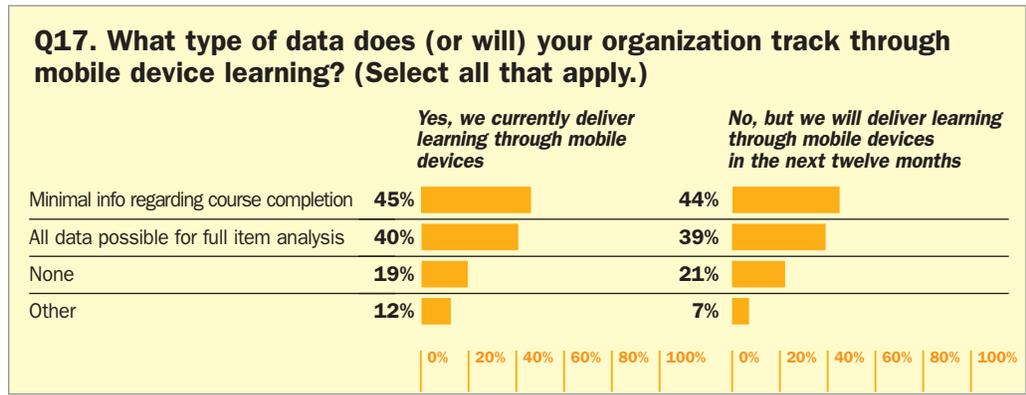
Among the write-in responses of those who selected the “Other” choice, we found the following:

Q16a. “Other” write-in responses

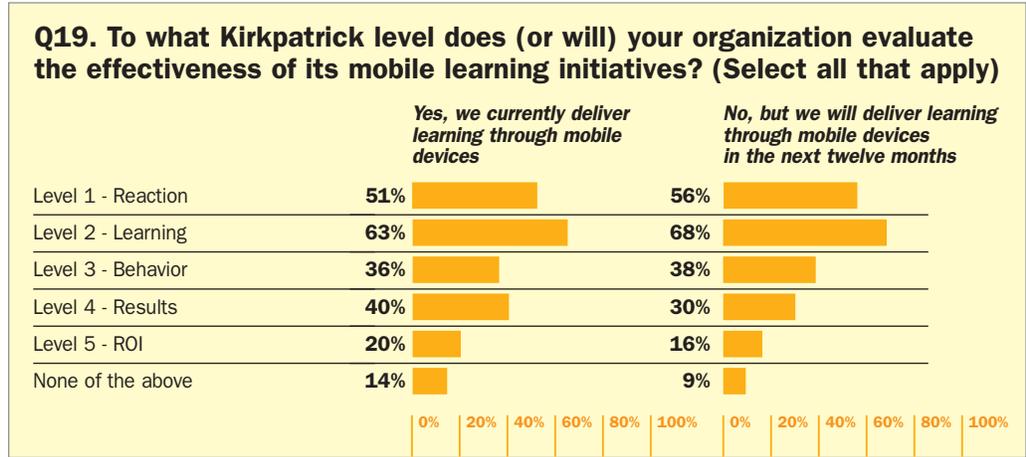
- Animations
- Application sharing
- Audio responses
- Blogs and information interactivity
- Everything and anything — depends on content requirements
- Flash Lite-based applications
- Full range of question types and surveys
- Games, simulations, interactive lectures, etc.
- Interactive scenarios
- Listening and speaking, matching, closed and open ended oral and written responses
- Note — different answers for different devices
- Playback only
- Rotate zoom
- Simulation
- Speech recognition
- Video uplink

Tracking and Evaluating Mobile Learning

As with all training, development, and e-Learning programs, we must consider the extent to which organizations are tracking mobile learning activities and evaluating the results. In these cases, we did not find much variance between those organizations that are currently delivering mobile learning and those that will be in the next twelve months.



As with many issues related to SCORM compliance, a good percentage (about one-third) simply do not know if their organizations achieve such compliance. Only slightly more report that they do or will. We wonder, therefore, how important SCORM compliance is to effective mobile learning design and delivery.



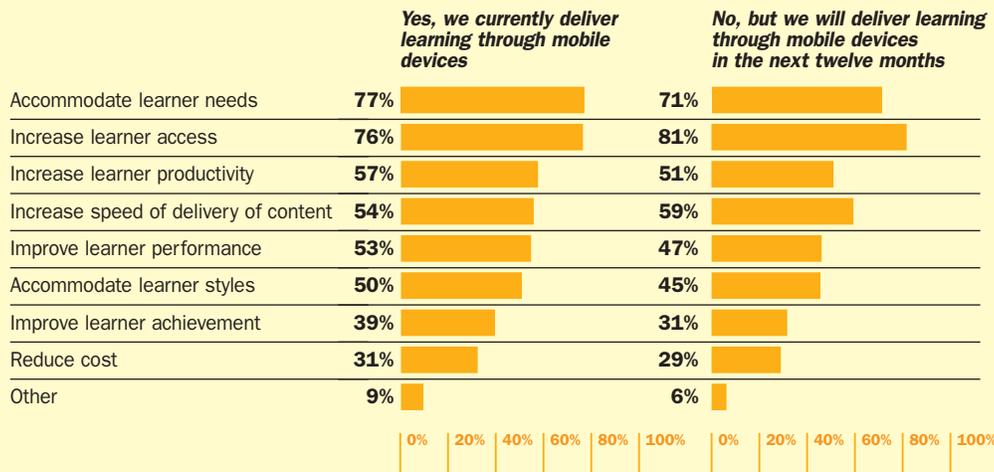
In other Guild research reports, we have seen much higher frequencies for Level 1 evaluations and lower frequencies for Level 2 evaluations (Refer to the *Metrics and Measurement 2005 Research Report* — April 2005). One possible explanation for these results is that testing or assessment for learning is a common interaction for mobile learning and can thus be used accordingly. In addition, there may be limited value in assessing reaction to mobile learning modules that take less than 10 minutes to complete.

It also seems that the frequencies for Level 3, 4, and 5 evaluations are higher relative to other Guild survey data. Perhaps, these comparative data indicate that the rationales for mobile learning initiatives are requiring more examination of their impact on performance objectives, business results, and ROI.

Advantages and Disadvantages of Mobile Learning

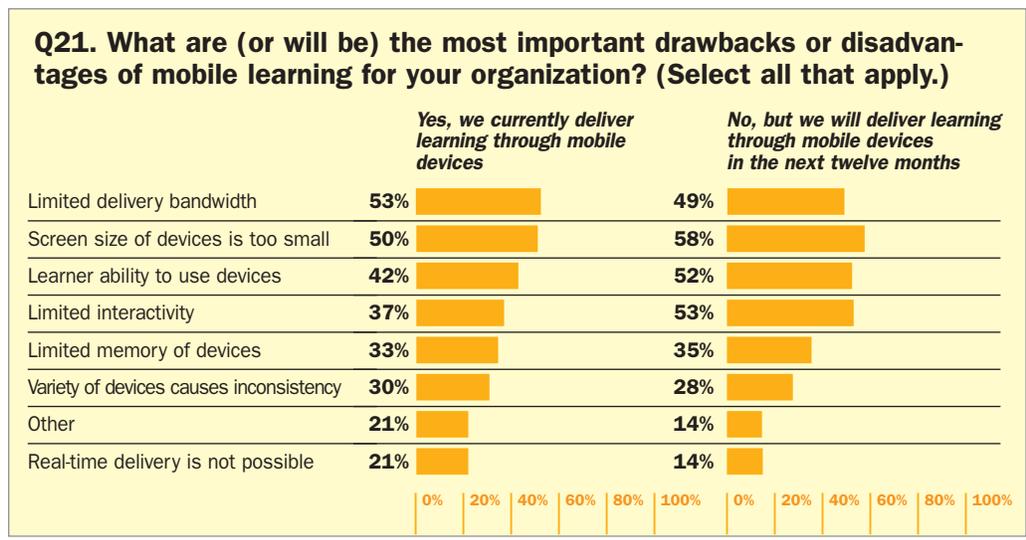
Mobile learning, like all other training and learning modalities has both advantages and disadvantages. On the one hand, mobile learning offers great benefits to the learner in terms of accommodation of needs, access to content, and increased productivity and performance; on the other hand, to deliver these benefits means overcoming some significant drawbacks, such as limited bandwidth, small screen size, and other technical and design hurdles. In the end, do the advantages outweigh the disadvantages? And, if so, can the disadvantages be further minimized, and perhaps eliminated?

Q20. What are (or will be) the most important advantages or benefits of mobile learning for your organization? (Select all that apply.)



The results among the two groups do not vary significantly, and “Accommodate learner needs” and “Increase learner access” are the top two for each group, albeit in reverse order. We assume that the reason a learner needs mobile learning is that that learner is mobile and hence disconnected from learning opportunities. Therefore, addressing this need to connect and increasing the learner’s access are the primary benefits of mobile learning. According to our respondents, increases in productivity, speed, and performance, while important, remain secondary.

Advantages and Disadvantages of Mobile Learning



About half of both groups (53% vs. 49%) consider “Limited bandwidth” to be a mobile learning disadvantage. Yet, more of those not yet delivering mobile learning list screen size and the learner’s ability to use the mobile device as a disadvantage.

Among those who are currently delivering mobile learning, there is significantly less concern with “Limited interactivity” as a disadvantage. This finding comports with the results of Question 16 about interactivity in mobile learning.

A significant portion of both groups selected the “Other” choice and we present a selection of their write-in responses in Chart 21a.

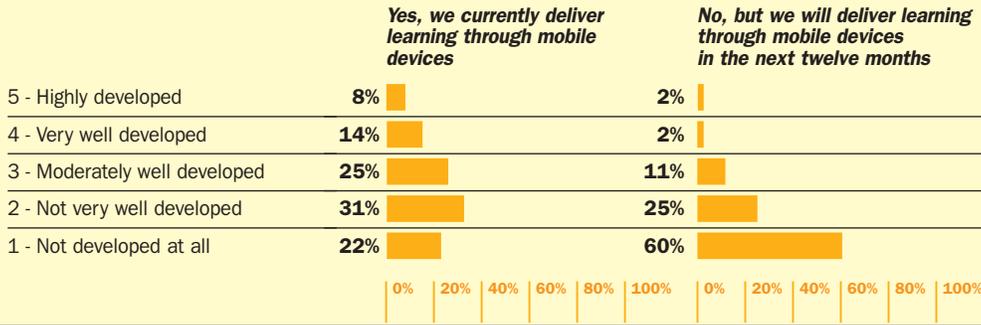
Q21a. “Other” write-in responses

- A lack of a single “standard” device — closest is iPod —but can’t force students to buy them.
- Access to equipment is cost prohibitive
- Access to WiFi hotspots
- Budget for mobile devices, software, and IT services
- Content creation by professors
- Cost of devices
- Cost to develop for mobile
- Cross platform and/or device standards
- Current market penetration of devices
- Depth of material limitation
- Development and adoption of new system
- Driven less by learners and more by marketing wanting a new toy to sell
- Environment issues
- Equipment not universally available
- Executive reluctance
- Faculty resistance to developing Podcasts and/or resistance to technology
- Frequent technical difficulties with mobile devices
- Inability to track and/or source compliant technologies
- International sensitivities
- Learner access to devices — costly
- Learners are too distracted
- Limited availability of devices
- Most corporate devices are lower spec than consumer devices or have key features disabled
- None of the listed drawbacks applies as we build with device functionality in mind.
- Novelty of item may cause distraction
- Online content not necessarily designed for most effective learning to take place
- RF interference in the factory
- Some mobile phone users do not have any internet connection
- Speed of network, download and/or upload speeds
- Staff acceptance and use of new communication methods
- Workplace location access constraints

Developing Mobile Learning Best Practices

Developing and delivering mobile learning is a new practice, yet we wonder how much of what people are doing constitutes best practice.

Q22. On a scale of 1 - 5, to what extent has your organization developed best practices for developing and delivering mobile learning content?



Not surprisingly, those who are already doing mobile learning report more frequently that their organizations have developed best-practices — almost half (47%) have done so at least to a moderate degree compared to organizations that will be doing their first mobile learning in the months ahead (15%). Yet, in both cases, there remains much to do. For example, 60% of organizations planning to do mobile learning report that they have not developed best-practices at all. If the growth of mobile learning continues, we should expect to see much focus and attention on the development, dissemination, and adoption of best-practices for mobile learning in the months and years ahead.

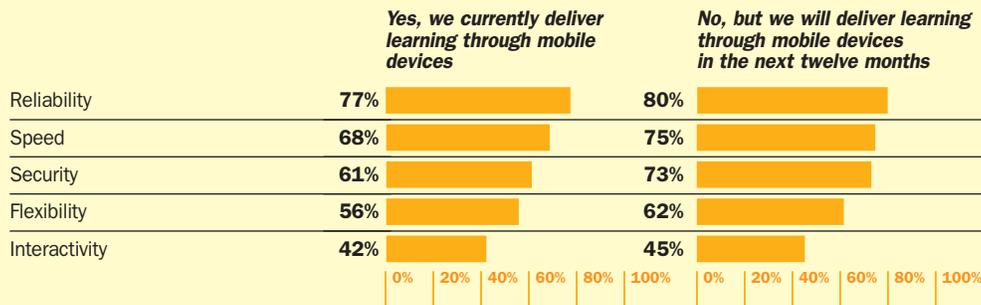
The Importance of Five Key Mobile Learning Features

We asked respondents to rank the importance to their organizations of five commonly identified key features of mobile learning. There was not significant variation between the two groups on this question with the exception perhaps that those who had not yet delivered mobile learning view security as slightly more important than those who already are delivering it.

If we aggregate each groups' "Extremely important" and "Very important" responses, we see the order of importance as follows:

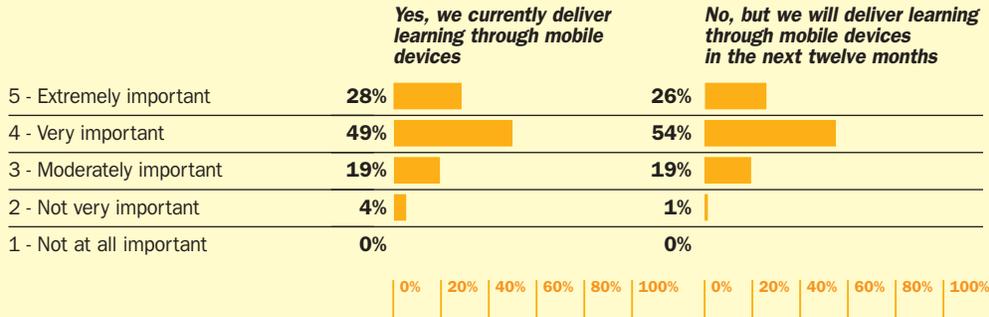
23. On a scale of 1 - 5, how would you rate the relative importance to your organization of each of the following features of mobile learning?

Q23. Key Feature of Mobile Learning

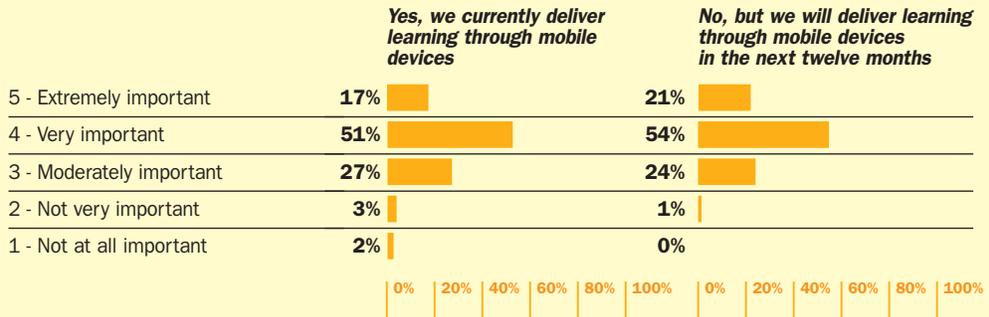


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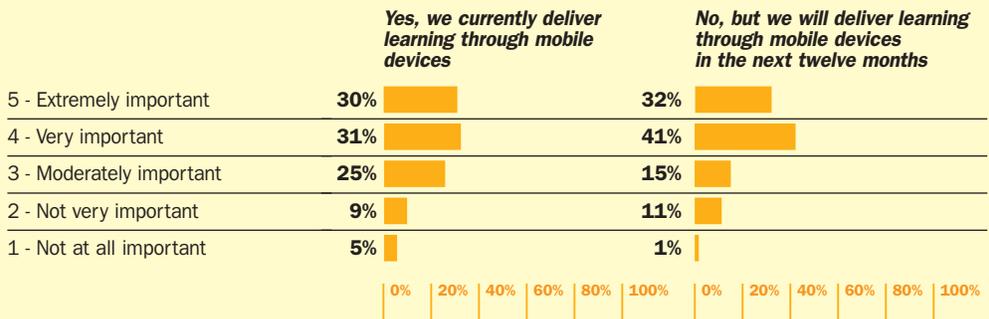
Q23a. Reliability: The content displays in a consistent manner, regardless of browser, device, and screen size.



Q23b. Speed: Pages load quickly. Animations play in a smooth and seamless manner. Streaming media flows at a sufficiently rapid rate.

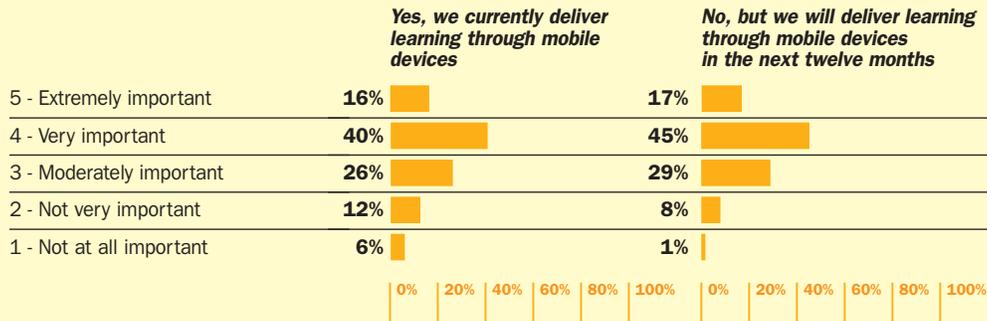


Q23c. Security: The interactive mobile device has protection from worms and viruses. The shared content has protection from being intercepted by unintended recipients.

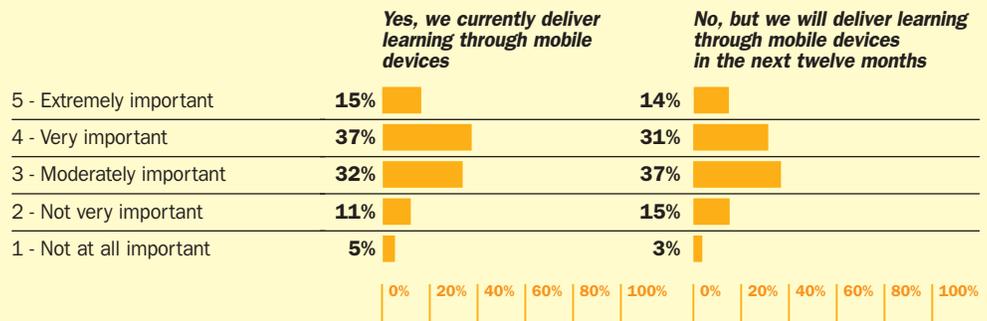


The Importance of Five Key Mobile Learning Features

Q23d. Flexibility: The application is viewable on a variety of devices. Content designed for use with one kind of device or operating system is playable on other devices with expectation of comparable quality.



Q23e. Interactivity: The applications allow users to interact freely with the content.



To Learn More About this Subject

To learn more about this subject, we encourage you to search the following pages on the Guild's Website using the keywords, "mobile learning," "wireless learning," and "Podcasts."

The Resource Directory: <http://www.e-LearningGuild.com/resources/resources/index.cfm?action=viewcats>

The e-Learning Developers' Journal: <http://www.e-LearningGuild.com/articles/abstracts/index.cfm?action=view>

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This survey generated responses from over 630 Members and Associates.

About the author

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Joe Pulichino began his career in education as an English instructor at Rutgers University over 25 years ago. Since then he has held a number of senior management positions in the technology sector where he was responsible for the development, delivery, and marketing of a wide range of corporate education programs and services. Most recently he has served as vice-president of education services at Sybase, vice-president of eLearning at Global Knowledge Network, and CEO of EduPoint. He is an adjunct faculty member of the Pepperdine University Graduate School of Education and Psychology where he is completing his Ed.D. in Education Technology. The focus of his research is on informal and organizational learning. Joe is principal of the Athena Learning Group, a virtual network of consultants and academics working in the fields of learning, knowledge management, performance enhancement and communities of practice.

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About the Guild



The eLearning Guild is a global Community of Practice for designers, developers, and managers of e-Learning. Through this member-driven community, the *Guild* provides high-quality learning opportunities, networking services, resources, and publications.

Guild members represent a diverse group of instructional designers, content developers, Web developers, project managers, contractors, consultants, managers and directors of training and learning services – all of whom share a common interest in e-Learning design, development, and management. Members work for organizations in the corporate, government, academic, and K-12 sectors. They also are employees of e-Learning product and service providers, consultants, students, and self-employed professionals.

The more than 20,000 Members and Associates of this growing, worldwide community look to the *Guild* for timely, relevant, and objective information about e-Learning to increase their knowledge, improve their professional skills, and expand their personal networks.



The eLearning Guild's Learning Solutions e-Magazine is the premier weekly online publication of *The eLearning Guild*. *Learning Solutions* showcases practical strategies and techniques for designers, developers, and managers of e-Learning.

The eLearning Guild organizes a variety of industry events focused on participant learning:



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