



# Effective Mobile Learning: 7 Best Practices

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# EXECUTIVE SUMMARY

Advances in technology are revolutionizing the way people learn. Increasing availability of mobile devices such as tablets and smartphones is reshaping how people access and consume information worldwide, including instruction. These devices make it easy for learners to access most of the training content anytime anywhere, allowing your training to be more self-directed and relevant. Mobile learning is a trend that mirrors learners' preference, saves time and engages millennial workforce. But, how do you ensure flawless mLearning or mobile-first eLearning courses? Here are 7 best practices to reckon with!

*“Mobile learning is a trend that mirrors learners’ preference, saves time and engages millennial workforce.”*

## 7 Best Practices

### Preparation

1. [Clarify Learning Objectives and Capture Learners’ Requirements](#)

*Understand the responsive design needs for your training. Determine the type of primary mobile device your learners will use to access the mobile-first eLearning courses.*

2. [Choose the Mode of Delivery - Adaptive vs. Responsive](#)

*Determine what works best for your needs - seamless fluidity offered by responsive design, multiple fixed layouts by adaptive design or fully-responsive design without audio. Find out which authoring tool fits perfectly for your needs.*

3. [Choose an Appropriate Authoring Tool](#)

*To ensure mobile-first eLearning courses run on different devices, it’s imperative to choose the authoring tool to develop them. Explore 5 popular HTML5-based authoring tools and what makes each of them a strong option.*

## Design and Development

### 4. [Storyboard with the Smallest Screen in Mind](#)

*The limited real-estate of mobile screens is a challenge for visualizing mobile learning courses. Find out 5 tips to make the most of the mobile device's screen-space for effective courses, For instance, creating short courses, chunking the content, and more.*

### 5. [Use Interactions and Multimedia Elements Wisely](#)

*Interactions and multimedia elements that work for desktop-only courses often go completely wrong for mobile screens. Find out 5 best practices for using interactions and multimedia for mobile-first eLearning courses.*

### 6. [Use Graphical and Audio Elements Judiciously](#)

*The available screen-size of mobile devices is an important factor that impacts the choice of graphics and audio for mobile-first eLearning courses. Here are 7 tips to consider while choosing these elements.*

### 7. [Develop and Preview Before Publishing](#)

*Previewing mobile-first eLearning courses while developing and before the final launch assure quality and flawless user experience. Test courses for their functionality.*

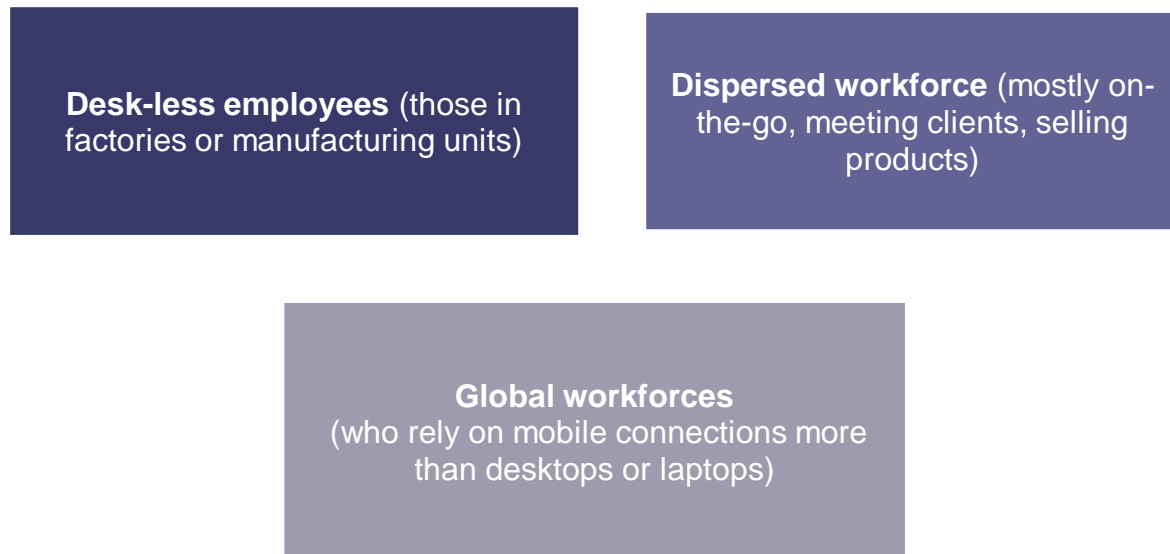
# MOBILE LEARNING IN THE WORKPLACE

The mobile trends have merged with the otherwise static workplace, creating unified and digital learning environment, where technology – information, applications and services – is available anytime anywhere on almost every device. As a [report by Forbes](#) puts forth, “mobility solutions will increasingly serve as a cognitive extension, empowering employees and organizations to quickly acquire new skills, work more and better together, and make better decisions.”

According to a [report by Towards Maturity](#), 64% said accessing learning from their mobile devices is very useful. Moreover, 89% smartphone users download apps and 50% out of that are for learning.

If this doesn't seem convincing, here's what a [report by LinkedIn](#) reveals about Mobile learning. If enterprise apps were made mobile, productivity would increase by 36%.

Off lately organizations are realizing how incredibly easy mobile delivery makes it to offer learning and performance support to:

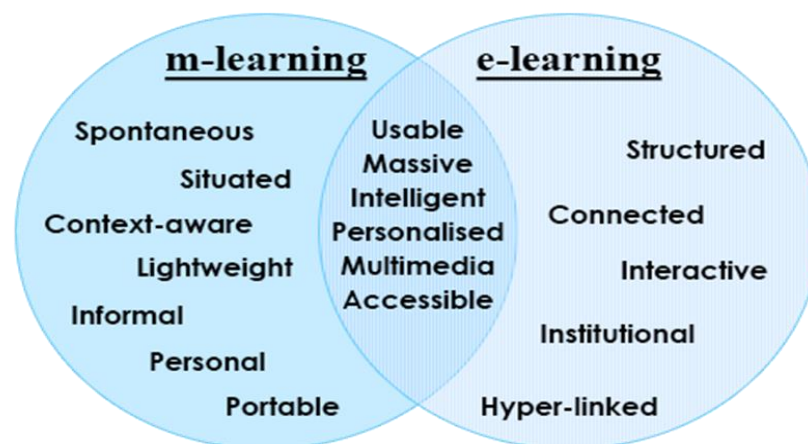


**Figure:** Workforce that benefits the most from mobile-learning

# WHAT IS MOBILE LEARNING AND WHAT IT IS NOT

At the risk of stating the obvious, mobile learning is self-paced online training that can be accessed by learners on their mobile devices, such as tablets or smartphones. Usually, the same training would also be available on desktops or laptops, offering flexibility in terms of learning on the device of learners' choice.

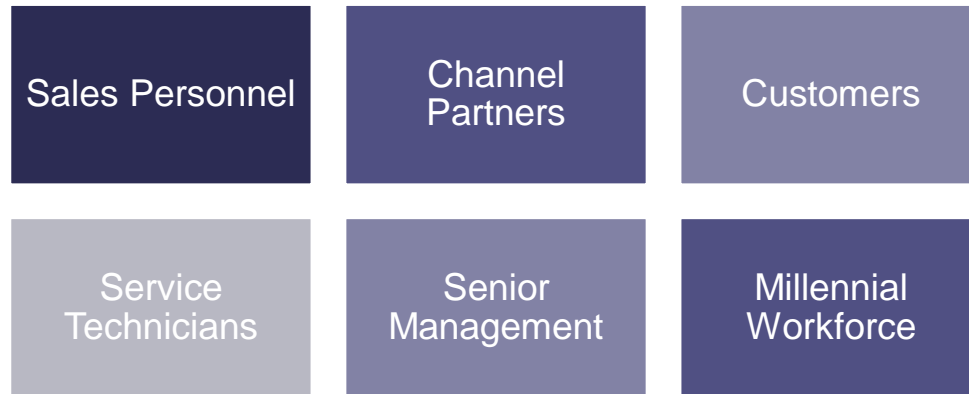
So, does that mean eLearning courses delivered on mobile devices qualifies as mobile-first courses? The answer is NO. Mobile learning takes two important factors into consideration - **learners' mobility and the device used**. Learners are not tethered to one place or device unlike desktop-based courses. The device used is portable, wireless and small enough to fit ones' hand and pocket.



Moreover, contrary to popular believe, mobile learning is not simply interactivities on mobile screens. To ensure effective knowledge transfer, mobile learning courses combines interactive learning with robust instructional design strategies such as gamification, game-based, scenarios, storytelling and so on. It enhances learning while making it engaging and impactful.

Having said so, mobile learning might not be feasible for all audiences. This brings us to the question and the next section.

# WHO ARE THE MOST SUITABLE AUDIENCE FOR MOBILE-FIRST ELEARNING COURSES?



**Figure:** Suitable Audiences for Mobile Learning Courses

- Employees who are **mostly on the field** would benefit the most from mobile learning. These could include your sales team, service technicians who are involved in installation and maintenance of company's products. For instance, learning can be consumed during their commute to work, coffee breaks, even at home. This allows your organization to deliver training more frequently to a wider audience. Hence, mobile devices enable learning anytime anywhere when connected to the internet.
- Your **channel partners** such as distributors, dealers, wholesalers, and even agents for that matter can benefit from mobile learning. They are usually people, who aren't restricted to a specific location and need to visit different locations frequently. Since their job demands mobility and carrying smartphones is a given, providing them learning opportunities through mobile is a better and a wiser decision.
- Your **customers** can also benefit from mobile-first eLearning courses. According to a [report by Google](#) shows 80% use a smartphone whereas 57% percent use more than one type of device. These staggering figures only affirm that it provides an excellent opportunity to leverage the medium. For instance, you can create mobile learning courses on installation of products, troubleshooting guidelines, information on new products, features and so much more. Apart from being beneficial to your customers, it allows you to capitalize this opportunity to retain your customer base.

- **Senior management** is another section who can benefit from mobile learning courses since they use these devices extensively. They are hard-pressed for time and find it impossible to attend training sessions. In addition to that, there's always that looming pressure to keep them up-to date with information regarding their organization and industry. How can mobile help? Implementing a mobile strategy that allows these learners to develop new skills, while performing their daily tasks, can ensure long-term benefits. As [Josh Bersin points out](#), "58% want to learn at their own pace and 49% want to learn in the flow of work."
- **Millennials:** According to a [report by KPMG](#), millennials will represent an astounding 50% of the global workforce. For these digital natives, making their way with technology comes naturally. While they want learning to be self-directed, finding learning opportunities for growth is equally important. How can mobile learning help? According to a [research by Robert Walters](#), 53% of the Millennials say learning new things or having opportunities for professional growth is one of the top reasons that can make them stay longer at a job. A [report by Deloitte](#) points out, employees under 25 rate professional development as #1 driver of engagement whereas employees under 35 rate it #2. Hence, mobile learning solutions not only foster continuous learning culture, it's one of the keys to better talent management.

Here's a chart that sums up benefit of mobile learning for learners and organization.

Benefits of Mobile Learning	
For Learners	For Organization
<ul style="list-style-type: none"> <li>• Access courses online and offline</li> <li>• Offers self-directed, anytime anywhere learning</li> <li>• Acts as performance support as well</li> <li>• Offers engaging formats to learn from such as videos, interactive eBooks, audio podcasts and so on.</li> <li>• Supports collaborative learning with peers</li> </ul>	<ul style="list-style-type: none"> <li>• Saves cost on in-person training to dispersed workforce</li> <li>• Improves completion rates and retention rates</li> <li>• Supports faster time to proficiency and hence productivity</li> <li>• Faster development and updates</li> <li>• Future-proofs training</li> </ul>



# WHAT IS THE DIFFERENCE BETWEEN MOBILE-FIRST, MOBILE-FRIENDLY AND MOBILE-ONLY COURSES?

**Mobile-first or Responsive design** courses are designed to offer seamless learning experience across different screen-sizes, for instance, desktops, tablets, mobile devices and so on. The idea is to design for the smallest screen first (mobile devices) and then move on to larger screen (desktops or laptops). This ensures that your eLearning courses are fully-optimized for mobile devices. Opt for this approach when majority of your learners are going to access learning on mobile devices.

**Mobile-friendly or Adaptive design** courses are again multi-device design, however the notable difference is that on smartphones, the courses map the landscape mode but shrink when viewed on portrait mode. In adaptive design, different templates are created to suit each device, giving more freedom to customize how content is being viewed. This approach is ideal when you have a combination of desktop as well as mobile learners, where the latter forms a minority.

**Mobile-only** courses are designed only for mobile devices, such as tablets and smartphones. These courses are ideal for offering learning in the form of performance support. Since learners will be accessing these courses at-the moment of need, it's ideal to make them micro. Each microlearning module addresses one specific learning point for learners to achieve one actionable objective, quickly.

**Pro Tip:** *Opting for mobile-first eLearning courses at the very beginning works for every situation. Your training delivery can be scaled up even if the numbers of mobile learners increases in the future, ensuring learning is as effective.*

# WHAT GOES INTO DESIGNING EFFECTIVE MOBILE-FIRST ELEARNING COURSES?

In an [interview by Jane Bozarth](#) (for ELearning Guild), Nick Floro, president of Sealworks Interactive Studios said, “I don’t care what you built or how, but I want to be able to use it on whatever device is at my fingertips—whether it’s a phone, tablet, computer, whatever—and if you’re not allowing me to do that, then I’m going to the next thing. We have to realize that instead of going to the LMS, people go to Google. We have to beat Google and build better things to get the right content to our audience.”

Hence, the design of your mobile-first eLearning courses can have huge impact on how engaging, accessible and useful eLearning courses will be. So, how do you ensure effective mobile-first eLearning courses for a broad range of learners?

Here are 7 Best Practices divided into Preparation, Design and Development, and Implementation for you to get started!

## Preparation

1. Clarify Learning Objectives and Capture Learners’ Requirements
2. Choose the Mode of Delivery - Adaptive Vs. Responsive
3. Choose an Appropriate Authoring Tool

## Design and Development

4. Storyboard with the Smallest Screen in Mind
5. Use Interactions and Multimedia Elements Wisely
6. Use Graphical and Audio Elements Judiciously
7. Develop and Preview Before Publishing

## PREPARATION

### #Best Practice 1: Clarify Learning Objectives and Capture Learners'

#### Requirements

Even before you get started with the development process, consider the learning objectives and then the responsive design needs. Find answers to questions such as:

- Can mobile learning meet your training needs?
- Do you need it as standalone courses for formal training sessions?
- Do you think mobile-first courses to impart bite-sized learning will be more effective for your learners?
- Do you just want mobile learning for performance support?

A clear idea in all such aspects helps in planning the learning activities accordingly.

Moreover, consider the needs of your learners and the kind of learning experience that will work best for them. Even more important is to determine the format in which they will be experiencing the mobile-first course.

This would essentially involve gathering information about the kind of devices your learners are using. This helps in determining the kind of design (adaptive or responsive) as well as eases decisions for interactivities, layouts, images and the quality assurance process.

Some of the questions worth asking are:

- **Are your learners going to use mobile devices issued by the organization?** If so, then you know for sure the specific smartphones and tablets you need to design and test for. For instance, many organizations give mobile options but lock learners into specific models, such as Apple or Windows. Hence, decide the primary mobile device you want to deliver learning on.
- **Does your organization follow BYOD policy?** If the answer is yes, it's clear that your learners are going to access on devices of their choice; hence the project must be set up accordingly.

## #Best Practice 2: Choose the Mode of Delivery - Adaptive vs. Responsive

Do you want the mobile design to be adaptive or responsive? Let's look at them closely before you pick the most relevant one.

**Responsive Design** shows content based on the device's available screen space. For instance, if you open a responsive design course on a desktop and then see the same on a tablet, the content will dynamically arrange itself optimally for the tablet's screen space. Similarly, the process is seamless on smartphones where the content is automatically presented in the ideal arrangement. Responsive design is straightforward. Because it is fluid, learners access your online courses and enjoys as much of it on their mobile devices as they would on desktop-PCs.

**Expert insight:** *If responsive design mobile courses are what you're aiming for, then opt for Lectora Inspire as the authoring tool. It offers fully responsive courses with just one-time authoring.*

**Adaptive Design:** While the essence of responsive design is to change the design pattern to fit the available screen space, adaptive design hitches on multiple fixed layouts sizes. For instance, the according to the available screen pace of the device, the course presents the content in the most appropriate layout for the screen. You can have fixed layouts for the most common mobile devices your learners use, such as iPad mini, iPhone 8, Samsung Galaxy and so on.

**Expert insight:** *If adaptive design works for your organization, opt for Storyline 360 as the authoring tool. It offers multi-device compatible courses at an unprecedented speed.*

What if you want fully responsive eLearning courses with no or minimal audio? Is there an authoring tool which caters to this demand? Definitely!

**Expert insight:** *Opt for Articulate Rise if you're looking for responsive courses that inherently adapts to every device type - under the sun. Go for it if you're looking for simple yet impeccable mobile-learning courses.*

### #Best Practice 3: Choose an Appropriate Authoring Tool

There are mobile devices of various types and it is very important to ensure that these devices support mLearning courses. Compatibility issues can ruin a project. Therefore, it is necessary that the right technology be used to develop mLearning. This is significant if your organization is planning to adopt Bring Your Own Device (BYOD) policy, where employees are allowed to use their personal devices for official purposes - accessing mails, making conference calls and accessing office intranet, etc. You need tools that can publish eLearning into the HTML5 format. Since HTML5-based content works well on mobile devices, you need to consider tools that can make your courses run on iPads and PCs. This is where choosing an appropriate authoring tools help you in rapid development of mobile-first eLearning courses in HTML5 format.

Here are some of the popular rapid eLearning authoring tools you can pick from.

Authoring Tools	What makes them responsive
Articulate Storyline 360 and Rise	<p>Articulate 360 offers Storyline 360, Rise 360 and a range of other authoring apps. We like to call it the “<i>Swiss army knife</i>” of eLearning development that offers everything you need to churn out effective courses rapidly.</p> <p>Storyline 360 allows you to build impeccable interactive eLearning courses at an unprecedented rate. The courses can be made multi-device compatible with a single click.</p> <p>Rise is a <i>fully responsive web-based authoring tool</i> and is a part of Articulate 360. All that one needs to get started is a web browser to create beautiful courses that optimizes for every screen size. Rise 360 is an ideal match for text-based courses which needs to be digitized.</p>
Adobe Captivate	Adobe Captivate 2019, is the go-to tool of you want a lot of simulations in your mobile-first eLearning courses. Moreover, mobile learning

	content automatically rearranges for the learner's device. Use the in-product, device-specific preview to see how your project will appear. Publish as a single project and deliver a fully responsive experience to your learners
Lectora Online	Lectora Online is a web-based authoring tool that also harnesses the power of the desktop-based authoring tool. It offers <i>collaborative features</i> that enable the creation and review of mobile-first eLearning courses anytime, anywhere. With one-time design effort, you can deliver full responsive courses to multiple devices.
iSpring Suite	iSpring Suite is one of the most popular authoring tools to convert PowerPoint decks to eLearning. With this easy-to use tool, there's no need for manual tweaking the courses for different devices. Courses published with iSpring Suit, it plays perfectly on iOS, Android, Windows Phone.

Here's a comparison chart on authoring tools that can help you select the right one depending on your need. We've rated these tools on a scale of 1-5, based on our work experience on these tools.

Factors / Tool Type	Articulate Storyline 360	Adobe Captivate 2019	Lectora Inspire	iSpring Suite 9	Articulate Rise
Device Responsiveness	♥♥	♥♥♥	♥♥♥♥♥	♥♥	♥♥♥♥
Audio	♥♥♥♥♥	♥♥♥	♥♥♥♥	♥♥♥♥♥	♥♥
Interactions	♥♥♥♥	♥♥♥	♥♥♥	♥	♥♥♥
Animations	♥♥♥♥	♥♥♥	♥♥	♥♥♥♥♥	♥♥♥
Simulations	♥♥	♥♥♥♥♥	♥♥	♥♥♥	♥♥
Translations	♥♥♥♥♥	♥♥♥♥♥	♥♥♥♥♥	♥♥♥♥	♥♥♥♥♥

## DESIGN AND DEVELOPMENT

### #Best Practice 4: Storyboard with the Smallest Screen in Mind

Once you know the requirements for your mobile-first courses, it's time to use the information for the design phase. While starting with the storyboard, it's important to keep in mind the limited screen-space of mobile devices.

Get the dimensions of the mobile devices first. It will help in getting a fair idea about how much content and other elements can fit on the screen. It helps in visualizing how your eLearning courses will appear on different mobile screens.

Here are some expert advices to your rescue:

- **Create short courses:** If the primary target device is smartphones, it's always better to keep the courses short and targeted. These modules should let your learners complete in short sessions while on-the-go or provide reference for immediate application. Since most of the courses will be viewed on data connections, keeping them long will take longer to load or open, hence hindering smooth learning.
- **Chunk the content:** Since mobile screens do not allow extensive space for content, it's necessary to chunk the text to absolute essentials. This begins by including content that is must-to know instead of nice-to know. Utilize the appropriate information layout methods. For instance, bullets, numbered lists, tables and so on. This makes information easier to scan, read and understand even when the screen size is small. The key is to keep the information short and engaging.
- **Include scroll:** Designing the User Interface (UI) such that it feels like a natural fit for the device being used. Vertical screens with scrolls and fewer clicks are the best!
- **Be Judicious with Visuals:** Keep the GUI simple and intuitive with minimal elements. Instead of cluttering the screen with Jing-bang design elements, it's wiser to keep it clean, easy to read and most importantly easy for the thumbs.

- **Make it easy to scan:** With mobile learning comes inevitable fast scroll-ins. Hence, it's important that the key point stand out. Ensure to place important information at the very beginning, clear headers, icons, numbered lists and more to grab attention. Moreover, the fonts and text sizes shouldn't be easily readable to appeal the learners.

### **#Best Practice 5: Use Interactions and Multimedia Elements Wisely**

Since mobile devices are hand-held, learners will be using thumb or fingers to navigate through mobile-first courses. Hence, it's important to choose interactivities that support tactile navigation. For instance, single-select, multi-select, click-on tabs and so on. Detailed and complex interactivities look good and function well on larger screens; however on smaller screens they can hinder smooth user experience. All in all, avoid interactivities that need cursor rollovers.

Here are some more aspects to keep in mind while choosing multimedia for mobile-first courses.

- Keep animations short and simple
- Use relevant file formats that load easily
- If there are buttons or touch icons for navigation, make them big enough for adult thumbs
- If you want to include additional resources, use icons to link to that information

### **#Best Practice 6: Use Graphical and Audio Elements Judiciously**

To reiterate, while a desktop has enough space to accommodate multiple images and text on a single screen, attempting the same would negatively impact the user experience on mobile devices; they would simply be too small to see. Hence, the available screen size of devices is an important factor that will impact the selection of graphics, media elements as well as onscreen text.

Here are some tips to ensure while using graphics in mobile-first eLearning courses.

- Only include images and graphics that directly enhance the content



- Tie a connection between the text and graphics by placing naturally linked content together
- If you are using multiple images, consider displaying them one at a time
- Avoid using overly detailed images since those details will be lost on small screens
- Use zooming and panning to focus visual attention within your images
- Corresponding words and pictures should be presented concurrently rather than successively.
- Keep practice opportunities with the corresponding exercise. Also, make sure the feedback appears on the same page as the question or exercise.

When it comes to using audio in mobile-first eLearning courses, the learning environment where the learner will access the course should be considered. Textual content works well than narrated text in a mobile course because the learner may be in a situation where listening to audio may be difficult owing to background noise. For instance, factories or a manufacturing unit or even while travelling via public transportation. So keep narration to a minimum and if you want videos in your mobile learning courses, it's good to provide the option to turn captions on and off.

## **#Best Practice 7: Development and Preview Before Publishing**

The final stage in any project, before releasing to your learners, should be testing your mobile-first eLearning courses. There are many aspects to consider when it comes to quality assurance and making sure the user experience is flawless across all devices should be high up on the list.

For this, the preview feature of the authoring tool can be used to check the look-and-feel of the final courses on different screens throughout the development phase and before the final launch. This allows resolving the ambiguities before the final launch of the mobile-first eLearning courses. However, despite previewing, it's always better to test the content on actual mobile devices. What should you test?

- Courses in each orientation - portrait and landscape
- Functionality - tapping, swiping, interactivities

# TRACKING FOR MOBILE LEARNING – SCORM VS. XAPI

Performance tracking for eLearning courses has been achieved through SCORM typically. SCORM is a set of technical standards for eLearning software outputs. That is, it governs how the eLearning courses communicate with the Learning Management System (LMS). It allows content to be loaded into, launched from, and tracked by most LMS using a common rule set. It tracks activities and generates report such as completion, timing, and assessments.

While SCORM works amazing for eLearning courses, we've witnessed the translation isn't guaranteed when it comes to performance tracking for mobile learning courses. The limitations of SCORM arose because mobile learning courses are used in a completely different manner than conventional eLearning courses.

For instance, learners might be frequently going in and out of bandwidth connectivity, they might access the courses via mobile apps and so on. So, how do you track mobile learning courses?

xAPI, the latest eLearning technical standard has made tracking of mLearning activities possible. In SCORM, generally the courses are web content (html, flash, or other, but viewed in a browser). In xAPI the courses can be anything from web content (social media platforms) to mobile Apps, mobile learning courses or even desktop applications. Reporting in xAPI is also more open through the use of a [Learning Record Store \(LRS\)](#) rather than SCORM content that is tied to an LMS.

What really allows the LRS to be particularly useful in mLearning is the ability to live on its own with reporting tools. This is vital in retaining progress and **tracking offline learning** that is common in mobile learning.

# USING MOBILE LEARNING WITH OTHER APPROACHES

While we know mobile-first eLearning courses are amazing in terms of accessibility and enhancing learning experience, there are other approaches with which mobile-first eLearning courses work well. Let's explore some of them.

1. **Mobile Learning and Microlearning:** It's impossible to tout the benefits of mobile learning without discussing microlearning, which uses small bursts of learning to drive job performance and employee development. Consider that employees access information outside of work in bite-sized pieces - through videos, interactive infographics and eBooks, audio podcasts and so forth. Everything is light, easy and in small pieces - which is just how employees on-the go like it. Here are some instances to convince you about the benefits of mobile microlearning modules.
  - For quick refreshers before employees perform a task. With mobile app delivery, microlearning offers contextualized skills that employees can learn and apply immediately in the field.
  - Microlearning modules are media-rich and makes use of various formats to engage learners throughout. Learners can pick the format of their choice and complete it quickly on their mobile devices.
  - Mobile microlearning is more cost-effective than sending employees to in-person training, and learners can use it repeatedly.
2. **Mobile Learning and Blended Learning:** Is there a way you can bring classroom and online together with mobile? Definitely Yes!
  - **Preparation:** In a blended learning solution, thorough preparation helps both the trainer and the trainees. You can push pre-assessments to mobile devices to get a sense of the big knowledge gaps that need to be addressed in the classroom session. The learners can access these assessments, and they can also find material to help them prepare for the training session. Although the

same can be done using desktop computers, mobile adds an extra level of flexibility. It means that these preparatory tasks can be undertaken at any time, right up until the time of the event. You can even push notifications using a mobile learning platform to ensure nothing is missed.

- **During:** Mobile-first eLearning courses can be used as standalone courses. For instance, product training, compliance topics, sales, onboarding or even safety training for that matter. However, what if you wish to use mobile learning with classroom sessions? You can do so as well. For instance, you can let learners view a video of a procedure or process followed by in-depth explanation by a trainer. You can even take assessments on mobile devices for easier tracking and management.
- **Post:** We all know retention of information recedes after the training is over. Hence, it's important to offer refreshers to keep the learning fresh. And what better than using mobile devices to push refresher training! Learners can do so without being bogged down by busy schedules.

3. **Mobile Learning and Social Learning:** Organizations must offer employees a learning environment and tools that encourage them to share their knowledge and experience. The ability to interface with social media and other communication and productivity apps such as LinkedIn, Facebook and Twitter is becoming critically important.

Looking forward, capability for the quick and easy creation and sharing of user-generated content will also become imperative. Social learning is an efficient and cost-effective way to build competencies and improve performance. It also drives greater cohesion and employee engagement. If your organization is planning to tap into the potentials of social learning, there's nothing better than doing so with mobile-first eLearning courses.

## REFERENCES

1. [https://i.forbesimg.com/forbesinsights/ibm\\_the-mobile-workplace/The\\_Mobile\\_Workplace.pdf](https://i.forbesimg.com/forbesinsights/ibm_the-mobile-workplace/The_Mobile_Workplace.pdf)
2. <https://towardsmaturity.org/2016/02/01/in-focus-consumer-learner-at-work/>
3. <https://learning.linkedin.com/content/dam/me/learning/EMW/lil-guide-4-ways-engage-workforce-mobile-learning.pdf>
4. <https://www.thinkwithgoogle.com/advertising-channels/mobile-marketing/device-use-marketer-tips/>
5. <https://joshbersin.com/2018/06/a-new-paradigm-for-corporate-training-learning-in-the-flow-of-work/>
6. <https://home.kpmg/content/dam/kpmg/uk/pdf/2017/04/Meet-the-Millennials-Secured.pdf>
7. <https://www.robertwalters.com/content/dam/robert-walters/corporate/news-and-pr/files/whitepapers/attracting-and-retaining-millennials-UK.pdf>
8. <https://www2.deloitte.com/us/en/insights/focus/human-capital-trends/2014/hc-trends-2014-introduction.html>
9. [https://www.elearningguild.com/insights/236/creating-accessible-elearning-practitioner-perspectives/?utm\\_campaign=research-acc19&utm\\_medium=link&utm\\_source=research-exsum](https://www.elearningguild.com/insights/236/creating-accessible-elearning-practitioner-perspectives/?utm_campaign=research-acc19&utm_medium=link&utm_source=research-exsum)
10. <https://xapi.com/learning-record-store/>