The eLearning Coach Podcast #21
ELC 021: An Expanded View of Mobile Learning
With Chad Udell

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Connie: Hello learning people, welcome to Episode 21, where I will be discussing mobile learning with Chad Udell. Chad is the Managing Director at Float Mobile Learning, and the author of two excellent books on this topic, *Learning Everywhere,* and *Mastering Mobile Learning,* which was co-authored Garry Woodill. I think you will like this session because Chad has a very broad perspective of what mobile learning is and can help you realize that there are so many ways to go mobile. Here is the interview.

Connie: Hi, Chad, thanks for being on the e-Learning Coach Podcast.

Chad: Hi, Connie, thanks for having me.

Connie: Just to make sure that we're all on the same page, can you just give your definition of mobile learning since that's what we're going to be talking about?

Chad: It's a definition that has evolved over time. If you had asked me five or so years ago, I probably would have been focused on the devices and technology and the fact that these are small screens, and so on and so forth. But now where I'm resting my definition of where mobile learning is, it is content that serves the learner, the user, when they are at the point of need, when they're on the go, when they're away from their desk. I really focus on the fact that the real mobile in mobile learning isn't necessarily the device, but rather the learner themselves.

Connie: I like that definition, because a lot of people get hung up that it is a tablet mobile kind of thing, but you're right, it's the context that really defines it. How widespread is mobile learning now in 2015, are there any stats or numbers on it, like how many people are using it or how many organizations are using it?

Chad: There are a number of studies that get published annually, ATD and The eLearning Guild both publish a lot of numbers, and we're starting to see some pretty decent adoptions. ATD's going mobile report from about a year and half ago said that

about a third of organizations either have some mobile learning in place or are planning on putting in mobile learning within the next six or twelve months. So given the fact that that report is about a year old, and we're setting it somewhere around a third, the more interesting numbers though are the ones that really can't necessarily be proven truly, but you can see it every single day when you're out there shopping, when you are going around at a restaurant or whatever and you see people using these devices. And, sure, some of them are playing a game, playing Clash of Clans or Candy Crush or something like that, but a lot of them are looking up information, they are using it to recall what the recipe was that they wanted to make for lunch tomorrow, they're using it to get work done when they're away, they're sending emails, they're doing things that make them productive. And I would argue that almost any of those types of contexts, especially if you're using the device to gain knowledge, to make yourself better, to augment yourself in a situation, then you're mobile learning. So the whether or not the companies are paying for some of the content that gets produced, there is a lot of mobile learning going on at organizations that companies may not necessarily even be registering as learning or traditionally learning.

Connie: That's a really good point. For people who aren't familiar with mobile learning, and even for people who are, can you can give us two examples of how mobile learning might be used in the world of training?

Chad: There is a simple view of it that you could move your content over from the desktop computer experience, the traditional e-Learning situation, over to a mobile. Read-only content that has been reformatted properly and has been redesigned and re-contextualized for a smaller screen and for somebody that's on the go. That's a very simple and easy view of what you could be doing with mobile learning. But even in traditional instructor-led training situations, classroom situations, mobile tools are great for things like research, collaboration, communication, sharing assets, a secondary stream to produce augmented content that might reinforce materials that are already being presented in the classroom. So not even what you would consider "an app" per se, but something that simply is making the classroom experience richer and more interactive. Those would be two quick examples that you could probably use to bring mobile into your existing training programs pretty easily.

Connie: In your book, you and Gary Woodill write about five types of mobile applications that can facilitate learning. Can you briefly describe the five types so we can sense of the possibilities?

Chad: Absolutely. They rest around the C's, and these are concepts that were brought forth first by Clark Quinn's book from 2011, *Designing mLearning* on Wiley. We're talking about concepts that are available either inside or outside of the organization, and we're bringing it over from another format, we're converting it essentially, and then accessing it through the mobile device. This would be everything converted PDFs, and videos, and eLearning courses, and things like that, but it has just been reformatted and brought over to a device. So content that's converted would be one first type.

Content that's captured by mobile devices would be something that is different, so this would be the use of the device as a camera, the device as a recorder, the device as a data-gathering device. If you have an iPhone 5s or iPhone 6, you may be using it already for motion tracking, you're using it for replacing your Fitbit, and that's capturing data all the time, it knows where you are, and in the background it is logging your steps and locations that you're already been that day. That's content that you're creating, and that you can use later to learn how much did I walk to day, how much did I interact with this particular environment that I'm inside of, whatever it might.

Obviously these devices are communication tools, so there is no rule against using these devices as phones, and you can learn a lot when you just talk with people. You can also text message them. You can use a variety of different chat platforms, whether it be Snapchat or WhatsApp or Facebook messaging or something on those lines. I think we have set this podcast up originally via a lot of Facebook messages and other types of things, and by and large I think almost all those message came through my mobile phone. These devices are powerful computers as well, so obviously they can calculate things, they can connect to databases, they can use applications that can algorithmically provide information to you that you didn't even necessarily know that you needed, based off of where you are, information that you have already accessed in the past, information that people like you have already accessed in the past. So all these types of content, computationally augmented content, can be made available to you.

And then last, but certain not least, what you already mentioned at the top of the podcast was contextual content. This is content that is informed by and shaped by the environment, the time setting and intent, to help you generate questions, or pull information from it, or perhaps even do contextual or location-based games or learning, or perhaps even way finding tools. I travel a fair amount for work, and I use my device all the time to learn about the environment that I am in and around.

Connie: So augmented learning would come into that category?

Chad: Absolutely. Augmented reality is an interesting thing because it is a combination, it is content that has been captured by the mobile device, it is obviously bringing images in, but then it is also computing over top of that, it might be adding an extra layer of data or something like that, and it's completely contextual. So the best mobile learning I wouldn't say is one of those five types, but rather a combination of those in some way, shape, or form.

Connie: One thing that would be such a good application for mobile would be people who are out in the field, who are experts, generating content. Say, you're a home inspector, and you have people that you want to train, you can take these pictures of all the things that can go wrong and then send them to people, "Here is an example of flooding in a basement," or something like that.

Chad: Absolutely. Mobile devices as data gathering tools are really great for analysis and recording of information. But because they are communication tools, you can absolutely use them to share best practices, but in this case, like you've just stated, worst practices or worst case scenarios too.

Connie: I see what you're saying about the combination really working well. When you have a client, and you have discovered that the person has a true reason for using mobile, and you're thinking about the design for this, what kind of process do you use, do you sketch, do you use wireframes, what kind of design process do you use?

Chad: We absolutely do use sketches and wireframes, so don't just jump right into producing code or something like that. But even a step or three back from there, we do a pretty robust amount of real problem analysis. We try to get to the root of what it trying to be solved here, we don't want to merely treat some sort of systems. And I think that that's something that we get caught up in in learning a lot, we're not actually solving the root problem, but rather trying to fix it after the problem is existing. I always use this joke, and I think I may have heard this originally from Cammy Bean or Jane Boser, I don't know where the source came for this exactly, but it was training oftentimes just gets caught up in trying to fix it and post, if you've ever heard that phrase before 'fix it and post', like referring to shooting a movie or recording a podcast, somebody makes a mistake and then they go back in after it has all been recorded, and then they edit the problem out.

Connie: Like post-production.

Chad: Yeah, post-production. And I think a lot of times learning and development gets hooked up and caught into this nasty feedback loop of being the 'fix it and post'. We have crummy software or you've got a terrible tool or our people are badly hired and incompetent, so therefore we're going to try and fix it and post by either training intervention, putting them through an eLearning module, getting them a certification, so and so forth. I'm not trying to say that I'm against educating our workers or trying to make them better, but oftentimes really mobile has an opportunity to fix it in pre-learning, and that is providing and creating a positive work experience through augmentations.

So before the mistakes are even made, you make a stellar, excellent choice in terms of solving the problem with a mobile productivity solution and augmentation that doesn't allow the gap in training to even exist in the first place. And this doesn't happen though simple sketching and wireframes, but rather through an analysis of what the true business problem is that is trying to be solved, getting to the root of that, and saying is there a way that we can solve that with a mobility solution that prevents or reduces the problem from actually even occurring? I can give you a quick example of this.

For example, a retail associate gets a fresh palette of products off the truck and is going to have to stock those products on an endcap, like one of the end displays, and this will something that will be a very standard kind of thing that will have some sort of a manual, like a little printout, a PDF sheet, that would show you here's how you should stack them, here's how you should merchandize them, here's how you should scan them all in and make sure that the skews are appropriately put in the right spot so that they can be scanned and check out, so on and so forth. Here is how you put the signage up, here's how it should look, and then people will want to buy whatever this product it because it is attractively laid out. That could be something that is trained, that could be something that is a common merchandizing 101 type of course that could be taught to a retail associate, but we don't want to typically take a retail associate off of the floor – training is time consuming – so from a mobility solution what you could do is in a store's retail associate application – hypothetical application, I'm kind of concepting here – you could actually use that to not just show how the merchandize should be placed on the shelves, but actually the device's camera to then acquire an image of the end situation products on the display and assess whether or not they've actually been put there properly. Now, did the associate learn anything? I don't know. But did they make a mistake? No, they didn't.

Connie: Also performance support could help in that situation too, right?

Chad: Yeah. And I don't really want to divide the difference between learning and performance support or augmentation. I would like to break those types of walls down. Oftentimes the learning and development organizations get hung up on that word 'learning', and they think that everything has to be quizzed and assessed and we have to make sure that they got all the content and figured all this out and that three months later they still retain it.

Honestly, my parents have lived in their new home – it's not the home that I grew up in – for about seven years, and I still don't think I know their home phone number, but I call them almost every single week. I know the area code, if I thought about it for a long time I could probably punch it in, but I've never have learned that phone number. I still don't know their mailing address off the top my head, but it's in my phone, it's my computer, I have it when I need it. Do I need to remember how to do that? Does the average retail associate need to remember exactly how to merchandize or put an item on the shelf in order to say that they're good at putting something on a shelf? They really don't. Now, I don't want my pilot or my surgeon or a skilled position like that relying on performance support charts in order to perform their job well, but I don't want to make that not available to them either.

So you wouldn't want, for example, your surgeon to have to look at a mobile application to know where to cut for your appendectomy, you wouldn't want that, that would be a bad situation. But you may want your family physician to have access to a formulary that understands drug interactions and make sure that if I'm allergic to this then I shouldn't give him that. We want to be able to have some performance support tools available for skillful positions as well.

Connie: That's where your analysis comes in. You really have to look at is it a one-time thing, such as the way the merchandizer was putting things out, this is going only going to happen one time because every display is different, so that's not important. But there is another one-time thing, like checking out if these two drugs interact, maybe it's rare but you still need to look it up and know it. You really have to do that analysis. Then what do you do after your analysis?

Chad: Once we have an idea of what the problem is that we're going to solve, we do try to get right inside the head of that worker. So whenever we can we try to take a site survey, find out what their views are on the problem, how they could make their days a little bit easier, and then from there immediately start to talk about the content that makes that ta reality.

There is the saying that was tweeted by Jeffrey Zeldman, who is well-known web designer, very strong in the standards community from years ago, he said, “Design without content is decoration.” As soon as you start laying things out on to a page, you start creating sketches, wireframes – I don’t care if it’s paper or digital or on a whiteboard or whatever – as soon as you start putting shapes, representational shapes, of what is going to be on a page or a screen or an app or whatever, you really need to have an idea of what the content is, because otherwise you’re just moving shapes around, you’re moving objects around. If you don’t have an idea of exactly what’s going to be presented to the user, what’s interactive, what’s pulling from a database, what needs to be created, you’re going to end up with a whole lot of screens that have that "*Lorem ipsum dolor sit amit*” Greek text all over it. And that’s the sign of a design that hasn’t really been truly concepted or created with the user in mind. If you have no idea what the content is that is going to be on that screen, you’re probably jumping too far into design too quickly.

So once we have the content done, then we move into sketch and wireframes, and then we would move into prototyping type of phase where we’re actually building something that’s interactive, and really only at that point do we begin to pull out the Photoshop and try and make it look and feel like the company or the organization’s branding standards guidelines and so on and so forth. Color pallets, iconography, and all those types of things, while there are certainly visual language tools that need to be remembered, while there are certain things, red text should be used for errors, something like that, which is very simple examples of standard based designed, those come pretty quickly, but actually determining while this company’s logo is orange and their font is Trebuchet and stuff like that, all that can come after the fact.

Connie: What kinds of mistakes do you see people making in the field, people who are trying to do the content type of mobile leaning? We know now that mobile learning isn’t eLearning on a small screen, so what kind of mistakes do you see people making when they start out designing?

Chad: One of the most common mistakes is that everybody just wants to shoot their content with a shrink ray. It’s like, “Honey, I shrunk the eLearning,” as a bad cliché. And really that even goes for just a simple realignment or moving some content around. Even shrinking the buttons, making all that stuff, that’s a really bad example of what the worst case scenario is. I haven’t seen truly a wholesale shrink ray kind of approach to eLearning on a mobile device in quite some time, so I think a lot of that is starting to get through and people are stopping with some of that. But at some level there is still a very

strong disconnect between designers that have had a very deep amount of experience and are extremely well-versed in interactivity models and user experience on a desktop computer, versus ones that are already familiar with the types of things that are on a mobile phone. In a mobile phone there is no hover, there is no mouse over it. The idea of exploratory interfaces for eLearning is often used as a way to enrich the experience and try to make it more interactive and engaging – for better or verse, there are arguments on both sides of the fence in terms of making the interface a little bit exploratory and engaging in order to facilitate and assist with learning. On a mobile side of things, we're not looking for trying to create a rich experience, an immersive experience. Unless you're building sorting like a game, the best experience on a mobile device is one that gets out of your way.

Connie: Where the use interface is transparent, essentially?

Chad: Very minimal. eLearning is so bad sometimes, they are having so much space devoted to what's known in the industry as 'user interface chrome', and so much of the interface is taken up with menus and buttons and sound controls and back buttons and next buttons and pull-downs and flip-outs and glossaries and think of all of the things that you could cram on an eLearning screen and then think about where would all those elements go on your mobile application. Wow, that would be one cluttered interface! And a lot of times people will still try to put all of those same elements on a mobile device and a mobile experience, and that's one of the biggest faults that I see.

Connie: That's a good point. I know when I was designing my *Instructional Design Guru* app, I just had to strip everything away and make it so simple, basically you click on a word and you get the definition, and that's it. Because it's reference, I wanted to put in pictures and more interfaces, and I just had to strip it all out.

Chad: You start to cut some things out. I actually saw a really excellent talk last year at South by Southwest, there was a panel and it was called Feature Assassins, some guys from SoundCloud were there, and there was a variety of other mobile-focused kind of rich experience. SoundCloud is a cool application, I can listen to music, I can record music, I can comment on music, I can share music, I can consume it. And their ethos with their mobile experience especially is if a feature goes into an application then another feature has to come out.

Connie: That's truly minimalist. So why don't we get into implementation. I know many mobile applications require a programmer, how do you feel about using standard authoring tools and publishing to HTML5 to make mobile learning?

Chad: It's probably not too much of a surprise based off of the conversation where it has gone so far. When I go out and speak at these events I don't have too high of a view or too favorable a view of the current state of affairs in terms of the traditional rapid eLearning tools and what they output for mobile, I think that many of them are still taking very much a sledgehammer approach to just pushing the content on the mobile device. I am very focused on the user, I am very focused on the user experience and user interface, so I want to produce something that is really easy to use, is navigable, is focused on a mobile-first experience and then can scale up from there.

I think the tools are getting better, the most recent versions of a couple of the major tools that have been out there have added things like responsive designs, the implementation I think is still non-standard, like they're not using traditional or really true HTML5, CSS, Media Queries, and all the types of things really strong web design tools use, but they are coming along. Honestly, one of the best tool that many people already own, to start to produce some mobile-first content, would be to dust off Adobe Dreamweaver and dive back in. As a web design tool it's pretty easy to use, you can still do a lot of drag and drop and WYSIWYG types of operations in it, but it is producing a much more standards-based content than that's out there. Some other things that people should look at if they have even a modest amount of programming experience, just HTML and CSS, they should be looking at some of these CSS and HTML5 design frameworks.

There is one that is very popular out there called Bootstrap which was originally owned and created by the folks at Twitter and has open source since, and a lot of tools have been on top of that. You can build some really great user experiences on their foundation. There is another CSS framework that's out there that you can use to create some really great mobile experience, AngularJS, it's a framework for building functional tools inside of HTML, you can do some really great stuff. There are things that are out there that produce really good content and really good mobile-focused content. You might just have to look outside of your typical learning toolkit, if you will, to produce some better mobile experiences.

Connie: I will upload links in the show notes so people can get access to Bootstrap and Foundation and Angular. Your book presents some several inexpensive ways to implement mobile learning, can you name a few of those?

Chad: Sure. First and foremost, if there are some applications that your organization is already starting to use that might have mobile experiences available to them, jump in and put some of your learning content in there. If your organization is already using Dropbox or Box.com or some mobile friendly version of SharePoint or something like that, is your content available on that platform, have you already started to move and put your information out there and made available? There are a lot of applications out there that are already in the marketplace that can be used for productivity and performance, everything from Trello, and Wunderlist, and even the built-in Apple reminders application, those can all be used for productivity, getting things done, and making checklists. Checklists are a very vital part of performance support, and they're really an easy way to close gaps pretty quickly between the best practices that people that know what's going on and the people that are brand new and forget a step a two every once in a while. So making your content available in a format that's on a screen that they can have with them is pretty easy. There are a lot of applications in the app store already that are focused on business, you don't necessarily have to start out and built all your own apps from scratch in order to start to enjoy the benefits of having mobility-focused solutions and enhanced performance and productivity.

Connie: Good suggestions. You want to explain a little bit about what responsive design is and how people can deal with the variety of screen sizes that exist today. Are you always using Media Queries or are there other ways to deal with it?

Chad: The technical implementation, yes, it should be focused around using the CSS3 syntax for Media Queries, that's really what we're talking about in terms of the technical end of a responsive design, but from a more ideological view of what responsive design is, that is making the content and the user interface adaptive and responsive in the sense of it changes and reformats itself based off of the screen size, the device real estate, and the pixel resolution that is available. So a smartphone that has a 3" inch screen or 3.5" screen which will be small by today's standards. That would be like an iPhone 4s or something like that, which is a lot different than, for example, a Samsung Note, which has a 5.5" or 6" screen, which is different than a 9", which different than any variety of other permutations, dual screen devices, foldable surface tablets, all these other types of things. Really what we're trying to do when we create responsive content is make something that we have some degree of confidence is going to still be useful and good content for a user, no matter the device or form factor that they're on.

Connie: It's really a challenge. I do website design and it's quite a challenge to try to make it look good on many different platforms.

Chad: One of the things that a lot of people need to do is they need to get over it and let a few things go, let a few things go, everything is not going to be perfect on every version of every Samsung device. What you're going for is the best experience that you can on the widest user base that you can have.

So take a look at your analytics, take a look at Google analytics or other analytics platforms that you might already have in your website, determine the devices, the screen real estates and so on that people are on, and try to develop a solution that works most of those types of devices. When I worked at a major media platform doing the web design for them – this was back in the early 2000s, it was like the dark ages of web design – we had 2% role. If there was a specific device, web browser configuration or whatever that was over 2%, then we designed rules and allowances that would work and allow them to at least see the content and be able to click on some of our advertisements. And then at 5% or 7% we started to make an experience that was better. Then at 12% we started to acknowledge that this is a pretty significant portion of our audience, we should make it really good. So you should be looking at it from that kind of perspective, what's the least amount of harm that you can do for the most amount of people in order to make them be able to enjoy and use your content.

Connie: You really can't pleas 100%, but you try your best. Before we wrap up, I just have on last question, I was just wondering if you have thoughts about what's in store for the future of mobile learning?

Connie: Some broad strokes, I think that people are going to start to see more and more applications that are on the periphery of eLearning that can be used for learning tools. I mentioned a few of them on this podcast, basic productivity and checklist applications, the advantages of using everything from Evernote to Trello, to get things done and to help people understand what they need to do in order to perform their job better. All of those types of things I think are only going to expand as businesses start to build more and more of these devices in people's hands. And as they recognize that almost everybody has them in their hands, they're going to say how can we make these people a little bit more productive without breaking the bank, so they're going to look for these types of experiences that are easy to implement and are already based off of products that are in the marketplace. I think that's a very near horizon. Long view is augmented reality, wearable technology, ubiquitous computing, and data-driven or algorithmically-designed content, things that are smarter than you are, notifications that

let you know that something is about to go code blue before it actually does. So you are an informed and empowered employee, not just somebody that is stopping the bleeding or closing the gap, what you're doing is you're actually fixing it before the gap or the bleeding even occurs.

Connie: We could all use that, couldn't we. Thank you so much for giving us your time, Chad, this was a great conversation.

Chad: Thank you, Connie, it was a pleasure being here.

Connie: I hope this conversation inspired you to think of mobile learning in new ways and to realize that you may be able to enhance employee performance and to solve problems with a mobile strategy. You can find the show notes for this episode at the Elearningcoach.com/podcasts/21. Please stop by and share your experiences with mobile learning in the comments section. Talk to you next time. Take care.