The eLearning Coach Podcast #38
ELC 038: Learning Games, What Works and What Doesn't
With Karl Kapp

Welcome to the eLearning Coach Podcast, online at the eLearningCoach.com. I'm Connie Malamed bringing new ideas and tips for success with creating online and mobile learning experiences.

Hello learning people, welcome to Episode 38 of the e-Learning Coach Podcast. It is so good to be with you again. Today's podcast focuses on games and gamification. I'm speaking with Karl Kapp, professor of instructional technology, and author of several books on learning games, including The Gamification of Learning and Instruction, The Gamification of Learning and Instruction Fieldbook, Learning in 3D, and his new book written with Sharon Boller, Play to Learn. Karl is a true learning game geek and it is so much fun to speak with him. We talk about trends, game strategies that are motivating, commercial tools, common novice mistakes, and so much more. I've links to all the resources we discuss so you don't have to take notes. You can find the resource links in the show notes at theelearningcoach.com/podcasts/38. Here is the interview.

Connie: Hi Karl, welcome to the eLearning Coach Podcast.

Karl: Thanks Connie, great to be here. Thanks for having me.

Connie: I can't wait to get started talking back games, gamification, VR. You do spend a lot of time talking, writing, consulting and speaking about games and gamification, what kinds of trends are you seeing that relate to workplace training?

Karl: I'm seeing a couple different trends that I think are really interesting. The first trend, really a general trend, is that there is less hesitation about using games and gamification in a corporate environment. I think even six, seven years ago there was a lot of pushback on games and gamification, and now there's not as much pushback, so I think that's really an exciting thing.

The second thing I'm seeing that I think is interesting is people are more and more interested in developing their own games. I do a workshop on how to crate games, and I find more and more people really saying 'How do I do this for myself?'. So the question has changed from do games and gamification and work from a learning perspective to how to I develop a game for learning. And then, finally, I'm seeing a really interesting in the space of gamification this stratification of different types of gamification. So some of the vendors are doing gamification where you play a little game and then you get asked a question. Some are doing gamification where it is competition based. Some are doing it where it's more progress based, like you're answering questions and you're moving your race car around the track, I see that some are just doing badges, some are tying gamification to micro credentialing. So I'm seeing this real fragmentation of gamification software, and I think the neat thing about that is it is now giving people opportunities to

match their organization to the type of gamification that fits best. So if you're really competitive, there's one type of gamification; if you're more collaboratively, there is another kind of gamification. So it's really interesting how it's starting to fragment.

Connie: That is interesting. As you were describing the different types of gamification, it seems to me that the concepts of games and gamification are kind of running together and blurring, is that so or is that just my weird mind?

Karl: It's not your weird mind. There's definitely a confusion or a blurring of the concept of a game or gamification. And I find that interesting as well, because I tend to think of a game as a self-contained experience that has a very definitive beginning, middle and end. And gamification I tend to think it's adding game elements to things that are more spread out, they don't take place in a specific space, they take place over time. So, I think that's the difference. And then people say how many game elements do you add to gamification before it becomes a game? And I don't know what the answer is, I would say three, the same it takes to get to the center of a Tutsi Pop. But I saw some really interesting research the other day that said a gamified approach from their analysis seemed to work best when it had about four game elements, assuming that we can have four game elements and still not quite have a game, just have gamification. But in the end I use gamification as a cover. When I talk to somebody and they say we're interested in gamification, I say, well, what is your definition of gamification? And then some people will be like full blown simulation and all that kind of stuff, which really isn't gamification, that's simulation or game design. And then somebody will say I just want a couple of points or badges, so I kind of see where they are. But in the end what is really important to me is not whether you call it a game or gamification, it's whether or not there is a level of engagement and interactivity. And I think if we can get to that from a learning design standpoint then we've really gotten where we need to be. So I kind of fudge on the two. Academically we have really involved differential definitions, but I think practically there is a lot of overlap between the two.

Connie: When you were talking about four game elements, can you give me an example of what you mean?

Karl: I start with what is called the evil trifecta of gamification, and that's points, badges, and leaderboards. And those are the easiest things. You log into a system and you get points, and if you logged in more than somebody else you get on the leaderboard, and then you get badges for being on a leaderboard. To me those are also the least interesting elements of games. People don't really play games just for points or leaderboards or whatever. What we play games for are things like mastery or story, we like to get involved in a story. We play a game because we're allowed to explore an environment or explore a different approach, so exploration is part of games. We play games because we get to know certain characters and identify with the characters, so a character is an element.

Feedback is an element of games that is really helpful for people, corrective feedback. The really interesting thing to me about games is they will correct you and you feel good

about being corrected in a game, so you're like yeah I'll do that again, okay that makes sense. For example, let's say you're playing a first-person shooter, you're shooting all these bad guys who are coming at you because you're trying to steal the gold, now if you run out, your character gets shot and you die right away and you have to start over. That's corrective feedback that's telling you, hey, don't run out in the open, take cover as you try to progress forward. Now, there's not a message a note that tells you like that, but once you see, oh, my character cannot run down through the middle of this and make it, so now I have to adapt and change. So that kind of immediate feedback without hitting you over the head what you are supposed to do is really a great tool in games, and something that we don't take advantage of enough.

And then also I always say freedom to fail. In most learning environments failure is bad, you've only got 50% on this multiple choice question, now you've got to go clear back to the beginning and start all over again answering all these questions and learning this content again. But in the game you're almost expected to fail. You start with three lives, which basically assumes you are going to lose one or more of those lives, and you learn through this failure mechanism. And I think that's something about games that we tend to overlook.

So if we add things like freedom to fail, you add story, you add characters, you add a sense of mastery, a sense of progression, those are all things that games have that really make for good instruction above and beyond the points, badges and leaderboards. Although they can be used intelligently, if points give you information about how well you've done, if you could score ten possible points but you only scored five, you know, hmm, I did half as well as maybe my potential. So, points can be good in that way, and leaderboards can be good in terms of their self-defining goals. So when you see a leaderboard you know right away what you're supposed to do, nobody has to explain it to you. Well, the goal of this leaderboard is to get to the top, we know, so if we design leaderboards well we can compete against those leaderboards. And especially I saw an interesting product today that had your personal leaderboard. You know there is that commercial 'Do better than yesterday'. And if you think about gamification as how can I do better than what I did yesterday, versus how can I do better than a coworker, I think that's a really good way to incorporate that into some gamified approaches.

Connie: That's interesting. So you're talking about the statistics about yourself.

Karl: Exactly, how well you did. This is a really interesting tool in that it was tied to key performance indicators and so your baseline basically was what you did last week in terms of your KPIs, and then you measure your progress against last week's score, if you will. So I thought that was very interesting.

Connie: What is the name of that software?

Karl: That's Game Effective, was the name of that particular software, and they did a project for Microsoft, and so that was kind of the template that she was showing me.

Connie: Can you talk about some of the tools that are available for implementing games and gamification?

Karl: There are a ton of tools. If you're looking at gamification, there are a lot of different tools. One tool is by a company in Canada called Axonify, they do gamification. There's another tool called mLevel, the company Bottom-Line Performance has a number Knowledge Guru, they just released a new tool called Drive. There is a tool called QStream that's out there. There are companies Badgeville, Bunchball that do gamification. There is one called Insight Hub that does gamification. There is Open Badges. There is an open badge initiative that anybody can tap into, which is a software to give folks badges. There are even plugins for WordPress, gamification plugins. If you look on the education side, Desire 2 Learn has what they call a game module that allows you to add game elements to your instruction that way. There is a company in the UK called Growth Engineering that has a gamified learning management system. So those are the tools.

Then if you want to get into the development side, there are companies like Designing Digitally that will create learning games for you. There is a company called Enspire Learning. There is a company called Muzzy Lane that has both custom development and tools that you can use. Sometimes we use a tool called Construct2. I have a game that I developed called Zombie Sales Apocalypse, which is so much fun. We developed that there with Unity. Unity is a really powerful tool for development. Amazon just came out with a tool called Lumber Yard. There is a company in the UK called Sponge UK that does a lot of work in the US. Louise Pasterfield does a lot of game development there. So there are really a lot of opportunities for people to look at both software tools, vendors, if they don't feel comfortable developing a game themselves, or even gamified platforms that you can tap into. And there are more every day. My list of vendors is not an endorsement, it's simply off the top of myself, who are some vendors that are out there.

But you need to find the right vendor for your company personality and for the goals that you're trying to achieve. So you want to ask questions about what does the feedback look like, what do the esthetics look like, what are the mechanisms you're using to tie learning objectives to game mechanics and figure out what works best for your company. There is no one-company-fits-all. Allen Interactions does a lot of stuff, Michael Allen's company. So there are lots of different opportunities to work with different kind of vendors.

Connie: I am so impressed that you had all of those off the top your head. I was certain that you were reading a list that you had taped to your wall.

Karl: I am up to my elbows in vendors all the time. But that's what is kind of exciting, because there are always new vendors and they're always doing new stuff, and to me that's what keeps me excited about the field.

Connie: It is really exciting. I think that one of the things that people get so frustrated about is that they may not have budget to work with another company, they may be expected to work in-house, so that means that they are trying to build games with your typical authoring tool. Have you seen any games that actually included randomization or had real game structures that are made in your typical, top of the line authoring tools?

Karl: The top of the line authoring tools may get a little bit more difficult to create a full-fledged interactive game. They definitely give you tools to do gamified approaches, like adding characters or using story or that kind of thing. There are definitely-- we had one student who did a really clever randomization project using storyline and he then entered it into Demofest and everything, he did a great job. So if you have the right knowledge you could really dig in there and do some things, but it's going to take longer, it's going to take some effort. There are certainly templates by a number of different companies that offer game templates, some of them fantastic, some of them less than fantastic, but they give you-- maybe it's a simple matching game or maybe it's a Jeopardy style game or Wheel of Fortune style of game, so there are plugins that you can add there.

But to me especially gamification it's more of design sensibility, so the idea of a story and character and challenge and mastery and exploration can all be done in the confines of any kind of top of the line e-Learning software, you don't have to have special points or badges or whatever. Sometimes I use a software called Poll Everywhere, it's a polling software so you can use it live on webinars, but it doesn't have any points or badges or leaderboards, but it has real-time feedback, and I integrate it into a story, and people really enjoy that level of interactivity and engagement. So I think more, rather than tools, let's think about how can we take our content and design it to be more interactive or more like a game without completely turning it into a game.

Connie: Sometimes I design things that I call fake games. They are kind of lock-step but they appear to be games, people play and they go "I love that!", and you really don't have much choice. That's my category of fake games.

Karl: I think that's okay, the level of engagement. I think a lot of the games in gamification trends and what we're seeing now is a reaction to really dry, boring instruction. And I think any effort to make it less dry and boring is really a noble effort, because when online learning came about we took the absolute worst of the classroom and automated it. So I think games are a way to take some emotion and some engagement and curiosity and mystery and do that, and I doesn't have to be Halo 3, it could be a much simpler approach.

Connie: That's a good positive attitude. And most people do like it, but I always run into maybe 10%, 20% of the audiences who just think that it's juvenile, they just want to get the information and get out of there.

Karl: People that like games think that everybody will like games, but that's not the case. And for some reason the people that don't like games are so proud and so boisterous about the fact that they don't like games. The people that don't like lectures they just sit in the back on their phone, but people who don't like games they are actively disengaged, and are proud of it. So I give them a badge, give the whiner badge, a job.

Connie: So one of the concept that always comes up when we talk about games and gamification is engagement. And I was wondering if you could deconstruct the concept of engagement so that we can better understand that and think about it in a deeper way.

Karl: That's a really good question, because engagement gets bantered around a lot. At its simplest level, in terms of engagement, I want people to be thinking more deeply about the topic. And there is a really interesting term I came across the other day called "disfluency". Disfluency is the concept that something that is really a little bit difficult at first will stick with you and be memorable than if everything is easy at the beginning. So what engagement is about, I think is about this disfluency, can you present somebody with information, with the problem, with mystery or something that they now have to think at a level deeper than superficiality, like "Yeah, yeah, I got that." A lot of multiple choice questions, for example, people are literally scanning for a certain term, and once they find that term they answer the multiple choice question. So what I want from engagement is I want them to be thinking about what does this really mean? And sometimes engagement means a little bit harder, and I think in this field we've backed off a little bit because we don't' want them to be too hard or we don't want to trick the learner. But they're tricked every day at work or by clients or by customers or by coworkers, not on purpose, but it happens. So why not prepare them in the training?

The other part of engagement is actually learning by doing. Doing something other than reading or listening. So are we having the learner take action, and the greatest thing with engagement, I think it's are we having the learner weigh possibilities? So if you look at the Sims, for example, you have a character and you might say, well, the character slept in, I could just go ahead and put the character on the bus for work or we could eat first, and you have to make tradeoff. Well, if we eat first we might miss the bus, but if we don't eat and we get to work we may not be as productive, so what's the right tradeoff? And I think a lot a lot of jobs have to do with tradeoffs. So can we get the learner to be thinking about what those tradeoffs are, I think that's the level of engagement.

And the think that we have to get to when we think about engagement is meaningful activity, rather than just, "Oh, click on this, or click on that, or click on that." Well, no, no, no, why are we clicking? For example, somebody today said we created this escape room learning event, it's online, and you click around and solve these puzzles to escape from this room. And the neat thing about that was the puzzles were related to quandaries or situations that the employees would get into at work. So it was compliance, so they were ethical kind of questions. Should we take this gift, it's $4.99,

our limit is $5, or whatever, is it ethical to take this? And so those problems that they were solving were problems that had to do with work as they went through this exercise.

So, back to your other question about people say games are frivolous or whatever, if we're not matching them directly to what people are doing at work cognitively — it doesn't have to be the exact same action but cognitive action — then maybe we are wasting their time. But if we are engaging them in meaningful activities then we're not wasting their time. So those are some thoughts about engagement.

Connie: Thank you. You're probably tired of answering this question, but can you talk a little bit about what the research shows the advantages and the disadvantages to using games for learning in the workplace?

Karl: Yeah. The basic tenet of research is if it's a well-designed game, it will lead to learning. And this should be no shock to any developer of instruction, if it's a well-designed lecture people can learn what design is, discussion, so first it has to be well-designed. And I have seen a lot of research where they take a poorly designed game and put it up against an awesomely designed lecture, and somehow the lecture wins because it's well-designed. So we need to take the best designed game against the best designed lecture and look at that.

But what we really know from literature is that games work when they adhere to certain criteria. So, the criteria work this way: One, and it seems so obvious, that the learning objective and the game objective are aligned with one another. We know that games work really well in a learning—like people always want to have the stealth learning, like let's make a game and then the employees will have no idea that they're learning. First of all, they are at work, and they work in insurance and the game is about insurance, I think they will have some clue that they might be learning. So the best way we know from research is that you set up the game, tell people what you want them to learn in the game, have them play the game, and then debrief the game, there has to be reflection upon what happened in the game, otherwise it's just an experience. So we know we need this three-segment process for using a game in learning.

We also know that games are a little bit more effective than traditional instruction when they are played in groups. So having a group play a game is really helpful because people have conversations about the game and things around the game, so that's really helpful.

And we also know that from a game perspective we would really like people to play the game more than once, because what happens with a game — and this is a little bit of a knock against games and the disadvantage of a game — is that sometimes there is cognitive processing used to figure out what the rules are and how the rules work, and there is not much cognitive processing left for the game. So once you play a game once though and you get the rules, then they become transparent, provided the rules are not overly complex, and I would suggest they shouldn't be in a learning game. But then the second time you play the game you could think about a different strategy, you could

think about a different methodology, you could think about a different approach, and that solidifies the knowledge, because the more you have to think about knowledge and the more you have to, as we said, make tradeoffs or weight the knowledge or look at the knowledge, the more we're going to create pathways to that knowledge, making recall and application easier. So those are some of the things that the research says.

The research also says gamification works because we use distributive practice, you know you're not a little bit over time. We also know that knowing where you are in the learning process is really important from a learning perspective, so that's important. One interesting thing, one-man analysis that looked at games, learning and motivation, and found out that games weren't necessarily more motivating than other kinds of instruction, which I thought was really interesting finding, and I think that's okay. It's not about fun to me, it's about engagement and finding ways that makes the learner think more deeply about what they should be learning.

Connie: One of the things you were just explaining is just so interesting to me, the part about how you have to make sure that there is not that much extraneous cognitive load, so that the learner isn't so busy processing complex instructions.

Karl: Yeah. That's one of the mistakes novice instructional game developers make, is they want a really complex game, and they want to have all these really fun things, and they just pile them on, and the learner is having trouble trying to figure out what am I supposed to be learning, what's the rule here. You don't want that, that's not a positive outcome.

Connie: Speaking of errors that novice game designers make, can you think of another one or two that are common?

Karl: One common thing I see a lot is they'll take an existing game like Clue and they will make a learning game exactly like Clue. But it won't be about Clue, it will be maybe delivering packages or something like that. It's not always the best approach to take your content and shoehorn it into an existing game design. What works better is if maybe you combine Clue with, let's say, Trivial Pursuit, or Clue with Apples to Apples. usually the best learning games are some kind of combination of other games.

The other thing that I see as a huge mistake in people developing their own games, and I talk about this all the time, is not paper prototyping your game design. If you're familiar with computers or whatever, you just want to get on and you just want to develop it. But we found over and over and over again that once you start programming something or developing it or digitizing it, you are less likely to change it. And if you made fundamental error or an assumption that was wrong in a paper prototype, changing that is really easy, you crumple up the paper, you throw it in the garbage can and you get out your pencil and you draw another one. But on the computer people are less willing to do that, and especially if it involves programming, like you said randomization. Like let's say we wanted issues to be randomized, so we put them in a computer and randomize them, let's say later on we find out randomization doesn't work, well now

you've got to throw away that code or reprogram it or whatever, but on paper it's much easier. So failing to paper prototype I think is one of the biggest mistakes that can be made in terms of game design. You need to really design it.

The other thing that people miss is that there are different types of game design for different types of learning. So if you wanted to teach recall, a game like Jeopardy works really well. But if you're teaching problem solving, Jeopardy is not the right game design. So, if you want to teach tradeoffs, more of a Sims type game or Settlers of Catan type of game or those kind of games are better for problem solving. So you've got to match the right instructional outcome that you want with the right strategy, just like you would in any other instructional design approach.

Connie: Yeah, a lot of times on the podcast we do talk about how you have to use paper and pencil first for everything, for storyboards, game design, and whatever else.

Karl: There is a reason why that was invented first, because it works so well.

Connie: I think I've read this, or else just experienced it, that when you use paper and pencil it kind of opens up new channels in your mind, you automatically start thinking differently when you start sketching. It's like magic.

Karl: It is, I'm convinced. When we do our workshop, we bring dice and spinners and game pieces, and having those manipulatives I think it does change your thinking. Now it's tactile, now you're feeling it, you're moving this piece over here, you're drawing something, it definitely makes a difference. And just watch the tone of the room just changes when people are manipulating things. It's amazing. I've had some of the most ardent people who don't like games at all and then they start designing their own game and they're like all gung-ho, because there definitely is a change.

Connie: Yeah. That's really cool.

Karl: And we also say that if you wanted to learn something, developing a game to teach it is a great way to learn the subject. So it's not only a good outcome, but it's a good process for learning.

Connie: You did some research based on casual games, this is fairly recent. Talk a little bit about the difference between casual and serious games and then summarize the findings of your research.

Karl: There is a big thought about games, and especially learning games, is that they need to be designed specifically for whatever the learning outcome happens to be, and so they all need to be custom. So I worked with a gamification vendor at Axonify, and Axonify the way their platform works is that you play a little game, you get asked a question, then you play another game, and it's a casual game, so it doesn't a lot of involvement, and the game has nothing to do with the content. So you might play an Angry Birds type of game, or a Fruit Ninja type of game, or a Blocks type of game, and

then you get asked this question, and then you play a little bit more of the game and get asked the question. So I was curious, does playing that game that has nothing to do with the subject at all, does that interfere with the eLearning process, because it would seem like it would. So we looked at the existing data, and this is field research so it wasn't a controlled experiment and didn't have all the controls in place and that kind of stuff, but you have to have both field and lab experiments to find out if things work. Some things work in the lab but don't work in the field. So it was field based, so I had some limitations. However, one of the really interesting things we found was that there was not a degradation of the learning because they were playing unrelated games, in fact what we are hypothesizing is that the game play itself put the learner in a state of mental flow which basically means an optimal learning state, and the mind was clear so that when you get asked the question there is nothing else interfering with your though process, you now can focus on what that is and then the learning is retained longer and deeper and all that kind of stuff. So it was really interesting findings from just playing these casual games.

Connie: That is interesting, but how did that compare to the people who didn't play the game?

Karl: It's interesting. We're fortunate enough that there were a group of people that played the game, and there is another company that turned off the game feature so they just got multiple choice questions. And we found out that the people that were in the games were far more likely to go into the platform on a more regular basis, and they were far more likely to seek out supplemental learning materials than the people that just played the game. And the other really interesting thing was that everything else was the same level of gamification, there was still a leaderboard, there was still points that you could get, there were still budgets that you could get, but the main difference we found was that the people that played the game volunteered to go into the system more, learn more, and were in the system more often. So I thought that was kind of interesting.

Connie: That is really interesting. I would like to shift the conversation to virtual reality because I know we're on the edges of that world starting to become bigger in terms of games. Do you think there are advantages to developing virtual reality learning experiences as compared to other types of games?

Karl: That's a great question. First of all, when I was at graduate school we were at the verge of virtual reality, but the helmets were much bigger and it was much more clunker, but we are on the verge again, which is awesome. But actually, I think now in the technology we're starting to get to a place where it's cost effective enough, it's light enough, it's getting enough consumer penetration that is definitely coming to learning. In terms of what can be taught in a virtual reality environment, I think that there are definitely advantages to that type of environment. One, for example, is to teach people what it's like to actually be in that situation. So you can describe to someone what it's like to go into a burning building and you can prepare them with videos and all that kind of stuff, but until you go in there it's a pretty dramatic experience. And right now we

have the videos and you can watch it, or even a simulation that's not immersive, and then you've got to go in your first time. So what VR can do is surround you in a burning building in a very safe, okay to fail environment. So it's not going to replace going into a burning building for training, but what it's going to do is it's going to make people in that burning building much safer. Talking to a big oil company and they're wanting to know about how to use virtual reality to help somebody on a platform figure out what valves to move. And there are lots of places, here in Pennsylvania we have fracking, we have people on the well sites, they have to know what's above them, what's below them, what's to the left, and what's to the right. And it's really easy to forget to duck, even though it says 'duck your head', we found that lots of people hit their heads because they're not looking in the right place. So the VR environment allows them to look in the right place and gives them consequences if they don't. In my view the VR accelerates the learning curve for dangerous environments.

Connie: Great use of it.

Karl: Yeah, I think that's the low hanging fruit that we really need to look at. And then if we take a step down from that so we're no longer talking life and death, but let's say that we have a saleswoman and she is in a sales situation and a gentleman gets up or says something inappropriate or makes a gesture that's not appropriate, something like that, we can kind of prepare somebody for that. But in this immersive environment where you have the sound, and where you move your head, and it's much more realistic, you get your heart rate going, you get your sweat glands going. And so now you are in that environment and now you can learn how to properly react in that kind of environment. Or if somebody says, "Your product is horrible, I would never buy your product," it's one thing to see that in a video where there is distance between you and a keyboard and a mouse or whatever, it's another thing to have a guy right in your face telling you that and seeing his anger. And so software is not quite high fidelity enough for some of that to not seem silly. But it's getting there closer and closer.

And so that's another use of virtual reality, teaching people empathy, teaching coping skills, teaching them-- to go back to the firefighter example, you could walk through an entire building before you ever have to step a foot in that building. Now you know where to go and what to do. So there are a lot of advantages of using virtual reality, if we don't-- one of the mistakes which we made with Virtual World which saddened me so much is we created like a second life and that kind of stuff, we created these virtual classrooms, so I walked into a virtual classroom, sat on a virtual seat and saw a virtual PowerPoint. Don't do that in VR. VR should be a field trip, it shouldn't be a classroom.

Connie: Nice. That's a good quote, I think I might adopt it.

Karl: Okay, sure, yeah.

Connie: I'll tell people you made it up. So do you think VR is ever going to become reasonably priced and mainstream?

Karl: I think it's getting there very quickly, and I'm seeing lots of people who very much want to make VR work in the training world. I think it's coming. I think the mistake is we don't want to overshoot, let's start with the low hanging fruit, let's put somebody on a construction site who needs to be aware of their surroundings, let's put somebody in a manufacturing facility that needs to be aware of all the moving parts and all that kind of stuff. So let's use it for what it works best for first, and then let's find other types of uses. So I think it's coming, but I think we need to just pluck the low hanging fruit first. Because I think in terms of technology we view it, especially in this field, as the panacea, it's going to solve every problems, it's going to make training so much better, so much whatever. I mean, one size doesn't fit all, and so let's use VR for what it works best for, let's not try to overextend the use of VR.

Connie: That's really good advice. Well, Karl, we're running out of time, I want to thank you so much for sharing all that you know about games and gamification. It was really fun.

Karl: I had great time, too, thanks Connie.

Connie: From hearing all that you have said, I feel totally engaged now.

I really enjoyed hearing Karl's thoughts and ideas about learning games, I hope you enjoyed it too. Don't you want to just take out some paper and pencil and start designing right now? You can find links to all of the resources mentioned in the show at the theelearningcoach.com/podcasts/38. If you would like to do me a favor, please rate and review this podcast in iTunes, it helps others to find it. Take care, and I'll talk to you next time.