

**LEARNING UNCUT EPISODE 37:
GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN**

Karen Moloney: Welcome to another episode of Learning Uncut. I'm Karen Moloney.

Michelle Ockers: And I'm Michelle Ockers.

Karen Moloney: And today we're talking to Jacinta Penn who is the director and principal instructional designer of WorkBright and she's joining us from across the Tasman in Auckland. Welcome, Jacinta.

Jacinta Penn: Hello.

Karen Moloney: Jacinta, you and I met several years ago at a LearnX Instructional Design Conference where I attended a session that you gave around ID for e-learning. I think then at the meetup afterwards we started talking and realized we shared this really geeky passion for learning technologies. It's so lovely when you connect with another geek. But you've been blazing a trail in this space over in New Zealand for quite a while now, so it's great to be able to have you on today's episode.

Jacinta Penn: Thank you.

Karen Moloney: So while I'm itching to get into today's content, I might just take a back seat for a bit and ask Michelle to get us started.

Michelle Ockers: Thanks, Karen. Jacinta, to get us rolling, can you give us a brief introduction to you and your background in learning and development? I understand that you're one of these accidental instructional designers.

Jacinta Penn: That's exactly the best description actually. I was in roles where I was doing a lot of face-to-face training over the years. Once I had kids I thought, you know, this is something I can do that would work around the kids. Then the recession hit and nobody had any money to pay for training. So I thought, "Well maybe I'll put it online. How hard can it be?" It was a lot harder than I thought.

Michelle Ockers: When are we talking about, Jacinta, this is the late 1980s or a bit more recent?

Jacinta Penn: No. This is about eight years ago.

Michelle Ockers: Right.

Jacinta Penn: Yeah, so I'd come from working in IT and doing a lot of sales training and then doing career counselling where we look at a lot of what motivates people. It's been really useful for e-learning. So yes, I researched for three months and got myself Articulate Studio and I thought I was a was whiz. That's a bit embarrassing now.

LEARNING UNCUT EPISODE 37:

GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

Michelle Ockers: It's, it's interesting though, you talk about making this career change and having to teach yourself new things and but also being able to bridge from other skills. That whole thing around learning to learn and learning agility is really big at the moment in all the changes that people are trying to deal with in the workplace. So here's a good example of someone who's done it for themselves.

Jacinta Penn: Yes, absolutely. And I keep learning. I've done a qualification in e-learning since then. I make sure to go to at least one conference every year and go to local events, and read articles in that because it's just so important to keep learning. Of course being that geek as Karen said, I often spend my weekends learning a new software just for fun.

Michelle Ockers: It's nice to have a hobby that lines up with your work, isn't it?

Jacinta Penn: I think that's why I've been in this job so long, this is the longest job I've ever been in along this career even that I've ever been in because there are always new things to learn. It never gets boring.

Michelle Ockers: Speaking of new things, that's a nice segue into talking to you about some of the new technologies that you've been working with as an e-learning specialist. Can you introduce us to some of these technologies?

Jacinta Penn: Yes, absolutely. I actually got into it a couple of years ago when I was on holiday and for fun was reading an article on VR. I thought, gosh, this would be so good to use for training. I started to research it, and what I found was it was very intimidating for people. So I started creating demos to show people how it could be used. I started in virtual reality and then started doing client projects in 360 VR and augmented reality. Would you like me to explain the differences between them?

Michelle Ockers: Absolutely. That was going to be my next question. So talk us through, I think you mentioned there are, virtual reality, augmented reality and 360 video.

Michelle Ockers: If you can talk us through what those technologies actually are.

Jacinta Penn: Yup, absolutely. So with virtual reality or VR, you're usually wearing a headset and the everything you look at has been created in a computer. It's digital imagery. You can walk around, you can pick up things. You can turn spanners on nuts and get machines going, and everything like that. In 360 VR, you're talking about 360 photos or 360 video. So generally looking at things, and you can't pick up an object. You can interact with them with the use of hotspots just as you do in e-learning, but you can't actually physically pick up anything.

Michelle Ockers: So what might that look like if you're interacting with a hotspot in a 360 video?

Jacinta Penn: So you might have options about what you want to do next. You might gaze at a certain area or a marker that's on there and then being able to explore that

LEARNING UNCUT EPISODE 37: GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

option. So often there are markers or text box as options, just like there are on e-learning and you gaze at those items and it selects them for you.

Michelle Ockers: Right.

Jacinta Penn: So you still can have interactivity in 360 video. What I've found is it's proving very popular because it's much more affordable to build than true VR. For true VR, you need a developer. You'll be working in something like Unity or Unreal. It takes a bit quite a bit more time. The trouble is with learning and development, we change so often. Things change so quickly.

Jacinta Penn: Policies, machines, it hasn't quite got its place yet. There are certain areas where VR is very valuable. It's in areas of danger, or high expense. So if you have somebody that you want to give a train to or a plane to, it's worth spending money on a simulation. It's fairly unlikely that that machinery is going to change too much anytime soon.

Michelle Ockers: Yup. Yeah.

Jacinta Penn: And so it's well worth the investment.

Michelle Ockers: What about augmented reality? Can you talk us through augmented reality was the third technology you mentioned?

Jacinta Penn: Yes. So augmented reality is when you have a layer of information on top of the real world, and it might be looking through your phone or it might be looking through glasses. In the future, it'll be the new kind of headsets that have a camera on the outside of them as well looking at the room around you. This is really useful when you want to have a little bit of extra information on the floor or when you're doing the work or the learning. So for instance, if somebody new is working on a machine and they need to know how to reset it for a different kind of bottle, they can bring up their iPad scan a code on the machine or just scan the machine itself and have the information or the steps come up telling them what to do.

Michelle Ockers: Yeah. So it sounds like a lot of good performance support applications for augmented reality.

Jacinta Penn: Yes. Yeah. It's really engaging as well. It allows you to do things that you couldn't do in real life, for instance, as a trainer, and we'll often do a work book for someone. We'd really like to show them the video, but that's had to do on on paper. Well, actually now you can. You can put something like a zap code on there, scan that. They can see that video or 3D animation even.

Michelle Ockers: Yup. It's interesting 'cause I know some of these technologies have been around for a long time. So augmented reality for instance, when I was in the Air Force working on aircraft projects in the 1990s, we had aerospace companies

**LEARNING UNCUT EPISODE 37:
GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN**

proposing the use of headsets by maintenance staff back then to help guide them through different tasks. So it's not necessarily new technology, but how do you decide when to use one of these technologies versus other methods of delivery? You talked around that a little bit with virtual reality around price, safety, around using it in areas or for applications that aren't going to change too much. What are some of the other ways you decide either whether to use one of these technologies at all versus other methods of delivery or between them?

Jacinta Penn: It's really important to know what all these technologies are capable of to figure out when they are a solution to a problem. So I can suggest some things now, but there will be other times there'll be a solution to a problem and you have to be aware of them to know that. So for instance, there is a VR on cutting limbs off trees by power lines because it is very, very high risk work.

Jacinta Penn: They want people to practice that before they do it in real life. So it's commonly used for high risk scenarios where they really need you to know what you're doing before you actually do the job. It's common if there's a very high value machine that you're going to be working with and they don't want you to break it. That's a popular one. Just situations that don't happen very often as well, emergency situations, which are hard to train for in real life because it's not happening around you. Fire.

Michelle Ockers: What challenges have you found, if any, with encouraging stakeholders to use one of these technologies? How do you address those challenges?

Jacinta Penn: It's been quite interesting actually. The demos we did, were in virtual reality. The work we got was an augmented reality and 360 VR. And we found that those were much more suited to people's budget. The time they wanted to get it developed in and what they were, what they could picture. I think having the demos has helped people because they can picture how they can use it. So I think that is the best thing you can do to get a client across the line is to provide them with a demo., I did a workshop on Zap works for augmented reality. He was having a play with that 'cause he didn't want to lose the skills. So we made an augmented reality poster for the toilets, about keeping the toilets clean. Within two weeks, HR was using augmented reality in their onboarding.

Michelle Ockers: Interesting. Just because they've been exposed to it through that and it had spread.

Jacinta Penn: Yes. And they could see how popular it was and that sort of thing.

Michelle Ockers: Yeah. What do you think the risk then is the other way around, where people want to use it and perhaps it's not the best solution? You have to talk them out of it because it is in technology.

LEARNING UNCUT EPISODE 37: GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

- Jacinta Penn: Yeah. I think there is always a little bit of an attraction to the latest tools. But I know over the last few years there's been a big emphasis on the right solution to the right problem. I think people are a bit more savvy about that now than they perhaps used to be. Also because some of them, there aren't that many people doing it yet. So it's not the easiest solution. To be honest, it's not as hard as people think though. It's one of those things where you take a weekend and you go play with the software and suddenly you're familiar with it. It's not so scary anymore.
- Jacinta Penn: I think it's the unknown. I think it's also having to use a developer rather than build it yourself as an instructional designer. It does lengthen the process and makes it that much more complex. Sometimes it can be a little bit hard for developers to quote because how long is a piece of it string? Some developers will even charge just for doing the scope on VR 'cause even doing the scope and figuring out how they're going to build it takes quite a bit of time.
- Karen Moloney: Well, I have to say when I had my e-learning business, I used to charge for scope analysis work because there's a good 40 to 60 hours there to scope out what a good solution looks like. So I can imagine that it's a bit more complex technically. Definitely it's chargeable piece of work. Do you always need to use a provider or are the tools that you can dig around with to play with?
- Jacinta Penn: That is the great thing. With every year that passes, there are more and more tools coming out where you can do it yourself. So when I first started, you had to use developer to do VR. But now we have Amazon Sumerian, which is a free tool. They build it for free, but it's the hosting on Amazon that costs you. It's so cheap. It's one of the cheapest ways I know to do VR. It's almost drag and drop.
- Jacinta Penn: You do have to be quite tech savvy to work it out, but somebody who's really into their computers would be able to do it. The other option, there is the LearnBrite in Australia. I find it a little bit clunky still, but it's getting there and Visible is amazing. Visible is another one that doesn't need coding. As more and more of those tools come online like Show How and Wonder VR and Insta VR, these are 360 VR tools. More and more people will be able to do those quite easily and then it loses its fear and ...
- Karen Moloney: That's part of what we want to do with this podcast is inspire people to just give something new a try. Just for anybody who's kind of furiously scribbling down all these things, Jacinta. We're actually going to prepare a takeaway for you that you can download in the show notes that will list out all of these different tools and technologies that you can take that away and have a really good play with it. If we decide, if somebody deciding to outsource, what are the key things they need to consider when selecting providers in this space because it's not, is it quite similar to selecting an eLearning provider for example, or are there specific things that you need to be looking at when you're working with a partner?

LEARNING UNCUT EPISODE 37: GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

- Jacinta Penn: The trouble is there aren't many learning designers that are in this space yet. So you'll either need to go with a developer and then hire on a learning designer for that consulting piece, 'cause a lot of the developers don't have learning designers. It's actually a little bit scary how much VR training is currently being developed without any learning design.
- Karen Moloney: I think it's quite scary how much eLearning gets developed without learning design, if I'm perfectly honest.
- Jacinta Penn: That's so true. We share that fear. Yeah. And so if you can make sure you get the best of both worlds. Somebody who has experience in building 360 experiences and somebody who knows how to design good learning. If you can get both, do so. That's amazing. The one thing I would say to be very careful of is don't pay for an outsource agency to learn on your dime. Because I have been seeing that. I've been seeing some agencies say "no we haven't done it, but we can do it." And then they charging codes all the time that takes them to learn how to do those things and that kind of goes against the grain for me.
- Karen Moloney: Yeah, absolutely. That's very good, a very good piece of advice.
- Karen Moloney: So you've already touched on a couple of different uses around these technologies, but can you just talk us through a couple of case studies of some real things that you've worked on with clients?
- Jacinta Penn: Absolutely one of the first things we did was a 360 VR project with a bank and it was on an armed robbery. I can't tell you much more than that otherwise I'll have to kill you. But what I can tell you is we built it on Unity. We did that because there were certain extra things we wanted. We wanted to customize it so none of the rapid tools would do. But we were still able to build it in 11 weeks.
- Karen Moloney: That's quite quick.
- Jacinta Penn: Yeah. We did it in an agile way. We had multiple different scenes and types of robbery that happened. We had heart rate and there was a timer. We needed to hit those things because that was the purpose of the learning. And this is where then learning design comes in because in an armed robbery, the shorter the time they're in there, the less likely someone is to be hurt. That is the big lesson of the leaning. So having a timer there and showing we had a risk meter as well. The risk meter went up as the time went on. So if you ask too many questions or got fiddly about it, it got riskier. You just had to do what they said as quickly as possible. So we had markers on things that they could open or get money or talk to them or that sort of thing.
- Karen Moloney: It puts people in a really realistic situation there rather than kind of, you know, e-learning, multiple choice scenarios when you know, would you do this or would you do that? And versus even role playing like sometimes you know that

LEARNING UNCUT EPISODE 37:

GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

those things can end up being not so realistic because people know each other. They might giggle here or break there or whatever. Then they just pick up where they left off. But putting them really in that scenario, there's a time ticking, there's people's lives are at stake-

Jacinta Penn: And a gun on your face. That is the other thing that 360 VR and virtual reality give you is that feeling of what it would be like. We even had to consider that for some of the people doing the learning might've actually experienced that in real life. We needed to have a warning at the beginning and then say, "You can take this off at any point. You can even not do this learning." It's no problem at all. We understand. That's probably all I can tell you about that one. Except that when we tried to roll it out, the network wouldn't handle it.

Karen Moloney: Okay. That's an important point. Infrastructure.

Jacinta Penn: Oh my goodness. This is one of the best learnings that I can share with your listeners is to do a little bit and then test it on the network. Because we did that. We did a little bit. We tested it and it didn't work. So we kept building and we kept building, kept building and kept testing this little piece until we found a way that worked because these are on thin networks. They don't have hard drives in them. Some of them don't have graphics cards, they're just working off the servers. In the end, we put it in their intranet and used web VR with DL to develop it. So we had to make some extra changes to it. But we had the whole thing built at that point. We could easily make those changes. So it didn't actually slow us down because we were testing that while we kept developing the rest of it.

Karen Moloney: Yeah. And that's another one of those scenarios where it's really good for L&D to be great friends with IT.

Jacinta Penn: We nursed that relationship right from the beginning because we knew it was going to be something new and everyone knew. And that's the good thing. When you go onto these new technologies, it is a very good tip, the client onboard with saying, "Right, this is a cool experiment. Let's test it and try it, and change it if we need to."

Karen Moloney: Yeah.

Jacinta Penn: Another really cool project that I did was an augmented reality one. For this one, I had somebody come to me and say, "We've got a safety training day and we want it to be really engaging and we want people to be moving around the building to where the hazards actually happen." Now they said, "This is an office and they don't actually think they have any hazards."

Jacinta Penn: So what we did is we wanted to make it engaging and entertaining, and get people on their feet and doing stuff. So we created a range of posters that went up all around the building and we put zap codes on them. And this is an image

LEARNING UNCUT EPISODE 37: GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

with a little code on it. You scan it with the Zapper app. And what happened was this colorful poster suddenly became alive into a video and you saw an accident happen. Then you said “or” you showed that if somebody actually cleared the hazard that the accident wouldn't happen. So we had people tripping over cables, over cupboards falling onto people, people falling down stairs, slipping into pedals and cables, and all sorts of things. At the end of each one, just to make it really interesting, we gave them one or two letters. Once they'd done all the videos, they had nine letters and they scanned the final poster in it, gave them a riddle. They had to use the letters to answer the riddle.

Karen Moloney: Okay. Lovely good gamification in there as well. That's really cool.

Jacinta Penn: Yeah.

Karen Moloney: So thinking about mindsets, I mean we've said like people feel a little bit intimidated by sort of this technology. People will be able to download the list of tools they can go and play with. What sort of shifts in skillset and mindset to implement those technology successfully for learning? Do you think people need to be looking at?

Jacinta Penn: I think they need to be able to spend a bit of time to play, to be honest. You need to spend a day playing on a VR headset and feel okay about doing that to learn what works. I went on and did about half a dozen different games and movies and stuff on our VR headset. I got to kill absolutely no dinosaurs because I'm a really bad shot. But I got to learn that walking around at high speed made me sick as a dog. But jumping from hotspot to hotspot was fine. I learned that having instructions that had little pointers pointing at the thing they were talking about really helped. Little symbols like hands, so it would show that you can pick something up or even a knife or a gun or a bullet or something. It basically told you what to do with extra little symbols.

Karen Moloney: So going through the process of just immersing yourself and being the learner to understand what it's going to be like on the other side of that experience.

Jacinta Penn: Yes, and it's really important as well is to understand when I first did my VR demos, about one in three people said, "Oh, I can't look at that. I only have monocular vision or I only have one eye that works or I'm feeling sick. Can I sit down now?" So you have to have another option and it has to also work on computer or tablet or phone.

Karen Moloney: Okay. Okay. That's pretty interesting. Thinking about ongoing maintenance of these technologies as well, like is there a significant difference in terms of being able to make the little changes and does that then define the technologies that you use? So for example, if you were going to be giving people a simulation on a plane for example, like you said, that's something that's not going to change very much. So you can do something quite complex with it. Does that really

LEARNING UNCUT EPISODE 37: GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

define what you use when and does it affect the costs and the maintenance down the track?

Jacinta Penn: There are, if you were working with Unity and Unreal and you're using developers, you have to factor in that any changes are going to need the developers to do it. So you need to be aware of it, but you often don't have any subscription costs. Whereas with ZapWorks, I pay, I think it's about 59 US a month to have ZapWorks and all the others visible. If you're using another AR software, you're paying for those usually on an annual subscription, so if you want to keep using it, you keep the subscription with those ones. Yeah. With 360 VR, it depends on the software you use. Most of the time, you end up with finished product that you don't need the online tool anymore, but that's not always the case and that's something you need to be aware of.

Karen Moloney: Yeah, and I suppose at a time all these technologies are going to evolve and there'll be different offerings and hopefully, we'll get to the point where it's all kind of commonplace, like storyline and captivate and those kinds of things.

Jacinta Penn: Absolutely. There's a tool called, Show How, I've done quite a lot of work for in the last year. Using their stuff is really drag and drop. You just import the 360 video, you drag it into place like a mind map and connect it with ribbons. It's just so easy to use.

Karen Moloney: Yeah, and just a final point on that. I'm considering delivery for learners that might be different to their normal sort of e-learning experience. So you've already mentioned there, some issues potentially around people getting dizzy or feeling sick or not being able to see things properly. And we've talked about infrastructure. Are there any other sort of key things that we need to be thinking about in terms of that delivery experience for the learner?

Jacinta Penn: Absolutely. With any 360 learning, you have to think where is my learner looking right now? Are they going to be looking where I want them to be looking? So if they're looking anywhere else, you might have to have some arrows pointing them back to the main action or you might have to have a voice saying, "Oh, look at this." So that they look around and look at that. You can't assume that they're looking where you want that you can with 2D video..

Michelle Ockers: Jacinta, you've given us a couple of practical tips along the way already that that people could use if they wanted to try something new with these tools or tips around testing and trying things out early, including your network testing, building your relationship with IT, and just spending time playing to get the experience of being a user of the tools. If anyone is thinking about or keen to get started doing more with AR, VR or 360 video, what would be your key takeaway tips to help them get started and if suitable, maybe one tip for each technology or you can just stick with some general, some more general tips?

LEARNING UNCUT EPISODE 37: GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN

- Jacinta Penn: My main tip is just to get out there and try it. I think the difficulty for people is if you want to try 360 video, you're going to have to invest in a 360 camera. They are between 400 to a thousand dollars to buy. You can rent them though. You can rent headsets. So all of those things, if you just want to give it a try for a week, put aside some time, hire the staff and have a go. But it is quite a neat tool to have for yourself anyway.
- Michelle Ockers: Okay. So as with many other things, Karen, the tip is give it a go.
- Karen Moloney: Give it a red hot go. Yeah. And like maybe I'm trying to throw something out there to event organizers. Maybe we can have some more practical hands on workshops where people can actually get to see these things and give them a try. Rather than a 15-minute demo, let's have some real immersive experiences and help people just see how they can use the technologies 'cause it all sounds really exciting. There's been some really awesome uses of those technologies that you've talked about there.
- Jacinta Penn: I'd love encourage people to do one on ZapWorks. You can do a free trial on ZapWorks. So that would be a great one.
- Karen Moloney: All right, so if anybody's listening, Jacinta, is available. I could talk to you about this all day. But we need to wrap up. So we've got one final question that we'd like to ask all our guests. Could you share with us one resource that you use for your own professional development outside of any of these tools?
- Jacinta Penn: ##LrnChat.
- Karen Moloney: Yeah, I love ##LrnChat.
- Jacinta Penn: And there is a really neat one with the New Zealand Book Council actually. It's called #ramereshots.
- Karen Moloney: Okay. We'll put a link to that in the show notes.
- Jacinta Penn: It's really good for developing concise language because you have to use five words and 140 characters.
- Michelle Ockers: Jacinta, just for anyone who's not familiar with ##LrnChat, would you like to explain what #LrnChat is?
- Jacinta Penn: So every Friday if you follow the #LrnChat, and you put ##LrnChat in your tweets, you get to answer about six questions that the #LrnChat hosts ask. And it gets people thinking about what they've learned that week and works through the theme of that day and everyone shares their experiences. You can get some really good tools out of #LrnChat. I heard about something called FlipGrid the other day I'd never heard of and stuff like that. So it's really good just for sharing.

**LEARNING UNCUT EPISODE 37:
GETTING STARTED WITH AR, VR & 360 VIDEO: JACINTA PENN**

Karen Moloney: Yeah. So it's nice long running Twitter chat. It's been around for years now.

Jacinta Penn: Yes. Yeah.

Karen Moloney: And I think it's something that the Twitter chats have really, I think under-utilized in our space. If you're listening and you've not tried one before, get onto those. So we'll put some details of #LrnChat in there. That is one of the best, definitely.

Jacinta Penn: I have to say, Twitter is an amazing resource that half of the learning designers I've meet aren't even signed up. I don't know where to start. And I think if you follow one person you know, then you will see a lot of other interesting people that they're commenting on and liking. You can go from there and start following. I've just learned so much from so many different people.

Karen Moloney: All right. Actually I wrote a blog post a little while ago by getting started with Twitter chat, so I'll put a link to that. And also I'll list out some of the good chats that people can follow in the show notes.

Karen Moloney: Okay. Well, Jacinta, thank you for that. We will include a link to your LinkedIn profile if anybody would like to get in touch with you to find out more about the topics we discussed today. I'm sure there will be plenty that will want to know more. Thank you very much for coming on and giving us an insight into your work and sharing all of that useful information with us.

Jacinta Penn: You're welcome.

Karen Moloney: To our listeners, if you're finding Learning Uncut valuable, we'd love it if you'd please take a moment to rate the podcast and leave us a little review comment. We really appreciate your help to ensure that as many learning professionals as possible have an opportunity to learn from the work of our guests like Jacinta. Thank you.