

Michelle Ockers:

Welcome to our first case study episode of Learning Uncut for 2022. This is a story of our times – a learning innovation generated as a result of constraints on face-to-face training during the pandemic. We explore the use of interactive 360 Virtual Reality simulation for training on protocols for acute stroke patient hospital admission. My first guest is Jatinder Minhas, a consultant physician from the acute stroke team at University Hospitals of Leicester NHS Trust. He is joined by the video director Laura Cade from Video Interact, who produced the VR simulation.

The simulation replaced face to face didactic lecturing and lower fidelity simulation using mannequins. The relative ease and speed of filming and production are a little surprising given the fidelity and richness of the content. Having once worked on a video project that used actors rather than people doing their normal job, I found Laura's approach to working with the real people, the subject matter experts, who were part of the filming, really refreshing and interesting. I'm hoping she can share a sample of the storyboard and script to give you more insight to the process she describes. Check the show notes for a link. While you are there, be sure to view a sample of the video on the Video Interact website using the link in the show notes.

Welcome to today's conversation Jatinder. It's nice to have you here joining Learning Uncut.

Jatinder Minhas:

Thanks Michelle. We're really glad to be here.

Michelle Ockers:

I'm delighted you're sharing your story with us today and of course your partner here, Laura, welcome Laura.

Laura Cade:

Thank you very much. Nice to be here.

Michelle Ockers:

So we're going to do some introductions before we move into the heart of this story. Let's start with you, Jatinder, can you please introduce the hospital, and the work of the stroke team?

Jatinder Minhas:

Yes, so I work in University Hospitals of Leicester NHS Trust which is one of the busiest NHS trusts in the UK but probably also based on patient numbers that we see in Europe, and I work within the stroke department there. I'm currently an acting consultant physician, and work as part of an acute stroke team that look after patients right from the moment that they arrive at hospital with their stroke symptoms.

Michelle Ockers:

What sort of volume of patients would you be seeing in the stroke team on an annual basis or a monthly basis, whatever data makes sense, just to give us some sense of scale?

Jatinder Minhas:

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

So we probably see around somewhere in the region of about 20 to 30 new strokes per week. And that's in addition to patients that are referred to our transient ischemic attack clinic, so what we call mini stroke clinic, for which there's over a thousand individuals that are reviewed there every year. So we're talking sort of several thousand patients over the course of 12 months that are seen with the full spectrum of stroke severity within our department.

Michelle Ockers:

And how about the size of the team how many people does it take to be able to sustain that kind of patient load?

Jatinder Minhas:

Yeah, so one of the most fantastic things about working in stroke is that it's very much a multi-disciplinary team. So we have obviously some doctors, clinicians, but we also have a wide variety of colleagues. So we have very well specialized and equipped nurses that are very used to looking after acute stroke patients. We have therapists. We have a real spectrum of different individuals; physiotherapists, speech language therapists, dietitians, occupational therapists. So we're probably talking about hundreds within our team from the point where we look at them at the front door all the way to the point where they may go, for example, some further rehabilitation beyond the hospital. And every single member of that team provides a really important intervention for the patient's post-stroke.

Michelle Ockers:

Thank you for introducing us to that context, and I know we're going to talk a little bit more about what work life and the work scene looks like in this context, and we'll go from one specialist to another. Laura, you're here as a specialist in interactive video, and our conversation today is going to focus on an interactive 360 VR solution for training the hospital staff in protocols and treatment of stroke patients, I believe, arriving in accident and emergency. Can you talk to us a little, Laura, about how and why—well, we're going to talk about how and why the solution was created in a moment, but can you please introduce yourself and Video Interact first to give us some context to the work and experience you bring to the project?

Laura Cade:

Of course, yes. So I'm Laura Cade. I'm head of production at Video Interact, which basically means that when we create video solutions for e-learning of any kind, then I'm the person who's doing most of the client liaison, who's writing the scripts, doing the shoot plan, in charge of the crew on the day, and I work very closely with colleagues in the more e-learning focused part of the business, designing and then allowing them, which is kind of me, to construct the finished package. So we're quite uniquely skilled as a team because my side is strictly video production, and then the other part of the business is strictly e-learning, and we come together to make an interactive film.

Michelle Ockers:

The solution we're talking about today for the hospital, did it contain e-learning as well as the interactive film were the two elements brought together, Laura, or was the interactive 360 VR sort of a standalone piece?

Laura Cade:

What we say about ourselves is that it's all in the film. So there are quiz elements in the stroke scene, and there are additional bits and pieces that come up, documentation, film of scans, film of the monitors. So in that way, it acts like e-learning, but as I say, everything is in the film. We don't do a lot of—well, we don't do any click next at all.

Michelle Ockers:

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

That's refreshing to hear thank you for that Laura. So in terms of the kind of technology you're describing here and everything being in the film, the film has evolved a lot since you first got involved, I believe back in around 2009. I think it might be interesting for our listeners if you can provide us with a brief overview of how you've seen interactive film technology and development processes evolve in the time you've been working in this space.

Laura Cade:

When we first started looking at interactive film, there was none in the world. And we came to it through my naivety. We've been making training films for a long time, and we wanted to move away from the 20-minute training film where everybody had a nice snooze. And we first started working in interactive DVD, which is incredibly complex and quite limited because you can only have a certain amount of interactions on one DVD. We had a grant from the Mayor of London to work with London Metropolitan University to start exploring online interactive film, and they got a solution going for us, but it was in flash, and every single interaction had to be hand programmed. When HTML5 came along, that became much simpler and it's around about that time that we partnered up with Transition. So my company's called Outakes. The other half of Video Interact is called Transition. We partnered up with them and they started doing that work for us.

The solution that we have now for Interactive 360 video is called Scenario VR, and it's part of the eLearning Brothers suite of software packages. It started off very simple, and we started working with it when it was in beta form, and it's been largely through the fact that we wanted more and more functionality that we've pushed eLearning Brothers to give us more and more and more, and now it's an incredibly complex and smooth way of working. Does that answer your question?

Michelle Ockers:

I think it does. It sounds like the whole thing has gotten a lot easier to work with in what is in some ways a relatively short space of time. It's only like maybe 12 years that you're talking about here that the technology has really matured. And I know Jatinder, we're going to talk about your impressions of the technology coming into this afresh in a little while.

Laura, there's something really interesting you talked about there that you mentioned and that you were really pushing eLearning Brothers for more functionality. The next episode two weeks after this one is about a situation where an organization really pushed hard for a vendor to provide more functionality in a platform, and it ended up really lifting the whole product, the whole platform, and the whole environment that was available for others. So well done for taking that stance. I think it illustrates how strong partnerships—and we're going to talk about your partnership in a moment—how strong partnerships can make a real difference not only for the project or the supply you're talking about but generally for other users as well.

Laura Cade:

Yeah, I mean we were very lucky because transition had a long-term relationship with eLearning Brothers, and we could not—not me, but people from transition could actually go through to John Blackman who wrote the software, which is just so useful. There is no barriers in between the tool, and he's been incredibly responsive to what we've asked him to do.

Michelle Ockers:

That's great. So Jatinder, before we talk about training solutions, can you do your best to bring us into what's going on when a stroke patient arrives in accident and emergency? Give us a feel for what happens and what's most critical in how the team treats them.

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

Jatinder Minhas:

No problem. Thanks, Michelle. So we're dealing when we see patients that are presented in the ambulance following recognition possibly by a member of the public, a member of their family, friends, that they have somewhat look like stroke symptoms, following the wider awareness we have now from public health campaigns, that these patients attend hospital quickly. And when they do attend hospital quickly, we have some pre-notification that they are on the way, and that we arrive in good time to assess them. And that's because we have time critical interventions that we can deliver to these patients to help save some of their brain tissue that is vulnerable. The longer that, for example, a clot exists within the brain tissue stopping that blood supply or indeed, that they've got an area of bleeding that might benefit from really rapid blood pressure lowering.

And this is this is all part of what we call protocolized care. And every second or every minute that goes by millions of neurons are dying unfortunately within that patient's brain, and that's really what we want to stop. We know that unfortunately, dependency and disability post stroke are very much governed by what we're able to do at the front door when patients arrive, the kind of things that we can deliver. So this protocolized care really benefits from an organized team approach. It's something that can be refined, improved, using strategies that can be modelled using different educational methods. And historically, what we've tried to do is to think about how we'd improve all members of the team's understanding as to the goals and the targets that we want to achieve through sort of didactic lecturing, but we've also had more sort of simulation-based delivery, face-to-face, using mannequins.

Certainly, that's within successfully delivered regionally within the last 18 months. But you can see how where you have something that's time critical, goal targeted. It lends itself well to a very focused educational intervention. And I think up until now, I think we've sort of thought about this very much as in a very didactic way in terms of the way that we lecture or the way that we sort of support people to think about timings in and around using a mannequin, for example, to simulate a stroke patient. But what we've thought about more recently with the help of Laura is something far more exciting that could really add some fidelity that we've been missing.

Michelle Ockers:

So the pandemic obviously came along, and I think the project starts around about the time of the pandemic, and that was one of the triggers for change, Jatinder. What was the impact of the pandemic or any other factors that might have led to a decision to reach out to interactive video and look at doing something different here—Video Interact, Laura. I've got you mixed up. Video Interactive, so what was the challenge that you needed to address?

Jatinder Minhas:

Yeah. So I would say pre-pandemic and in the run-up to the pandemic, there was an increase in frequency of our face-to-face simulation course that we deliver here which was well attended with excellent feedback and unfortunately, as the pandemic evolved, we were unable to deliver close contact educational courses within our various areas of the educational landscape. And as a consequence, we had to have a rethink really.

There are certain things that could be deliverable via these sorts of methods like Microsoft Teams and Zoom. But unfortunately, in order to really give the candidates the sort of best training, we'd have a different thing really. And so we approached our simulation team who've got expertise both in delivery but also in educational development, so development of different tools. And that's where I think we were the introduction to Laura's team happened, and then sort of the rest is history really.

Michelle Ockers:

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

So Laura, when you were engaged, what was the brief you were given about who this was for and why it was happening?

Laura Cade:

So we were first approached by Malcolm Smith who's the simulationist at Leicester, and he'd bought a license to Scenario VR, and he'd actually tried doing things himself. But he realized that with like an important course like this, that he needed to call in some professionals. And because we're linked to Scenario VR, we got the call and we talked Malcolm. We talked to Jatinder and his colleague, Amit, on calls like this to plan it out. And once we've got a reasonable idea of where we were going, we fixed a filming day and rocked up at Leicester about nine o'clock one morning.

Michelle Ockers:

So what was the brief you were given, and I don't mind which one of you wants to sort of—like what was the original vision for what you were trying to do here, what you were looking to create? I don't mind which of you picks up that question.

Laura Cade:

From our point of view it was to record interactive 360, the protocols surrounding the admission of a stroke patient. I think that's right, Jatinder.

Jatinder Minhas:

Yeah, spot on. But I think the crucial thing before in the run-up to that actual day was that Laura kindly explained and sent examples of successful delivery in different contexts. So, for example, amongst I think the fire service or the police service, there were some excellent examples of what we could create. And I think that was really important because we needed, I mean as medical doctors, what we wanted to do was to cover the breadth of everything that we would normally deliver within the simulation course. And what we needed to do was actually reign the ideas in, think about something more specific, and think about specifically how a higher quality focused sort of initial example was going to provide the platform for further alternative scenarios.

And I think that was helpful because what we then thought about was actually there's quite a lot of content even just thinking about managing, for example, a patient that we may want to thrombolysate - so give a clot buster to - after they've been diagnosed with their stroke. And then, what Laura helped facilitate was the fact that it's not just about in the 360 video, the interaction with the patient, the interaction with our colleagues, which could all be captured during that fantastic 360 process, but also the other things like the conversation with the relative to consent them and explain to them what we were going to deliver to the patient, the review of the imaging, the discussion around the drug doses, the looking at the observations. And actually, what we realized was there's so many caveats just to that initial scenario that needed to be picked out, the important granularity that's so easy to miss.

And then before we knew it, we just had so much more. We had such richer content. And that storyboard that we were encouraged to create however brief before we met, I think was crucial because on the day, we actually lost very little time aside from us sort of deciding perhaps the order of things on occasion. But what we were encouraged to do was just to behave naturally, do the things that we do in the clinical environment, and there weren't inordinate numbers of takes, and it was just thoroughly enjoyable because it felt really real at the time. So I think there was an element of pragmatism based on getting dates pretty quickly, and there was also some times where it felt a little bit haphazard, but there was method in the madness because it was all slowly coming together because I think we did listen eventually to what Laura was envisaging, and it did come together.

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

But these things are challenging when you work in different sectors and you're brought together in a very busy challenging NHS. So, for example, we wanted to have some images of our CT scanner, and I can tell you that even getting in between patients within the CT scanner in a busy NHS Trust is challenging. So it was things like that were a bit opportunistic and slightly unplanned. But most of it really as we envisaged it came together.

Michelle Ockers:

It sounded like you were well coached, and I think you've touched on a challenge, Laura, which I expect you've faced many times where when you're working as someone producing learning content with a subject matter expert, there's a couple of different challenges. One is they often want to put a lot of content into what you're creating, and the other is this whole idea of tacit knowledge and Jatinder saying, well, there were lots of parts of the protocol on lots of things we had to do that we didn't even think about. So what have you found works best for working with subject matter experts, Laura?

Laura Cade:

Actually, subject matter experts particularly working in 360 want to do one of two things. They want to simply film in 360 with no additional information, which is tedious, and it doesn't teach a lot, or they want to throw absolutely everything at it. My view of subject matter experts is the most important thing is to listen to them. Listen to what they've got to say, and then coming from a point of, especially with medical things, complete ignorance, is to ask the dumb questions, and that seems to make the subject matter expert think about what the person who doesn't know needs to know.

Michelle Ockers:

Excellent because really, you want to make sure you're walking the novice through the stuff they need to know. So you're almost acting like the novice trainee there, Laura.

Laura Cade:

Yeah, 100%, yeah.

Jatinder Minhas:

And just to add to that, I think there's an important aspect of that when it comes to education as well, which did encourage us to reflect, which was that there are some sort of assumed tasks and skills that we do that perhaps actually are important to teach and demonstrate. I'm not sure that unless we are doing that, which we had to do in this context for this video, but I certainly may never have done during my previous simulation courses face to face, is that those are the things that actually can't really be taught that easily. I think that by Laura actually encouraging us to think really step by step by step, that there was so - and the feedback we've had from the final project is that there are some excellent things that are included - that is just so difficult to convey unless you're trying to recreate that true moment. And so I don't think that should be that should be underplayed, and I think we really appreciate that, Laura.

Michelle Ockers:

So let's talk about the user experience before we dig a bit more into how you created that solution, that user experience. And perhaps, Laura, if you can start by talking about the user experience you were seeking to create what it was that you had in mind.

Jatinder Minhas:

So what we wanted to do was to put the learner right in the middle of the scene, and if you watch it on a headset, that's very evident. I mean, you're standing I think between Jatinder and Haley who's the nurse, you're right there, because that's where the camera was. But the other thing that we wanted which is just as important is that people found this incredibly accessible. There is no use to my mind in producing a 360 VR that only works when you

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

view it through the spectrum of a headset because there are, I don't know more than a million people working in the NHS, something like that. They're never going to have that amount of headsets available. So it was really important for us that it works well on laptops, on tablets, and particularly on phones because most people access most things in their lives via a mobile phone these days.

I mean, if I want to learn how to change a washer on a tap, that's where I'd go. Look at a YouTube tube video, and everything has to be small. So that for Jatinder's students, they can have a look at part of the training in the space of five minutes. It'll take them about 40 minutes to go through the whole thing, but if they want a reminder or anything like that, it's right there accessible, and in really very small chunks for material of this complexity.

Michelle Ockers:

So Jatinder, can you talk through how someone uses the solution? What do they do? And I think it's worth mentioning, there is a sample, Laura, on your website, which we'll put a link to in the show notes. People can actually go in and see some of this. But what would a typical user do once they've kind of I guess logged in or opened up the video? What happens then?

Jatinder Minhas:

Yeah, so it might be easy to answer in terms of sort of where we've placed this content now. So we have a mandatory training platform within our hospital trust that includes all of the things as a trust that we expect our colleagues across different levels to have some basic training in, and that would be, for example, looking after sort of pressure ulcers, for example, thinking about basic life support, thinking about sort of cyber safety, information governance. And what we've never had is an example of a standardization tool for what we would expect people to be doing or thinking or considering or sort of a benchmark for when they look after stroke patients in this context.

So what we hope is that new people that join the trust, people that already within the trust looking after these patients are looking for an update will log in, they will begin that process of familiarizing themselves with. If you log on to the platform, you'll see just the tools we use. So the NIH, the American National Institute of Health stroke scale that's used universally, that provides the tool that we assess stroke severity with at the get-go when patients arrive in the emergency department. We will familiarize individuals with that.

They will then be able to move on to the first scenario, and they'll begin to think about watching the video, orientating themselves to the scene that's evolving. Then there'll be some questions that will pop up or some triggers to think about the observations, review the imaging. So it's incredibly interactive, but they're also engaging with clinicians of all levels who would normally be in that context, and the things that they're doing. And I think there's an element of watching somebody in motion that begins to get your consideration to think, well, actually do I do that? What do I do in that context? How does my practice align with that individual's practice, and what they're demonstrating?

So there's the key caveats are that it's engaging and it's relevant, it's interactive and there is obviously ongoing sort of updates in terms of interaction with our own hospital guidelines. So there's nice links to those, and then there's also a bit of an assessment at the end that will allow the user to reflect on how they've achieved having engaged with the content. Some of that was things that we spoke to Laura about whether that was possible to incorporate. I know that some of the things that we wanted to do hadn't been done previously, and perhaps, we were encouraging an additional step here, but that's because we envisaged it being a tool that would perhaps be an adjunct to our existing course when it restarted face to face as a sort of prerequisite learning, but also for wider benefit within the entire hospital trust.

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

Michelle Ockers:

It opens up the opportunity to reach a new audience right, Jatinder, to just bringing people into a physical place.

Jatinder Minhas:

And also not just doctors, but all members of the multidisciplinary team which is very unique with this content. Previously, most of the content that is uploaded unless it's something particularly generic on these sorts of platforms is targeted at certain people. And we've got the beauty here is that it's very relevant to all team members.

Michelle Ockers:

That's excellent. So when we talk about the interactivity, obviously users are interacting with objects within the film environment, the video environment. They can obviously see people and their videos of real people doing the work. Is there any interaction with the actors, Laura, or is that not something that either built in or possible with this kind of video?

Laura Cade:

Not with the actors, but more with what they're doing right. And so, for example, at the beginning of the course, there's an interview that you can click. There's an interview with Jatinder talking about the time window for stroke patients. And that immediately precedes, I think, the placing of the timeline within the 360. So from the scene, we know that the patient first exhibited stroke symptoms at 11 o'clock. We know the time that we're at in the scene which is about an hour and a bit later, and we know how long you've got to hit this four-and-a-half-hour window. So that shows throughout. So that's the kind of interaction which hopefully gives the viewer a sense of urgency about it, a sense of you have to do things within a certain time.

So what else? The other interactions possibly are when the patient is being assessed when Amit is looking at all the things that they can and cannot do with both sides of their body. Then there is an interactive pop-up there that shows more detail of that, and it's slightly different from the stuff that's in the 360. So the interactivity actually is whatever you imagine it to be. The most recent work that we're just completing for Health Education England, all of the characters in it have SBAR cards which show where they are today, and most of those have an interview with them attached. So things evolve, but with this technology, you can't do an interaction such as you would do on a CGI computer game. The amount of stuff you'd have to shoot, I'd still be with Jatinder if you need that kind of detail.

Michelle Ockers:

And talking of shooting, I know we're going to talk about the day of filming and you mentioned briefly before Laura that when you were engaged there was a series of online conversations to prepare. Jatinder's talked about and giving us a little bit of a tease about a storyboard. Can you talk us through at a high level what the process was from being that initial briefing through to actually a final product being produced? What are kind of the key stages of production that you have to go through?

Laura Cade:

So once we've got a brief of any sort from a client, then in conjunction with my colleagues, we'll work out a treatment. With 360 work, what we do is lay it out in terms of what the action is going to be in the 360, what the interactions are going to be whether those are sort of static things like documents or whether they're more video, and that becomes a working document. And then my colleague Jack Hill who's my camera op DOP and editor will produce a shot list, and it's basically that we work off.

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

But obviously, those shot lists are a plan. They're not written in stone, because often when we get to clients workplaces, which is where we work more often than not, things will come up during the shoot and you need to have that degree of flexibility, otherwise as a team we would be walking away going, well, we're sticking to our plan. And then there's like some huge chunk that just hadn't occurred to people. And because we're a small crew, and because we're used to working in different workplaces, then we are very good at just being flexible on the day, because you have to be.

Michelle Ockers:

So you're not producing a script. You've got a storyboard and you describe some of the key elements in the storyboard. What's your involvement along the way, Jatinder? What input were you having? What review were you doing? What were you providing to Laura to help them to put all this together and do the preparation?

Jatinder Minhas:

So we were thinking about, for example, the setting. So where we envisaged the patient would be at the beginning of the scene, thinking about the types of movements that we might make in and around the bedside or actually, for example, out of the room to go to a different destination, for example, the scanner and then to come back. And then if, for example, between myself Amit Mistri is one of my colleagues and also Haley Mistri one of my colleagues as well, between us how we were going to think about our sort of interaction around the bedside. At one point, for example, Amit was going to go off and review initially a scan that was likely to have an outcome that was going to change our approach to management.

And so it was just about how we interacted together, ensuring that the camera was able to consider us moving to review either a screen with an image on. So that was just some sort of the nitty-gritty really. But also, I think in terms of timing, so understanding about where the real pressure points in the scenario were in terms of the emphasis that we wanted to place. And in actual fact, we probably involved more individuals as a consequence of those discussions. So we actually had one of our another member of our nursing team come down with the actual bag that we have with all of our acute drugs that we have in, how we draw them up. So that was to try and create some more fidelity at that point that actually we thought would be helpful in the context of the video. So those sorts of things were what we contributed as we evolved that storyboard.

Michelle Ockers:

Right. And the day of filming itself, it's real people doing their normal jobs in essence. It's not actors coming in working on a script. How do you set that up, Laura? How do you prepare people for that? How do you coach people or support them to kind of be natural, but also cover what's in the storyboard? What does that process look like for you?

Laura Cade:

We'd talk essentially. So you do a briefing talk and everybody raises whatever issues they think might occur, but actually, if you tell people who are clinical professionals like the team we filmed to do their job, they just get on and do it. I mean, this is something that they have done hundreds thousands of times, and they will just get on and do it. I think we probably didn't do more than three takes on any one part of it. It's remarkable how almost like when you switch people on to do their normal job, they can do it. If I was coaching actors to do it, it would be endless, but it's just people doing their normal job just as you could very easily be filmed as a podcast recorder. Nobody would have to tell you what to do. It just comes naturally.

Michelle Ockers:

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

Did it feel natural to yourself, Jatinder? As one of the people who was being filmed, what was that like for you, that experience?

Jatinder Minhas:

I was a little bit nervous at the beginning really because obviously, personally, I hadn't experienced anything like this before. But what I was very reassured by was Laura's professional team that just knew exactly what we should be doing and where we should be positioned and things based on the scenario. But actually, once we got into it, and I would say that's probably a couple of minutes after the scenario beginning, you just begin to really relax and feel that you're doing what you would normally do perhaps 10 to 15 times a week as you go down to review acute patients down the emergency department.

And I think the important thing is because it's such a team game, having your colleagues around you who are also feeling the same did really sort of create the environment and the clock and considering—so it did feel quite real actually, and I know it felt quite real, because by the end of the day, I was absolutely exhausted because it felt like we'd really really perhaps looked after multiple patients in the sort of 360 environment, and that we've created some great stuff. So yeah, but no, it was actually a very enjoyable experience. It was a long day and we managed to pack in a lot of content. But what we planned to do we managed to get through which I think is probably the sign of good planning, but also importantly, excellent delivery on the day.

Michelle Ockers:

Was there anything unexpected that arose on the day that you managed to either capture or you had to work around?

Jatinder Minhas:

Other than the fact that we actually just had a few ideas on the day to perhaps record a little bit of ad hoc interview based content that was there designed to sort of add a little bit more of a personal experience to us talking about our job roles, for example, that would perhaps help somebody who was entering the sphere of beginning to look after stroke patients and understand everybody's roles. The other thing was we perhaps filmed a couple of additional conversations around consent discussion with the relatives because we did find quite a nice area to film that just in one of the corridors where there was a phone. And so that was also great stuff actually watching it back now, that was that was a nice addition just based on the flow and the vibe and the ideas and having some creativity on the day.

Michelle Ockers:

And Laura, in terms of sort of the kind of equipment, the crew size, what does it take? What do you turn up with to do a shoot like this?

Laura Cade:

We turn up. So for this sort of scene that would be myself to direct. My colleague, Jack Hill, who I've already mentioned, he's camera op and is my editor as well. Our favourite freelancer, who's called Al Ronald who comes in to help. We have the 360 camera which - the one that we're currently using is flat. It looks a bit like a slightly oversized mobile phone, and has a 180 lens on either side. It stands on a monopod.

So one thing about filming people with that is that it's very unobtrusive. So if you can manoeuvre your way around a mobile phone on the stick, then basically, that's probably more relaxing for the participants than having them being filmed on normal cameras. And then all of the non-360 stuff, we record on two DSLRs, either handheld or on tripods. We get slightly different angles. And that's basically us—microphones, of course. We didn't use any lighting at all in the scene apart from when we did the interviews because everything shows

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

in 360. And so, yeah, it is very simple in filming terms if you've got a good crew, and I'm very lucky because I've got a very good crew.

Michelle Ockers:

So it's a good crew and the right equipment. And then the editing process. So you've come away. You've got all this film. You've had an original storyboard that you've put together. You've filmed. There's been some flexibility, maybe some variation from the storyboard. And can you talk us through then what you go through in terms of taking the film and creating the final product?

Laura Cade:

Okay. So Jack will then edit the film. You can't do huge amounts of editing on 360 because everything obviously is in the round. So if you're editing for something that's happening in front, you've got to also be aware of what's happening behind otherwise you get enormous jumps. But with something like this, there was no need anyway to do a huge amount of editing. And then, I might do a bit of a colour grade on it, and obviously sync the audio and everything. And then the normal linear film will be edited for best takes and best angles and cutting out any ums and ahs and everything exactly what you're going to do with this.

And then that raw material then goes over to our colleagues in transition, to our guy who works in Scenario VR who's called Jack Gaylor, who's extremely skilled. And he will then put that into a course. So he will use the 360 as the base. Fit all the linear film or any additional content into the correct place in that 360. He puts on all the question sets and makes them work, and that sort of thing. So as I said earlier, it's just the fact that we are a multi-skilled team that makes what we do possible to do as well as we do.

Michelle Ockers:

There's obviously a lot of different skill sets involved. What do you think was the most challenging aspect of this project, Laura?

Laura Cade:

To be honest, because everybody was so into it, and the people we were working with at Leicester were so good. I mean, particularly Malcolm, who just pulls things together out of the air almost. It was a remarkably easy, smooth, running day. I'm used to working in lots of different environments. Managing three, four people in a simulation suite is nothing to managing 20 people in a factory all of whom don't want to be there. So it's a very different experience for us, very enjoyable, and my team absolutely love doing NHS work I think partly because, genuinely speaking, everybody in the NHS is so nice to work with. But also, we feel as a team that we're doing something very valuable by helping the NHS which is our national religion.

Michelle Ockers:

I was going to say, it's the kind of work that you can see the point of it, the purpose of it, brings you a sense of meaning as well, which is always a nice feeling with your work. Timeline; what was the timeline from the time you're engaged to filming, how long did that take and then from filming to actually having the final product? What sort of time frames are we talking about?

Laura Cade:

Very short. So I was looking this morning, I think we had an online meeting on the 22nd of January, and we came to film on the 15th of February. And I think there was a slight hiatus in the middle while we were waiting for pictures of scans and things to come through because there was a lot of permissions needed for those to be sent to us. And I think we delivered to you in June, didn't we?

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

Jatinder Minhas:

Yeah, it certainly could have been earlier if it wasn't for some of the things that we needed to get together. So actually, because we had so many great ideas about additional things, we wanted to include mainly for the interactivity side of things in terms of sort of adding some of the educational content, personalizing it a little bit for our trust in terms of links to the guidance, etc., and us being quite busy, both Amit and I. It just took a bit of time to get that together. But from the raw content, we almost had that within the next few days in terms of some videos to watch and see how things were.

And then, I think there's also an importance in terms of just bringing things together in the right order and also just thinking about where you want there to be things that pop out. So that took time, and that was mainly just discussions between our colleague, Laura, and then us going away and getting some bits and bobs to pop on. And that really, that process can add more and more and more, but I think we probably reached a point where we had everything we needed certainly by, probably May or June, I think it was all good to go.

Michelle Ockers:

It almost makes it sound like the filming is the most straightforward bit or the quickest bit and then you've got all of the extra artifacts and thinking about extra things you can do with the film once it's made. Is that normal? Is that a usual experience, Laura, with these kind of projects?

Laura Cade:

I mean, no, I don't think so. I mean, the NHS is so busy that us jumping up and down on the sidelines going, can you send us this, is probably the least of their worries. And I suppose had we had everything at on the 15th of February when we finished filming, we could probably have had it to you by mid-March. It's very quick.

Michelle Ockers:

It does sound very quick, the actual work itself. So Jatinder, this was the first time you were involved in a 360 VR project. What most impressed you about the experience of creating a 360 VR solution?

Jatinder Minhas:

I think it's probably the completeness that you can gain from having this modality. It's the fact that you could deliver so much content, so much good high-quality sort of high fidelity content in the space of such a short time, and I've sort of experienced some of the more CGI based sort of 3D type scenario based content that's online, and just the sort of timelines there. But also, I think that doesn't necessarily allow you to get the realness that we've managed to convey in our final output, and I think the proof is in the pudding. It's been recognized. It's been award nominated, and was runner-up in one of our recent sort of institutional educational award ceremonies. And I think a lot of that is because we've been innovators. It was an innovation category, and I think we've innovated in the context of looking outside of our trust for additional support, and fortunately, came across Laura's team and managed to work together despite all of the challenges of the pandemic that added onto our already fairly busy and stretched schedule.

So I mean it's just remarkable what we've created in such a short space of time within the context of our existing commitments. So yeah, I mean I think the bottom line is just how complete it is, and what we hope to do is explore more topics for this and gain this sort of completeness, this level, this standard that we've achieved through this process.

Michelle Ockers:

So now that—well, we hope we're through the most restrictive period of the pandemic. How is the solution now being used? Are you back to face to face delivery? Are you going back?

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

Do you use the two together? What's the future look like or what does the current modality look like and where are you going in the future with your particular piece of training?

Jatinder Minhas:

So at this point in time, which is the end of November (2021), acknowledging the recent evolving newer strain status, we have had one face-to-face session post. I'm going to use the term peri-pandemic because I'm not confident enough to say post pandemic. And what we encouraged, but we didn't necessarily mandate, was engagement with the platform ahead of attending that course. So it's a sort of adjunct at this stage, and we're looking at feedback at the moment from that process. But I envisage in the future that as with many things now that have become more electronically focused, what they're trying to do is have some sort of content that you focus on day one, and then when you usually attend face-to-face on day two.

We don't necessarily want to lose entirely the face-to-face because there are other aspects that are beneficial through that process, but the two together I think is incredibly powerful, and also adds additional content that people can do in their spare time because it's very difficult to get clinical colleagues away for two days, but they're in essence getting two days' worth of content but they only need to attend for the one. So I think the answer to your question is as an adjunct, but equally it's on the mandatory training platform as a standalone course that can be completed in a couple of hours, and you get a certificate at the end.

Michelle Ockers:

So it sounds like it's made the training more efficient as well as expanding the reach so people who wouldn't normally have been exposed to the material and have the opportunity to learn from it, and supplementing in other ways. Laura, what's your view on the place of interactive 360 video versus face-to-face? And what are the strongest use cases, I guess, as well for interactive video?

Laura Cade:

Well, our original thinking around all interactive video was that it's so much more engaging than straightforward film. I love straightforward film. With straightforward film, you know where you are within the first two frames, but if you have to interact with it then it adds another dimension of concentration. Film allows you to train everybody on the same content every time.

Face-to-face training is great, but it relies on the skill of the trainer, what comes up during the training session. But if you've got something in film that's agreed, especially something like this stroke protocol, it is there for all time until your stroke protocol changes really, so we love that aspect of it, and the fact that it is so accessible to people. So if you want to go back and look at something, if you were to chicken to ask the question, anything like that then you can literally click on it on your phone, and that the first sort of work that we did like this that was truly based in the phone was for the Italian fashion house Fendi for their in-store staff, and we created an app-like thing for them. And the whole purpose of that was to allow them to do health and safety training and security training between customers on their company mobile phone's dead easy.

And I think that that's where this sits and the way that Jatinder is using it as flip learning as prime yourself before you go to the face-to-face session is absolutely perfect because then, once you've looked at that, then what you don't know and then you get the best out of your teach time.

Michelle Ockers:

Absolutely. And what tips do you have for listeners who will be working in learning and development typically, the podcast listeners; they may be inside an organization, they may

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

be with a vendor, but let's talk about probably if for learning and development professionals inside organizations, if they're curious about getting started with interactive at 360 VR or using it in more advanced ways, what tips do you have for them, Laura, to get them off on the right foot?

Laura Cade:

Well, I mean my obvious tip would be to hire the film company because essentially, it's film, and handling particularly the linear film is quite a skill set. But if you're gonna try going alone, get yourself a simple 360 camera, we've had experience just recently of trialling a much more expensive and much more complex and 360 camera than ours, and you end up with a lot of scenes in it and not a lot of benefit. So get something simple, and practice.

Placing the camera is the single most important thing. So placing the camera where it's going to capture what you want it to capture because the footage is not great, very close to the camera because if somebody walks very close, then you're just going to get their back or their side or whatever. And it's not very good at a distance because you lose definition and you lose content very quickly. So yeah, play, would be my advice.

Michelle Ockers:

Well, that sounds like fun. Jatinder, as a subject matter expert playing a very different role in the project, what advice would you have for others who are in a similar role to yourself who are keen that this product is going to do a great job, that's going to be a tremendous training benefits, it's going to be a good quality experience. What advice would you have for them as to their role their part to play and how they can contribute to get the best possible outcome?

Jatinder Minhas:

And, that's a good question. I think it's important to think about the sort of high yield educational training that's relevant in your specialty. So, for example, there'd be aligned sorts of scenarios in cardiology for example where you want to get to treating that heart tissue as quick as possible, but there's lots of other traumas another example where there's protocolized care. So I think what I would think about is where do people who are evolving their learning in your specialty, your field, what do they find challenging? What is it that they would benefit from really looking at an expert and how they approach things, and understand how they might align, improve, adjust what they're doing to perhaps deliver something that's more standardized or improved?

And that's by no means to say that the 360 content that we've created is the be-all of the end-all, but it's just the way that as a team, we approach things, and there shouldn't be a lot of deviation because we know that time effective delivery in that situation is what works. What I would say is have a think about where within your specialty, people would benefit from having that high yield training, and I think that Laura's used this term already. It's about keeping it simple. It's about simplifying some of the complexities of that approach, and really boiling it down to the content, the sort of really smaller elements that make up that more complex scenario, and just thinking about how you best convey them. And the video company, those video experts as Laura referred to, they will enable you to capture each component.

And thankfully, despite it all being broken down, because it's 360 video, it doesn't feel like it's broken down at all. It's actually quite continuous. And actually, that's probably what makes it so real in terms of the fact that it's evolving. So yeah, I would say think about the who's going to benefit and why they might benefit. Keep it simple, and then get the experts in as we did to support delivery essentially because I certainly couldn't do it on my own. And even if we wanted to do scenarios in the future, I think the team approach to this and people using their skill set rather than perhaps trying to do things that they're not an expert in, I think is the reason that this managed to succeed because if I needed to upskill myself in 360 video, and

Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

then all of the post-processing, I think as Laura mentioned, I think we'd still be here and beyond.

Michelle Ockers:

It is one of those things that even for a training team in an organization, the skill set is fairly specialized. And if you're not doing a lot of it, you are better off I think finding people to work with you who know what they're doing.

Jatinder Minhas:

Absolutely. And just the last point is if you're delivering training that you need to do very frequently and repeatedly, for example, mandatory training or something that you get people coming in every month who are new, I mean this is great because it creates something that's time effective and time efficient. So you wouldn't need the same people to keep delivering it multiple times. You've got that content there. And as long as Laura mentioned it, it stays up to date and it's contemporaneous, then it could last the challenge of time, so yeah.

Michelle Ockers:

Great. Thank you so much for your time, Jatinder and Laura to share this really interesting piece of work with us. I'll include a link to your LinkedIn profiles with the show notes if anybody would like to reach out to either of you to find out more as well as some resources relating to the project. So thank you so much for joining us to share your work today.

Jatinder Minhas:

Thanks, Michelle.

Laura Cade:

Thank you.



About Learning Uncut

Learning Uncut are learning and development consultants that work with learning teams and/or business leaders to accelerate learning transformation. We specialise in supporting organisations to create or update their learning strategy, enhance their learning team's capabilities, align learning to business value, and implement modern learning approaches.

We are highly collaborative and pragmatic. We partner with organisations to align learning to their business needs, unleash continuous learning, and build capability to help them thrive.

Learn more about us [at our website](#).

About your host, Michelle Ockers



Michelle is the founder of Learning Uncut. She is an experienced, pragmatic organisational learning strategist, L&D capability builder and modern workplace learning practitioner. She also delivers keynotes, workshops and webinars for learning and broader professional or workforce groups at both public and in-house events.

Michelle received the following prestigious industry awards in 2019:



Learning Uncut Episode 94: NHS Leicester Stroke VR Simulation

Laura Cade and Jatinder Minhas

- Australian Institute of Training and Development Dr Alastair Rylatt Award for L&D *Professional of the Year – for outstanding contribution to the practice of learning and development*
- *Internet Time Alliance Jay Cross Memorial Award – for outstanding contribution to the field of informal learning*



Find Michelle on [LinkedIn](#) or [Twitter](#)