Learning Uncut Episode 81
Tackling the digital skills shortage – Gail Bray
Hosted by Michelle Ockers

Michelle Ockers:
My conversation with returning guest, Gail Bray, went well beyond following up on what happened next with Project 100 which she spoke about in Episode 8 almost three years ago. She continued to innovate on this project, exploring technologies such as robotics and Virtual Reality. She now works squarely in innovation and technology as the Director of a secondary technical school which is hosted by Victoria University. We explore partnerships between industry, schools and educational institutions as a means to prepare students for the future – and address the innovation and digital skills needs of industry. This conversation will have widespread relevance and appeal to listeners working in the educational sector, industry and parents. One important topic we discuss is having confidence and courage as a learning professional. Gail is an incredible and inspirational role model. Although it was unclear to me why her previous episode is now the most listened to of all Learning Uncut episodes, I suspect word of mouth has a lot to do with it – I'm sure you'll want to tell others to listen to today's conversation with Gail.

Before we get into this Episode, I have an invitation for you as a learning professional. Learning Uncut is running a global exploration of what brings L&D professionals a sense of meaning and purpose in their work. Until 18 August 2021, we are gathering stories in the 'My L&D Why' campaign. You are invited to share a story that illustrates why you work in L&D, and to listen to the stories of others. We're using an app called Storytagger to gather these stories. Just download the app, create an account using your email, enter the code MYLDWHY (that's M-Y-L-D-W-H-Y) and follow the prompts. See the show notes for more information and listen to the end of this episode for a story.

Michelle Ockers:
Today, we're welcoming back Gail Bray, who was one of our early guests way back on episode eight, almost three years ago. Welcome back, Gail.

Gail Bray:
Thanks, Michelle. So lovely to be with you again.

Michelle Ockers:
It's a real pleasure to have you back. And I haven't done a what happened next episode for some time. So some of the listeners who've been with the podcast for a while will know that we like to revisit some of our older stories and just follow them up and find out what's happened with that body of work, what has the person that we interviewed our guest done since then. And something really interesting happened last year, Gail, with your podcast episode. Mid last year, the listenership in the United States started going up. What I noticed was it led to a radical shift in the episodes which were being listened to the most. And for some reason, your episode about Project 100 has really had strong interest over the last year to the point where we're now up to 2,500 unique downloads of the episode. SO, a story well worth sharing. Thank you for that.

Gail, Project 100 – let's do a quick recap for our guests. It was a response of Victoria Polytechnic to a state government policy change that eliminated public funding directly to training providers and increased competition in the sector. You led a really successful three-year strategic initiative called Project 100. Maybe it should have been called project 3000 in retrospect because I remember we talked about the scale of it. It was transforming a hundred qualifications, but there were more like 3,000 units of competency, so a big

undertaking. And the transformation was significant on a number of levels. You just radically shifted the delivery approach, introduced digital technology, and focused on skill development, job progression, and career outcomes. You had to rethink how you worked in order to do this redesign.

There was a lot of really strong communication, strong stakeholder engagement, and you modified, you re-engineered the ADDIE framework, and put it within an Agile approach. And I think you were one of the first guests who'd ever talked about Agile on the podcast—and every time—every—maybe that's got something to do with it, although we didn't emphasize that in the—in the description of the episode that every episode we do around Agile ways are working strong interest.

Gail Bray:
Okay, interesting.

Michelle Ockers:
Yeah. Have you can continue to evolve Agile work practices in your work?

Gail Bray:
I just think it's more of just a methodology that you subliminally just use. So, for example, with the work that I'm doing now in the—in the digital transformation space, if there's ever a problem to be solved, we'll tend to turn to Agile methodology. SO, scrums and sprints - and not really using the language, though. It's just part of what we do, just part of our normal practice.

Michelle Ockers:
Why do you think it works so well? What do you like about more Agile practices?

Gail Bray:
I think when you're working in a really bureaucratic large organization, what tends to happen is people do death by email, so there's a lot of communications that tends to happen over email, but nothing actually gets done because there's no accountability and deadlines. SO, I think when you start looking at the Agile model on the scrums and the sprints, it's really about getting people in the room together, and within an hour, you can complete a task that people try to do through email communications that sometimes never gets done.

Michelle Ockers:
Particularly when you have to work with subject-matter experts who've got a lot of demands on their time; they're busy, and despite best intentions, might struggle to get to things that you need to happen to get a piece of work done on a project, right.

Gail Bray:
Yeah, that's true.

Michelle Ockers:
Another innovation in that project was the implementation of flipped classroom, and you had to put a lot of effort into supporting teachers to change their approach. How—when you look back on how teaching was happening prior to Project 100, and the process you went through the transformation during the project and what things look like now, typically in the classroom or the virtual space or whatever space people are learning in and the role of the teachers, how has that shifted?

Gail Bray:
Well, I've I moved on from that role Michelle probably two years ago now, so that's been handed over to a very capable leader, Matt Cook, and he's continued to sort of enhance and

grow the model. SO, what's happening and, of course, COVID has escalated the model and the impact of the model really came to the forefront when COVID hit.

When we had to down tools and automatically move to remote learning, the Project 100 and the blend flip classroom model has served us really, really well. It was an easy transition for teachers. All they really had to do was move the face-to-face component to the virtual classroom. Matt spent quite a lot of time with professional development, how to create engaging virtual classrooms, which is another layer because what you'll find that students do in this remote world that we've come into they turn their cameras off for privacy reasons. And you can have 20, 30 students, and you can have a blank screen, and a teacher's trying to engage learning in virtual classrooms.

So he's spent a lot of time now, and sort of really bring to the forefront that—the capability with teachers and the skills required to engage people in virtual classrooms. The pre-learning and the post-learning really hasn't changed in relation to the e-learning to frame up what's about to happen. What did change was how do you engage people in virtual classrooms.

Michelle Ockers:
It sounds like the work that was done; you were one of those organizations that was well-positioned to respond rapidly and adjust when COVID hit. You didn't have the classroom because you'd done a lot of the foundational work to prepare for that, and a lot of the mindset shift for your teachers and starting to build skills that you could then build on. So getting ahead of transformation and doing it before you absolutely need to do it, although you had a burning platform, I think has served some organizations well, those who were more digitally mature.

When you look back at Project 100 and think about personally what it's meant for you as a learning professional, what you learned out of it, or what it's enabled you and equipped you to do, what's your biggest reflection from that period working on the project?

Gail Bray:
I think the fear of failure sometimes paralyzes people to take risks, and that's particularly in a large organization. So I think what I learned from that is don't be afraid to take those risks. And when you hit roadblocks, don't be afraid to communicate your way through those roadblocks. And by that, I mean, the critical friends within the business becomes really paramount, so people that are going to need to assist you, it could be in the procurement area, it could be in the finance area, it could be in the human capital area, it could be in the—just the internal stakeholders within the different departments, you hit a lot of roadblocks. And as I've moved into my new role, which we'll probably talk to—talk about a little bit later, that experience has served me—served me well to not be afraid to fail and take those risks.

The second thing is the power of communication. And I think again, in large organizations, we tend to be afraid to pick up the phone or be afraid—or communicate via email. And there's nothing wrong with just the old-fashioned get out behind your desk. Well, of course, we can't do that now. But get out behind your desk, walk around the business. Speak to people. Go to their meetings. Get in front of people as much as you can to keep the message—keep communicating the message that you're here to make their life easier to provide them with support. You're not going away—you're not going to leave them on their own. So there's some key messaging that needs to really happen in the communication space.

And then the third thing probably is that real sponsorship. So the leadership part—if you don't have a leadership team that is going to support you and the risks that you're potentially

taking, then it's really difficult to push through those roadblocks. You need a decision-maker so that sponsorship and that leadership and the decision-making process is paramount. And then celebrate—like celebrate people's success around you.

As the teams gained momentum and gained success, they were—they were—so that—they were given awards through our teaching and learning symposiums. The blending—the blended learning leaders within teams were actually put up front and centre and given these awards each year for the work they've done in the space. So that became really important to celebrate their success.

And finally, when we talk about success, and we talk about not being afraid to fail and back yourself and the people around you, this project ended up as part of the shortlisted for the learning awards in London. Now, who would have thought a little TAFE, a little team, we're on stage at the Dorchester in London, and we came runner-up, I think to Hugo Boss.

Michelle Ockers:
Wow, that's amazing.

Gail Bray:
So don't be afraid to put yourself out there. Yeah, it's going to be hard. Yeah, you're going to need grit, and you're going to need good people around you. But have a crack, and I think that's served me well moving forward since Project 100.

Michelle Ockers:
This idea of confidence and courage in learning and development, I think too often we hold ourselves back. We get—we tell ourselves a story about who we are and how others regard us, and it holds us back. In special podcast series we I did last year called emergent which was exploring. Yeah, it was—it was—it was a great series of discussions. There were 16 episodes. It was co-hosted by Laura Overton and Shannon Tipton from the UK and the U.S. We explored the theme of what will it take for learning and development to emerge stronger from the current disruption.

And one episode was on courage and confidence. I'd like to just explore that a little bit more before we move on to some of the really amazing work you've been doing in the past two years. Have you always had that level of courage and confidence, and grit? Where does that come from? Has that been something you've had to develop, and how does—how do you develop that?

Gail Bray:
That's a really good question. I would describe myself as someone that suffers from the impostor syndrome because I feel like, throughout my career, everything I've done has been in the transformation and innovation space. It's a high-risk-high-failure rate. And the confidence, I think, is more about the passion that I have with the work that I do. It's probably come from I guess everyone reflects on their childhood, and when I was younger, my mum—I was brought up by a single mom. Very strong, had her own business. I would work in the business from the age of 16 and run a business—like run a small sort of coffee lounge. And in New Zealand, and then left home quite young, and had that real survival instinct, I guess. And didn't really have the fear—a lot of fear of mucking up or getting things wrong because you just—you just get on with it, and hard work sort of served you well.

So I think it comes a little bit from that, but I think it's also comes from the leadership that I've had around me and the projects that I've led. I've had very strong leaders, and Grant Dreher, who's now the CEO at TasTAFE, and Dianne Semmons who is now our vice-chancellor—I think that's her. I've got to think about what her title is, but she's like the CEO of the TAFE here at the polytechnic. And their leadership style has very much allowed me to have the

confidence to keep going.

I don't think it's a natural—I wouldn't describe it as a natural feeling. I would describe it as a feeling or a skill that I've had to learn along the way and surround myself with mentors and others that sort of if I do feel like I'm struggling, that I've got people that I can turn to.

Michelle Ockers:
We all have days we feel a bit wobbly, right?

Gail Bray:
Yeah, absolutely. Okay that's okay. And I'm also not university trained, if that makes sense. So I describe myself as an intrapreneur, not an entrepreneur, but an intrapreneur which is more of an inside organization entrepreneur style of leadership. And that again is just the risk that you take when you—when you're playing in that space.

Michelle Ockers:
I think it's about expanding your comfort zone just a little bit beyond where you already are, and no matter what your starting point is, you had some experiences early in life that helped you to do that. But no matter where our listeners are right now, just thinking about what's the next stretch for me, what's something maybe I feel a bit uncomfortable with, and also looking as you say for those leaders and mentors. There's something else you mentioned in passing which I think is super important, and you've got a passion for what you do. I think if we can tap into our sense of purpose, and really believe that what we're doing matters, we're willing to go the extra mile and to put ourselves out a little bit more.

And one of the things I'm doing at the moment through Learning Uncut is running a campaign called My L&D Why' where I'm inviting people to share a short story via a video app called Storytagger which illustrates their sense of purpose and meaning in the work that they do in learning and development. So there'll be some information in the show notes for listeners. That's running. We're gathering stories for another two and a half months until 18th of August.

Gail Bray:
Yeah, and I think those—I think the point you made there Michelle is critical because as I work with a lot of industry now in the work that I'm doing, it's really about those cognitive skills everyone talks about. So the fact that you've got the ability to communicate well, the fact that you've got drive, the fact that you're confident, the fact that you've got a positive attitude, a skill that will serve you well in the environment that we're currently in because the fast pace of change that we're all experiencing now is not going to go away.

So you're going to have to constantly upskill and reskill. But those fundamental cognitive skills that are often referred to as soft skills are those skills that will never go away and trust those skills and build on those skills.

Michelle Ockers:
Absolutely. Let's talk about the work you've been doing in the innovation space in the last two years, Gail. Can you talk to us about what it is you've been up to?

Gail Bray:
When I was coming to the end of Project 100, one are the opportunities I identified was how do we bring innovation into the model? So, for example, how do we bring our humanoid robots into aged care? How do we bring our humanoid robots into early childhood? How do we bring VR technology into our dementia training and sports training that we do? And also

our CAD. So our CAD and 3D printing training within engineering.

What I identified was it wasn't that difficult to build with my L&D team we piloted a few programs. It wasn't that difficult to build that in. But what that led to was another opportunity which was the creation of an innovation space at our Sunshine Skills Hub out here and on Ballarat Road. So VU was funded through the state government through VU funding and also the Ian Potter Foundation to build this incredible space for TAFE training, and it's an awesome building.

If you google Sunshine Skills Hub you can have a look at it. It was a bit of a game-changer for us in the TAFE sector. So from that, we built—I built an innovation space which is really about project-based learning and bringing industry close up to our TAFE training. So if industry have a problem for example today I'm going out to a COVID vaccination site, I've been working with the doctor, and our humanoid robot Pepper will be greeting patients and providing them with information.

Now, that—the reason that came about because that particular doctor had a problem, his receptionist is repeating the same information to clients and patients as they come up to a hundred times in two hours. So we were thinking, okay, let's bring Pepper our humanoid robot in. That can actually put a smile on people's face at the same time, reduce anxiety while they're waiting, but also relay information to them. And then that receptionist can spend more time taking bookings for COVID vaccination which is a big problem for us in Victoria at the moment.

This integration and problem-based learning and problem solving with industry is where TAFE training is heading. I set that innovation space up at Sunshine, but at the same time, I was—about nearly 18 months ago, I was asked to run Wyndham Tech School. And Wyndham Tech School is a—delivers science, technology, engineering, and maths training. It's operationally funded by the Department of Education and Training. It is hosted by Victoria University, and we again have a vision to upskill and bring training in the STEM space into the secondary school system which is—which is a little bit behind. Not all secondary schools, but the majority a little bit behind in the space.

We follow industry 4.0, which probably everyone's heard about where physical world and the digital world connect. And obviously, the internet of things is now a huge thing. So everything's connected, and just look at what's happening with the Zoom boom that we're all experiencing. And, of course, security is a huge issue. Cybersecurity wraps around that. So the Wyndham Tech School provides that modern training to over 9,000 students in Melbourne's West each year. And of course, what we've been able to develop through the innovation work that I've been doing is create a pathway from Wyndham Tech School into the polytechnic.

For example, a student can come through Wyndham Tech School and be given cyber awareness training or cybersecurity training. And then they can go on into the polytechnic and do the certificate for—in cybersecurity, and then on to higher ed if they wish to. This is where this ecosystem I call the digital arm that I have been responsible for building. And then one last piece of that was the creation—so this is what I've been doing in the past couple of years, is the creation of a cybersecurity training centre out at St. Albans, which was in partnership with tech giant Cisco. And that again is has is an amazing facility that provides mature age workers or school leaders and mature age workers the opportunity to retrain in cybersecurity. And that has a massive industry focus because, at the end of the cert four, our grads have opportunities for employment. And just this week, we've placed two students in grad roles. This ecosystem and this digital arm that I've been building has served

us really well on the back of the work that we started with Project 100.

Michelle Ockers:
Reminds me of the saying, from little things, big things grow. There's—you can see how it's evolved, and there's so much to love about the way you've approached this and the synergy between these different pieces of work you describe. There's a few of them I'd like to explore a little more with you if we could.

I want to start with Pepper. And hopefully, we can get a photo of Pepper to put on the show notes for people. How did that work come about that you started working with humanoid robots and then started moving from whatever exploration you were doing in the context of Project 100 moving into looking at industry application?

Gail Bray:
The humanoid robots I —it was about three years ago, so when I was in doing Project 100, I came across them, and we were the first in Victoria to get the now humanoid robots. And it was really—I think back then the buzz around coding was starting to come through the forefront of technology, and so a lot of research I was doing and just googling and normal stuff that we all do, I felt I came across some examples of case studies that were happening in Germany, and it was in the aged care sector. So we started to explore how we could introduce that into our training.

I started out with the NAO robot, and then, of course, I then wanted Pepper. Now Pepper's a bit more think of about the size of a five-year-old. So then NAO robots are only probably a couple of feet tall or probably—yeah, probably a couple of feet tall, whereas the NAOs are probably the size of a—of a five-year-old. It's more human-like and had a lot more expressions like it like a human. I tried to get my hands on one of them, but there was a lot of robots and getting it into Australia. It's made or was distributed by SoftBank robotics, but there were none. I think there was one, maybe a QUT in Queensland, but there was none in Victoria.

People that know me know never give up. So through lots of channels, and eventually, it came down to someone on my team that knew someone, and we eventually got the first pepper. And that was about two years ago. So, of course, with this technology, it becomes okay, so how are we going to introduce it? How we're going to how are we going to work with industry to solve problems for them? Pepper had been used on a trial at Townsville Hospital, and Pepper had been used as an information desk. So still very early technology. I looked at that and thought, okay, there's an opportunity for us to look at how Pepper can be used in the health sector. And then, of course, you're starting to see the rise of social robots—humanoid robots in hospitality, and you're starting to see them as concierges and hotels, serving food. In retail outlets, they're being used to welcome customers.

Robots are here, and when we talk about industry 4.0 robots, will not take our jobs, but we will be working side by side. A lot of the thinking behind it was to make sure our students that come to Victoria University Polytechnic leave with a skill that others don't have. That industry will go, oh, I didn't realize you knew how to code, or you knew how to work with technology in this way, and it gives—hopefully, gives our students a competitive advantage.

So that was sort of—my thinking was how do I link the work that we're doing closer to industry? How do I bring industry closer to us? So that was the thinking behind the robotics at the time, and, of course, the skill is in problem-solving project-based learning and also in coding.

Michelle Ockers:
Do the students get the opportunity to work on projects for industry then? Is that part of the

learning process as well as the process of building industry awareness and solving problems for industry?

Gail Bray:
Absolutely. I've got my secondary school model through the Wyndham Tech School. That's been designed and developed around programs. So you think students who are studying maths, for example, will come in and do a program, and we call that program Autobots. And that program is in partnership with our agricultural firm in Werribee called Velisha Farms, and Velisha farms had a problem. So they wanted to make improvements on their production line. So we put go-pros in Velisha farms production line, and we've videoed what was happening. And then when our students come in, and I think these might have been computer system students or math students, I can't remember. They come in, and they look at the footage. And then, as a team, they have about half an hour to come up with improvements.

Then they have to go into our design studio, and they have to simulate the improvements and simulated production line software. And then, they present back to the client how they've reduced lead times or how they've identified improvements for that particular business. So that's one example, and then, of course, the other example is the one I mentioned with the doctor and how we're working with healthcare to actually introduce Pepper and humanoids into replacing some of those repetitive tasks. And then we're also working with what they call collaborative robots with healthcare; working with how do we use our collaborative robots to work with the COVID vaccinations, the injections, so how do we—how do we fill them instead of a human filling the injections if that makes sense.

At the moment, it takes the nurse five minutes to draw the fluid into a needle. I don't know the language you can tell I don't work in health, but—and the robot could probably do that quite a lot quicker. So we've got a project that students are working on the tech school around how we can get the robot to do that and reduce that human repetitive work so that nurse can give more injections.

Michelle Ockers:
How do you form partnerships with different organizations in industry? What does that engagement process look like, and how do you set an engagement up for success? And then I'm going to flip it and ask you if there's someone listening and thinking I would love to find a partner to work with doing the kind of stuff that this innovation centre is—this innovation space is doing. I'd love to find a Gail in my local area and find a way to explore some of this.

So the first bit from your perspective, how do these engagements get set up? How do you find the projects? How do you engage? How do you set them up for success?

Gail Bray:
That's a million-dollar question, isn't it? It takes time, Michelle. I'm probably five years in my networking, and what I've been doing over the years since project while I started Project 100 was to get my LinkedIn profile really up scratch and connect—so connect with as many industry buddies as I can connect with as many industries as I can. When I set up the Sunshine Skills Hub Innovation Space, I set up an innovation advisory group.

These were key players in industry that came together to provide feedback on what—on the model. This was not in a me-led solution. This was about going out to industry and asking them, hey; I know that there's an invisible skill shortage in the digital tech space at the moment. And before COVID, we had this invisible skill shortage. How can we—how can industry and education really work together? Not as an email exchange or some research, but actually come together. And I talk about the importance of that face-to-face interaction to

problem-solve their issues through—and education can help solve their problems.

I set up an innovation advisory group, and those people are still—I'm still very much connected to. When I set up the cybersecurity training centre, I also set up a cybersecurity advisory group and reached out to my network. I surrounded myself with mentors in the area, that again, I used to float ideas past, and then of course through my networking and my engagements and presentations, and obviously, putting myself out there visibly and then, of course, those connections then come. So that's one, that's part A, let's call it. You create—you create a network around you.

Part two is you've got to define the mutual benefit between education and industry. So why does Velisha Farms want to work with us? Why does companies like BAE Systems and City West Water want to employ our grads? This mutual benefit is they want access to talent. So when I talk about this invisible skill shortage, they know that if they can get access to talent in this space, then it's going to serve them well as they hit this crisis that's starting to happen with the skills shortage in the digital tech space.

We know, for example, that by 2025, Australia will need 6.5 million additional workers with digital skills. 6.5 million. So this skill shortage, we may not hear about it in the media, but I hear about it when I'm talking to my industry partners. And, of course, what I'm working on is how do I provide them with the pool of talent. And our young people coming through and our existing workers, they want a job. They don't want to come and do a 12-month two-year qualification with us and have no job at the end. It's about how do we also create grad programs and job outcomes, work experience for these students. So that—that's where the mutual benefit we defined.

The other opportunity, and this is probably the last thing. The third thing is the project-based learning is a really important, so industry struggle with diverse thinking. Now, if you're a young person and you're 13, 14, 15, 16, 17, 18, you're gonna think differently to us oldies that are jaded by experiences and our heads are filled every day. So you bring these young people in, and you give them these projects, and these challenges to solve, industries step up and go, oh, wow, we never thought of tackling it like that. So there's another mutual benefit, but our students get to work on real-world projects, and they also get to connect with industry before they leave school.

Michelle Ockers:
You really are a broker in the middle of all of this, spotting the opportunity and bringing the parties together to create mutual benefit. And it as you say, it's taken you a long time to do that. That's what I see, and you've got the vision, and you're the broker and the networker and building the relationships and connecting people around that.

Gail Bray:
Yeah. I never thought of it like that, but yeah, I guess—I guess it's about disrupting education, and I often talk about—it's very difficult. We're very bureaucratic in the government. But it doesn't mean we can't sort of wriggle. There's wriggle room there, I guess is my point, and that's where the courage that you spoke about earlier comes into it. If you're sitting in an educational institution, let's call it, or a bureaucratic institution, then don't be afraid to put forward an opportunity or an idea. But what I would then say be prepared to back it up and implement it because someone might say to you, Gail, that's a great idea. Off you go, but you've got to implement it.

You've got to also—so I guess my messages I've been able to in my experience and my success to this date clearly demonstrates that not only do I come up with the idea, but I then can implement and I bring people along on the journey to do that, I don't do that in isolation. My approach is very collaborative, and it's about bringing all the key stakeholders inside the

business together to actually help implement these ideas.

Michelle Ockers:
Are there other educational institutions—let's start with Australia—but then also globally that are doing anything similar to what you've created through your work?

Gail Bray:
Now look, I'm sure that there are. I know that RMIT do some great work in the space, Swinburne do some great work in this—in this type of space. And Germany obviously the world leaders and looking at how you bring applied research and industry into education, and they probably do that better than anyone. But I guess it's probably a deficit for me sometimes is that I'm very focused on myspace and what I'm doing, and I don't tend to—yeah, get—I don't tend to compare myself if that makes sense. Or I do definitely through research though look at—look at what other models.

I've been to Singapore. I've been to Hong Kong. I've seen what they're doing in the innovation spaces over there, but it's just more that I guess what I try to do is stay focused on what we need to achieve because otherwise, you can sometimes—I call it noise. There's always a lot of noise around you. And if you want to implement something and if you want to stay focused, then sometimes you can't worry about what others are doing, I guess is my point. I'm not sure if I've answered that question, Michelle.

Michelle Ockers:
The angle I was coming at this from is for those listeners who are sitting outside of the educational sector. So those who are sitting in educational institutions, I hope—and bureaucratic organizations, I hope they're listening to this thinking, oh, there's some good stuff here. I could do to be a bit more innovative, but I was looking for a shortcut Gail for the listeners who are in organizations, thinking, oh, I'd really like to find an educational institution doing something interesting that I can partner with. And some of your industry partners are not necessarily large organizations. I think some of them are a relatively small local businesses and organizations that you've partnered with.

What advice would you have for someone sitting there inside an organization thinking? I see the skills gap that Gail is talking about, and I can see the benefit of getting involved with an institution that can support me with some of this problem-based learning as well as providing opportunity for exposure to some of their graduates and potential talent pipeline. How do they go about finding partners? Do you have any insights you can offer on that?

Gail Bray:
So how can industry go about finding educational partners?

Michelle Ockers:
Yes.

Gail Bray:
Well, there's ten tech schools in Victoria. They all operate a little bit differently, but they do follow a similar model to mine. So you google tech schools, and you'll be able to get in touch with the—with the director, or I can also put people in touch with other tech schools around Victoria. Through the TAFEs, obviously, it's about contacting the TAFEs and really working closely with them and getting access to their—to their talent. So, of course, there's 14 TAFEs I think in Victoria that you can get in touch with.

You can get in touch with me. I mean, I can—we're a global economy now. Like I can create—we can do 3D printing and CAD drawings and creations in Wyndham Tech, but we can send them all around the world. We're also a global—so I think location is not such an

issue anymore; that you can actually connect with a tech school like myself or a business like myself, and I can help industry out. If I can't help you out, I'll be able to put you on to another tech school or organization that can.

Michelle Ockers:
Of course. It also strikes me that building the network—building your own network in the way you described that you did to get started to reach out and find potential partners to find bodies that you could learn from and people you could tap into, that people sitting in organizations can do something similar themselves to fight to reach out and find—do some research around educational institutions in their area, or as you say even globally if there's something specific they're interested in and connect with them, reach out to them to form partnerships.

I was also interested in what else did I talk about here? Actually, let me flip the question. Is there any aspect of your work that we haven't dug into that you think you would like to really take a deeper dive on in the time we've got left? Anything that stands out in terms of the impact of the work you're creating or anything you feel it has been a really valuable lesson you've learned that others may benefit from hearing about.

Gail Bray:
I think I think probably what I've learned is the lack of knowledge in this space. So—and I'm talking about parents, principals, school leaders, and industries. So if you're a top tech company, of course, you're all over this, and if you're a robotics company, of course, you're all over this. But if you're a local mum and dad business, this will block—a lot of this technology and these opportunities they don't know about. Our school leaders are scared of probably what's happening in the tech space because the sad news is that by 2025, 100% of our secondary schools are going to have struggle getting teachers with digital technology skills.

This is not just about preparing young people for the future of work, and I guess that's what I do. This is also about we are losing—we don't have capability within our education system to teach these skills, and that's really scary. The state government did a great job in setting up the ten tech schools because there is definitely a shortage, but there's also a shortage of teachers and TAFE that have these skills. There's also a shortage of teachers in higher ed that have these skills.

A lot of parents don't understand that their children can get very well-paid jobs in content creation—look at content creation; it's exploding. You—everything. You pick up your phone, and someone's had to design the user interface. Someone's had to code it. You look at your website, you look at the future of holographics and 3D art and projection art; there's a huge amount of jobs in that space, but no one's talking about jobs in content creation. There's a gig economy that supports a lot of these jobs. Then there's also what's happening in the gaming space. Now, the gaming industry is growing at a rapid rate. It's a billion-dollar industry, and it employs thousands and thousands of people, production assistants, videographers, content creators, finance—financial people, accountants, project managers.

So who's talking about this emerging—these occupations that are already in existence? And that scares me a little bit that—I think that's what—you think the impact or the insights that I've had is the lack of knowledge in the space about what's possible for young people and for existing workers that may have been retrenched due to COVID, and also through manufacturing jobs being lost. How do you transition those skills into these areas, which isn't—which is not difficult. It's just no one's really talking about it or knows about it. That scares me a little bit that the government hasn't really jumped onto this like they do with trades. Yes, we need traders. Yes, we need nurses. We also need digital technologists

because the digital economy is booming.

Michelle Ockers:
Very much so, I recall hearing an announcement from Telstra, who are, of course, Australia's largest telecommunications company. I think about almost 18 months, two years ago, that they had partnered with seven different universities to build a talent pipeline for them around skills that they couldn't recruit and they couldn't build themselves. And a lot of that was around artificial intelligence, coding, some of the skills you've been talking about. You're tackling that at the secondary school level to create that feed-up mechanism into the labour market. But clearly, they are conscious of it, and they're taking steps.

The angle of parents, I hadn't thought about before, and I have a 16-year-old child. So as a parent myself—yeah, and she's struggling at the moment to figure out what does she want to do. And you talk about the STEM education; she's in year 11 doing science and math subjects predominantly. But she's struggling to get good career advice as to what her options are, so she's sitting here going; I don't know what to do. So I think that speaks to that question around the gap of awareness in what is being provided to her through the school career guidance system around opportunities. I'm conscious there's an organization in the UK called the Stemettes. Have you ever heard of them?

Gail Bray:
I've heard about a lot. There's a lot of stuff—

Michelle Ockers:
Yeah. So they're about educating parents and young people about career opportunities in the STEM area. So I think you've highlighted an important gap.

Gail Bray:
Well, I probably look—I probably want to sort of again disrupt all of—all of the language because I think that I've got two daughters myself that have—that have left school now. But if you mention the word STEM, like young people's eyes just glaze over IT. Really, I don't want to work in IT. I think that the opportunity that we have as educators and as leaders in this space is really around just breaking that whole language down.

These skills are fundamental digital literacy skills that you're going to need, so if your daughter decides to be a psychologist, guess what she's going to need? She's going to need to work with data analytics. She's going to need skills and data analytics. If she wants to work in marketing, she's going to need content creation skills, data analytics skills. She's going to need to know how to communicate through various platforms. If you're working in building and construction, you need project management tools. You need—if you're working in sales, you need to know how to use a CRM a client relationship management system. Then you need to know how to take all that data and look at patterns, and you need to be able to communicate that back to the business so they can make business decisions based on that data.

So it's not so much about the work that I'm doing. I think what I want to do and what I'm struggling to do is tear down the language around IT and STEM and just—it's just skills. It's just digital literacy skills that you're going to need for every single occupation. You tell me

one occupation that doesn't need digital literacy skills?

Michelle Ockers:
I don't think there are any at some level.

Gail Bray:
But our schools aren't teaching them.

Michelle Ockers:
I've got this analogy in mind. I picked this up somewhere that fish don't understand what water is. Like they have no concept of water, right, because they're just in water. It surrounds them. And I wonder some of the conversations I have with my daughter if I were to sit down and talk to her about digital literacy and digital skills; she would just say, mum, this is just the way I operate. Like I look at how she communicates with her peers. I look at her preferences for how she might submit school assignments, how she researches things, how she learns about things, and it's all using digital skills.

So perhaps part of the challenge for some of our younger generation, they don't even recognize what it is because it's just part of the way they operate, but perhaps needing to name it to say you need to consciously work on building it is important as well, Gail.

Gail Bray:
Yeah. And I think that digital natives and our teachers are digital immigrants, the majority of them. And look, there's some great teachers doing work in this space. Don't get me wrong. But I think what the data is telling us, we're not getting a particularly young woman take up careers in STEM or in cyber. I think cyber's 11%. Tech is about 22%. STEM overall, I think it's about 18% now. Maybe it's gone up to 25%

What's going on in our schools for this to be happening? What's going on and in the conversations around the table with our parents? People don't know what they don't know. People don't know what they want to show them. There's a lot of—because of the fast pace of change, how could you expect any teacher or parent to even keep up with this?

Michelle Ockers:
So what would you like to see happened? What do you think is going to be helpful to address the challenge? I know that's a big question?

Gail Bray:
It needs to start in the universities that are doing the teacher training. So if you're doing a Bachelor of Education, if you're not doing everything around technology, so if you're an English teacher, you should be using technology to present because that's really important. If you're a math, you should be teaching data analytics. So it's about making sure that when these teachers are going through university and having it—doing their teacher training that they are doing that project-based learning, that they are building that into—understand they can build it into the curriculum, that they have just the normal exposure to the types of technology that they're going to see in the workplace.

For the teachers that are already teaching, what are we doing to really invest in and upskilling and reskilling them? And it's really difficult because I work with secondary school teachers. I know-how under the pump they are. This expectation that they have to keep up with everything is really challenging. But we have to start investing in our teachers. We have to start to have a similar model to the health sector where you do CPD training every year, and I know there's professional development training that our teachers do. So what does that look like, and how can we make that more digitally orientated? Feedback that we get from our students, so we have a STEM student leadership program, is that they want the

schools to do more in the technology space.

The young people are saying we're not—why aren't we doing more digital art in school? It's expensive equipment. It changes rapidly. It's a massive pace of work that a school needs to invest in. And a lot of schools are starting to invest in this, and the whole objective of Wyndham Tech School and our team tech schools in Victoria is actually to fill that gap and help our teachers do it, but it's very slow.

Now, that's okay for the kids coming through, but what about our TAFE—what about our TAFE teachers who's investing in them? That's why we're not seeing a lot of this robotic training, for example, being done in engineering and TAFE. So it's all about talking about university, right? But the rubber hits the road in the middle of what I call the middle layer. So for every data scientist, there's 10 jobs that are going to support that data scientist, and those skills are going to be learned in TAFE or—

Michelle Ockers:
In some sort of technical institution or technical training, yeah.

Gail Bray:
Yeah, content creators. You don't need to go to—there he goes. You don't need to go to university to be a content creator. But that's the—that's the trans—it's a transferable skill. So there's a lot of work to be done, I think, in really investing in the capability of our—of our teachers—

Michelle Ockers:
What a wonderful wide-ranging discussion. I didn't expect to land here, Gail, but I'm really glad we did because they're important things for us to be thinking about and tackling across all sorts of sectors in Australia and around the world. Thank you so much for coming back and being our guest. It's really exciting and energizing to hear about the work you're doing. And no doubt, there will be people who will want to follow up and find out a little bit more from you, Gail. Thank you so much.

Gail Bray:
Oh, thanks, Michelle. Look, I'm more than happy to, yeah, connect. I'm on LinkedIn. People can find me there, and I can connect. And I think my key message before I just leave you is that this is—this is a movement. This is not about one individual. This is about a collective of people that are passionate in this space coming together and really making a change and leaving a legacy.

Michelle Ockers:
Thank you, Gail. There will be a link to your LinkedIn profile in the show notes, and we'll gather some other resources that are relevant to what we've talked about today.

Gail Bray:
Oh, wonderful.

Michelle Ockers:
Thanks again.

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About your host, Michelle Ockers

Michelle is the founder of Learning Uncut. She is an experience, 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:

- 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*

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