

Interview

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THINKING OUTSIDE THE BOX – A SUSTAINABLE HEALTH
AND SAFETY INITIATIVE: AN INTERVIEW WITH
SHARON BUCHANAN-LETTIS, OTAGO POLYTECHNIC,
DUNEDIN, NEW ZEALAND

Interviewed by Karole Hogarth

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Tell me a bit about your role Sharon?

I have been the clinical technician in the School of Nursing for five years. I am involved with all nursing students at some point supporting them in their clinical experience. The main things I do are setting up laboratories (labs) for students, setting up and participating in clinical simulation scenarios for clinical learning and helping run sessions such as Hololens, virtual reality patient scenario learning. Maintaining equipment and ordering and recycling resources is also a big part of what I do. I have also taken on some administration tasks such as planning for graduation which I have done for a couple of years now, with COVID-19 I needed to think differently about my job, and this was one way I could help out the team.

I am the Health and Safety representative for School of Nursing, which is part of the greater Otago Polytechnic Health & Safety (H&S) group which involves monthly audits and ongoing education and training. Part of this is ensuring that all staff and students meet the H&S requirements via online learning modules, practical application of the principles and to improve understanding around how we must all be involved in safety

What do you like most about the work you do?

I am a practical person, so I like that it is hands on and that the work is varied. I do like to find solutions to make things work well. One of the best parts is working with the students, I get a lot out of being part of their transition from the early days and the introduction that I do for new students to laboratory environment then watching them progress and seeing them through to graduation.

What are the major challenges for you in your work on a day-to-day basis

Keeping on top of the needs of the educators and understanding what they want from you when you are not a nurse, also getting the students to see the clinical laboratory as a ward/workplace through hygiene, safety, safe practice, thinking about others and really starting them to think about their role. Acquiring resources for the labs over the last three years has been challenging. Throw away of resources has been historic but the supply chain has meant a change of mindset to what can we reuse. Other things such as Personal Protective Equipment have to be a bit more realistic for students to understand the importance.

Money is the key really, with over 450 nursing students at any one time we spend a lot on lab resources, maintaining, and repairing equipment and looking at new ways to compliment the teaching, for example I have just purchased 10 new thermometers to replace older models through attrition, \$3,387.50. It's not cheap to teach our up-and-coming nurses!

One of the biggest challenges has been the manikins and simulators that are used as patients in teaching. When I came here manikins were kept in the beds, but new ways of teaching meant that the lecturers needed the beds free for a lot of lessons. The manikins needed to go into and out of storage depending on what was needed, this meant hoisting manikins that weigh around 40kg in and out of beds onto chairs and then sometimes moved out of the labs altogether. They are dead weight but need handling with care due to the electronics.

Can you describe how you managed one of these major challenges

The manual handling of the manikins became a health and safety concern because of their weight, the number of times they needed moving, and the way we were moving them. They need to be lifted like they are a human but one with no control of their limbs, these can flop around and cause damage. It is not a one-man job. I proposed that a little used meeting room be converted to a storage room for the simulators/manikins and other larger items we were constantly moving around in the labs as they were always "in the way".

I commandeered shipping boxes, two lab plinths, a table, and a large storage case to use as temporary beds/storage units for our six simulators and three manikins. We were however still having to move them constantly in and out of this room to the labs through the corridors. We were managing this by using the storage plinths and a minimum of two staff, more staff if we needed all six Simulators to be placed in the labs.



Figure 2. The storage room with the wrapped manikins on table and plinths beforehand arrival of the storage unit.
Source: Sharon Buchanan-Letts (published with permission).

I had a think and brainstorm about how we could do this differently and had some initial ideas but no real way of working it through without the skills of others. So, I spoke to Adam Liberatore an engineering lecturer and asked if I could propose a project and he suggested presenting it to some engineering students with a view to designing and making a manikin storage and transport unit to making handling and storage of the manikins safer and more efficient. A unit that took up less space, stored several manikins/simulators easily but also could be used to move the simulators around safely.

After the presentation, I met with two students, Luke Howard and Lily Davies who were keen to take this project on. We discussed what was needed and off they went. We had a reality goal which took in cost, time, and what was really feasible and then there was the gold goal which included power plugs, covered shelving, sliding shelving, the sky was the limit if we had the money!

I met with them to discuss progress, ask, and answer questions, measure the manikins and look through the labs to make sure that what we were going to have in the end would do the job. On one of these occasions, I suggested that if we were able to get our hands on an old, powered plinth we had in storage, would they be able to make this unit power driven? Off down to the storage shed and there we dug out an old, dusty plinth which became the frame for the unit.

You have been working with staff and students from another school at Otago Polytechnic for this project. Can you tell me how you found this.

Adam Liberatore the lecturer in engineering was great to work with, he could see the value and how it would work as a student project. He also suggested tweaks and how it could be revisited by students in the future to look at improving the prototype.

The two students mentioned earlier were great to work with, they listened to what I wanted. They were invested in the project as it was an assessment for them but that wasn't their only drive, they could see how useful this would be in application. I still remember the day Luke Howard came over from the engineering school to borrow an old non electronic manikin, I wrapped it in a sheet, and he hoisted it over his shoulder like a fireman and off he went back to the workshop across campus to make sure the dimensions were right.

What was the most satisfying part of this project.

The finished product was put on display in The Hub on Otago Polytechnic campus as part of the engineering student's exhibition.

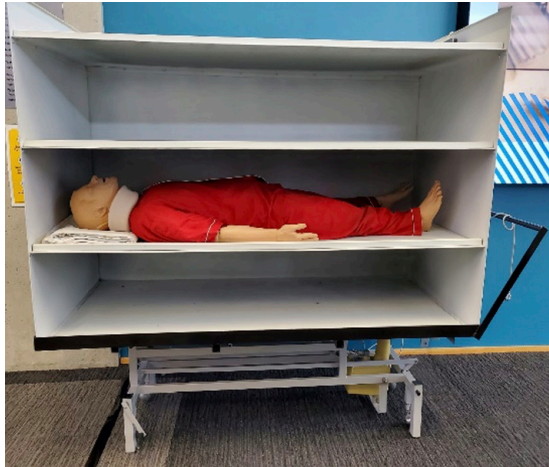


Figure 3. Manikin storage unit on display in The Hub.
Source: Sharon Buchanan-Letts (published with permission).



Figure 4. Poster displaying manikin storage and transportation design. Source: Luke Howard and Lily Davies (published with permission).

It was great to see people asking questions and talking with the students and their poster that they had developed to show their work. The second part was getting it upstairs, it didn't fit in the lift so was brought up the stairs in two pieces by campus services. It was plugged in and the manikins wrapped and loaded in. It worked!



Figure 5. Manikin stage unit in place with the manikins wrapped and loaded.
Source: Sharon Buchanan-Letts (published with permission).

The other part was how cost effective this was. We repurposed the old plinth which would have been scrap, the other materials were relatively cheap, and the students time was accounted for in their learning.

Is there anything you would have done differently?

We identified several areas of potential improvement mainly around the technical aspects which the students identified. These included making the trolley section lower to the ground to improve visibility when moving, stronger hydraulics to raise and lower faster. Using an alternative to the plinth as the base as it only can move ~50cm vertically so does have some limitations height wise


You received the Otago Polytechnic Health and Safety award for this initiative, how has this made you feel about approaching further challenges?

It made me feel that I could make a difference as a contributor to the school, and it gave me the confidence to tackle challenges and find solutions. It also gave me an insight into the wide variety of professional skills within Otago Polytechnic that you can tap into. We have some really skilful people that can see potential in the ideas of others. It has been great to connect with a completely different school, expanding relationships and nurturing and developing ideas while working through to reach a meaningful outcome.

The financial part of this award I bought myself a pair of shoes and trousers to use in the labs as a uniform, promoting professionalism. The remainder of the award I put towards an E-Bike for my own Health and Wellbeing, we have to be self-sustainable too!

Thank you Sharon it has been a pleasure hearing about your innovative thinking and how you put this into practice.

Sharon Buchanan-Letts is the Clinical Technician with the School of Nursing at Otago Polytechnic. She was born in Dunedin, but did most of her growing up in Cromwell, Central Otago. She now resides on a lifestyle block in Mosgiel with her husband and daughter who is a second-year Nursing Student. Her son lives in Nelson and Cromwell. Sharon is an avid sports enthusiast, trying most sporting avenues herself, but her passion is for Netball and Squash while also being a supporter of her children's sporting and life achievements.

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