ENRICHING OUR FUTURE

WELTEC + WHITIREIA RESEARCH SYMPOSIUM

IN ASSOCIATION WITH OPEN POLYTECHNIC

Friday 3 February 2017
WelTec Petone Campus

Whitireia NEW ZEALAND

WelTec Te Whare Wānanga o te Awakairangi

Open Polytechnic KURATINI TUWHERA

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Welcome

Tēnā koutou katoa

I am delighted to welcome you to the 2016 WelTec Whitireia Research Symposium. This is our fourth symposium which has grown into an event that showcases the research in our discipline areas, which in turn informs our teaching and learning. This is our opportunity to highlight the hard work and commitment of our research active staff, support our emerging researchers and inspire those who are yet to begin their own adventures in research.

We have a wide range of speakers and poster presenters from across WelTec and Whitireia, and our associate Open Polytechnic. This year we have also received submissions from Manakau Institute of Technology and Toi Ohomai Institute of Technology, with numerous registrations from many other institutions. Expansion of the symposium from the traditional will see the piloting of an exhibition of physical research outputs including creative works, and prototypes which are the result of R+D.

I am pleased to welcome Dr Andrew Cleland, Chief Executive of the Royal Society of New Zealand to give the first of two keynote addresses, and am delighted that Dr Kathy Holloway from Victoria University of Wellington, previously Dean of the Faculty of Health, will return and provide our second keynote address.

This symposium is a strong indicator of the strength of research in the regional ITP community and showcases the beneficial ways our research contributes to teaching and learning, well-being, business, industry, and our surrounding communities. In addition, it demonstrates the strength of the strategic partnership between WelTec and Whitireia while also encompassing the wider ITP research community.

Ngā mihi nui

Chris Gosling
CEO Whitireia New Zealand and Wellington Institute of Technology

Acknowledgements

Thank you to everyone who has contributed to and supported this symposium; in particular the presenters who have submitted abstracts and have come to share their work, and the attendees who have come to gain insights into the diverse research areas of their colleagues.

Special thanks go to those who peer reviewed abstracts and to our session chairs.

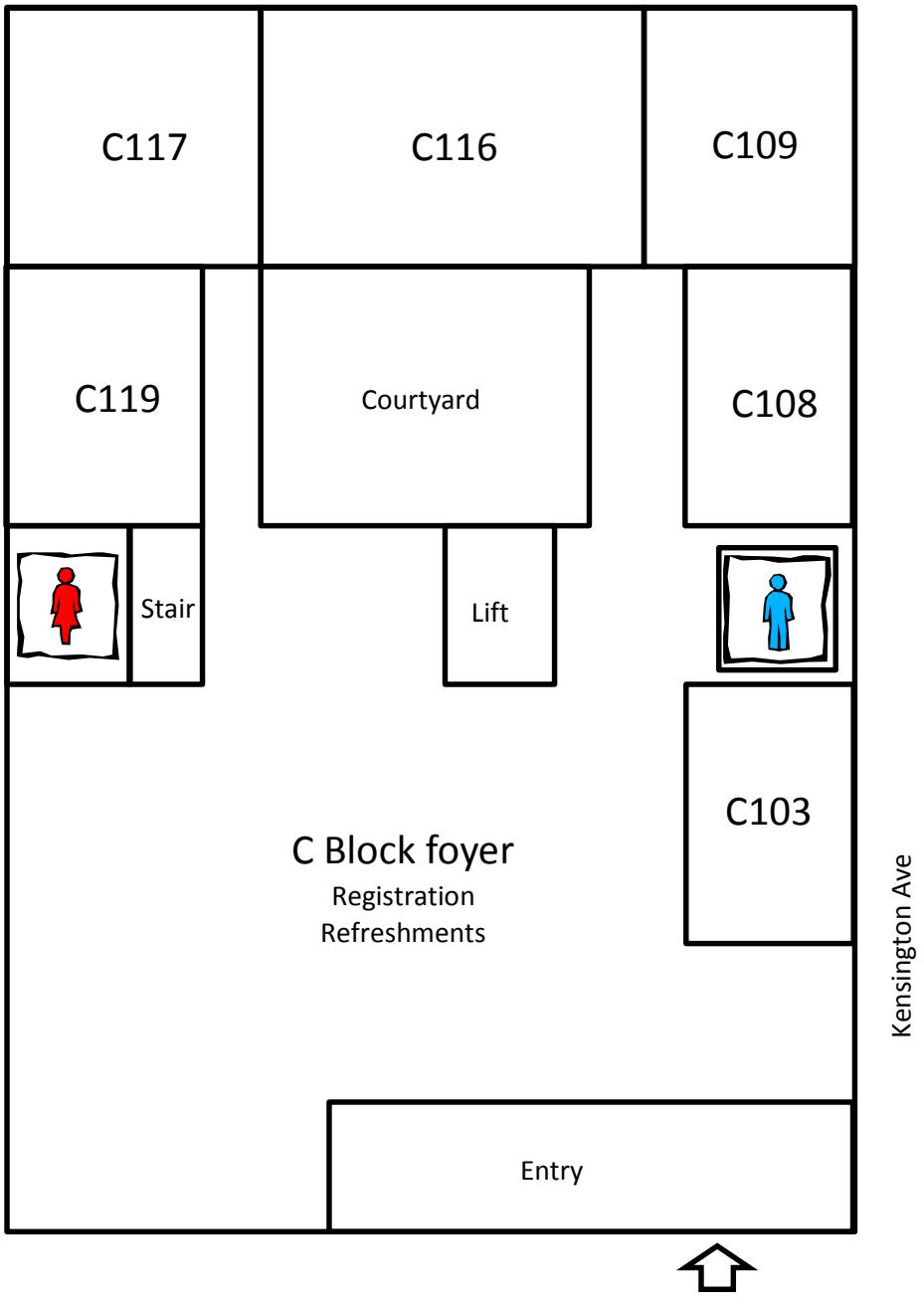
Thanks to Duke Apelinga, Year 3 Bachelor of Creative Technologies student, for designing the poster and this year's logo; Vivek Nair and Paul Nieborg, W^2 Shared Services for IT and technical support; Diane Barnard and Stefan Lesicki, W^2 Campus Services with venue support; Melissa Devine and Kelly Hare from the Open Polytechnic, and especially Lisa Love who continues to do a sterling job of providing administrative support for the event. Thank you!!

A Symposium Organising group was convened to provide valuable staff input and ideas for the symposium - Kerri Arcus, Maria Ulloa, Frank Beinersdorf, Yuliya Khrypko, Ann Cameron, Ruth Anderson, Lisa Love, Jacquie Harper, Beatrice Dias, and Lisa Wong. Staff input and ideas are always welcome as the symposium continues to grow and evolve each year.

Lisa Wong, WelTec
Lead organiser

Symposium Room Guide

C116	Mihi Whakatau, Welcome, Keynote, Closing, Karakia
C116	Teaching and Learning
C117	Creative and Performing Arts, Teaching and Learning
C119	Engineering, Hospitality, Business and IT,
C109	Health and Well-being, Māori and Pacific
C108 and Foyer	Exhibitions and Poster Presentations



Programme

Session times				
8:30-9:00	**Registration and Coffee on arrival**			
9:00-9:05	**Mihi Whakatau - Tame Ngaheke (C116)**			
9:05-9:15	**Welcome - Chris Gosling**			
9:15-9:45	**Dr Andrew Cleland, Chief Executive, Royal Society of New Zealand (C116)**			
9:45-9:50	*time to move to different sessions*			
	Session 1 - Creative & Performing Arts 1	**Session 2 - Teaching & Learning 1**	**Session 3 - Indigenous, Māori & Pacific**	**Session 4 - Engineering & IT**
	Room C117	**Room C116**	**Room C109**	**Room C119**
	Session chair: Adi Brown	Session chair: Steve McKinlay	Session chair: Jeanette Grace	Session chair: Gareth Gretton
9:50-10:05	Creativity – hereditary or learned. DESTINA MUNRO	Teaching not-so-old dogs new tricks: How useful is professional development for experienced teachers in vocational education? GERARD DUIGNAN, JOHN HITCHCOCK, CARMEL HAGGERTY, SUE SEWELL	Finding Common Ground: Qualitative reflections on a professional workshop to critically consider 'common ground' across Indigenous and non-Indigenous knowledges in a complex cross cultural education environment. STEPHANIE KELLY	Switching from fossil fuels to solar energy: Developing a solar powered battery lantern charging system for use in under-developed parts of the world. FRANS WEEHUIZEN, COLIN SAINSBURY, ROBERT HOLT
10:05-10:20	Slow Photography: Opportunities for image making, creative problem solving and mindfulness in the darkroom (and elsewhere). DEIDRA SULLIVAN	The performing subject: Tertiary education professionals in the performativity workplace. CATHERINE ROSS	It's here in our backyard: Exploring Te Whariki as a model for Positive Youth Development practice. ARDEN PERROT, FIONA BEALS, MANDY HAY, SARAH FINLAY, JUSTINE TE MOANANUI	A solution for on-site sanitation options for waterlogged areas. INDUKA WERELLAGAMA
10:20-10:35	POPUPGLOBE: ROMEO AND JULIET What do you do when your career brings you face to face with a long-held prejudice? CARMEL MCGLONE	Changing the story: How knowing about Highly Sensitive People changes the rhetoric for sensitive students and empowers them to thrive in the tertiary environment. KAARYN CATER	Life after Wharekura. HEATHER KARENA-FUIMAONA	Harnessing Engineering and Creative design in the development of a solar cellphone charger. FRANS WEEHUIZEN, DARREN WARD
10:35-10:50	Performing the bricoleur. MALCOLM DOIDGE	Student engagement, affect, participation and success in a polytechnic online learning environment. MARIA ULLOA, CHRISTINE JONES, PAULA FOREMAN	Overcoming challenges: Unearthing Pasifika resilience in education. ARDEN PERROT	Investigating security and networking Issues in the Internet of Things. STEVE COSGROVE, ZAWAR SHAH, ARKAR KYAW
10:50-11:05	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION
11:05-11:30	**Morning tea**			

Session times	Session 5 - Creative & Performing Arts 2	Session 6 - Teaching & Learning 2	Session 7 - Health & Well-being 1	Session 8 - Hospitality & Business
	C117	**C116**	**C109**	**C119**
	Session chair: Malcolm Doidge	Session chair: Tanya Pintchouk	Session chair: Carmel Haggerty	Session chair: Adam Ransfield
11:30-11:45	Hubris, madness and sheer cheek: the perils of adaptation. ANNIE RUTH	Evaluative action research: SMARTETLA: A new learning objective framework to facilitate and augment student nurses professional development. SANDRA WAAYER	Challenges in care and management of type 2 diabetes mellitus in an urban community in Tanzania: An in-depth study of adult patients and their care givers. LUCY NGUMA	How real is real? Sustainability and heritage hotels. ANN CAMERON, JENNY CAVE
11:45-12:00		Structured framework for online delivery of practical subjects. SUNETHRA PITAWALA	I-Kiribati immigrants' accounts of health and approaches to manage health and illness in New Zealand. TERAMIRA SCHUTZ	Organisational information culture: Case study of a government agency in Fiji. ERIC BOAMAH, GILLIAN OLIVER
12:00-12:15	The violinist, the monastery and the KGB – how research at the wrong time can unravel the plot of a novel. ADRIENNE JANSEN	The English as an Additional Language student journey in an integrated curriculum. LEANNE POOL, LIZ DAY, SUSAN RIDLEY	A study on the use of a Paramedic Debrief Model to debrief simulation training for third year undergraduate paramedic students. ALAN WILSON	R^2 and the corporate signalling effect. MAGGIE HAO, UDOMSAK WONGCHOTI, JIANGUO CHEN, MARTIN YOUNG
12:15-12:30		Creating an educational taxonomy to map the social work education curriculum in Aotearoa New Zealand. NEIL BALLANTYNE, KATHRYN HAY, LIZ BEDDOE, JANE MAIDMENT, SHAYNE WALKER, LIZ NGAN	Functional anatomy: Is a biomedical approach the complete answer? PHILLIP SILVERMAN	Smarter ways to use MS Office in delivery and assessment of accounting and finance subjects: Sharing Experiences. JAGATH PUSHPAKUMAR
12:30-12:45	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION
12:45-13:45	**Lunch**			

Session times	Session 9 - Teaching & Learning 3	Session 10 - Teaching & Learning 4	Session 11 - Health and Wellbeing 2	Session 12 - Teaching & Learning in Business & IT
	C117	**C116**	**C109**	**C119**
	Session chair: Ruth Crawford	Session chair: John Hitchcock	Session chair: Elizabeth Asbury	Session chair: Cyril Peter
13:45-14:00	Journalism education and cultural competency in Aotearoa New Zealand. BERNIE WHELAN	On the relationship between L1 and L2 language acquisition. YAO-KUN LIU	Paramedic decision-making: Expert evaluation of a new decision-making model. KEN McIVER	Show me and I will understand: The use of exemplars in a tertiary setting. UNA LIGHTFOOT
14:00-14:15	Kapiti's efforts to increase youth educational engagement at a tertiary level. MARCELLA GREGAN	Approaches and strategies used to render language support to international students in the Diploma in Early Childhood Education level 5 programme. TANYA PINTCHOUK	Postgraduate Certificate in Perioperative Specialty Nursing. MYRA WILSON, MARY ANNE JOHNSON	Implementing pair programming for students. TERRY JEON, IAN HUNTER
14:15-14:30	Do we have the right Pearl? A literature review of professional learning sessions to enrich the learning of students professional practice. CHRISSY KAKE	Anxiety: a barrier to paramedic student success. HOWARD WILLS	Understanding the place of Advance Directives in paramedic pre-hospital care. SEAN THOMPSON, RICHARD SHARP	The efficacy of a targeted collaborative group intervention to improve conflict resolution skills in tertiary students engaged in Project-Based Learning. ROB NELSON
14:30-14:45	Developing a community of practice amongst trades tutors: A case study. CHERYL BROWN	We did it ~~my~~ ~~your~~ our way: Enriching the future for all of our students. LIN AYO, MARY WEDDELL	Skin cancer risk: A climate change issue? ADELE CARSON	
14:45-15:00	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION	QUESTIONS and GROUP DISCUSSION
15:00-15:05	*Time to move to keynote session*			
15:05-15:35	**Keynote: Dr Kathy Holloway, Director, Graduate School of Nursing, Midwifery and Health, Victoria University of Wellington (C116)**			
15:35-onwards	**Closing remarks (Ruth Anderson) and Karakia (C116), followed by tea/coffee.**			

Session times	POSTERS	EXHIBITIONS
	Room C108 and C block foyer	
Available to view all day. **Presenters will be available during the lunch break from 12.45 to 13:45pm**	Acceptance of a mobile wellness data integration ecosystem through the Technology Acceptance Model perspectives. SARITA PAIS	CNC Plywood house project. BRUCE HANIEL
	A Pacific-Western worldview teaching approach to enhance Pacific nursing students' pedagogy for Applied Bio Nursing course. TERAMIRA SCHUTZ , FAASALA TUIGAMALA, GRACE-JOY TINIELU, TEVITA VUNGAMOEAHI, MICALA SAMUEL	Functional Anatomy: Is a biomedical approach the complete answer? PHILLIP SILVERMAN
	Developing effective teacher-student relationships in an early childhood teacher education programme. SADHANA KUMARI, LUAMA SAUNI	Performing the bricoleur. MALCOLM DOIDGE
	The development and evaluation of an online cultural safety module in preparation for publication. GEORGINA ORSBORN, KERRI ARCUS, WENDY SCOTT	Driver assistance systems/stereo matcher. WAQAR KHAN (demo/poster)

Keynote: **Dr Andrew Cleland, Royal Society of New Zealand**

"The virtuous tertiary education triangle – research, teaching and practice"

Andrew Cleland is Chief Executive of the Royal Society of New Zealand where he is committed to the Society embracing the full diversity of research within New Zealand. He spent 23 years as an engineering academic at Massey University during which time he built a significant research cluster in refrigeration which undertook major activities with the New Zealand food and refrigeration industries. These activities included consultancy, short course teaching and undertaking research activities in company premises. From 2000-2014 he was Chief Executive of the Institution of Professional Engineers New Zealand. During his tenure there he facilitated the national engineering education project that redeveloped the New Zealand Diploma of Engineering and Bachelor of Engineering Technology.

Keynote: **Dr Kathryn Holloway, Victoria University of Wellington**

Research in the 'Real World'

Dr Kathy Holloway is currently the Director, Graduate School of Nursing, Midwifery and Health at Victoria University of Wellington. Her previous role was as Dean of the Health Faculty at Whitireia New Zealand. She held the position of national chair of Nurse Education in the Tertiary Sector (NETS) for ten years, is currently co-chair of the Board of the College of Nurses Aotearoa and was a member of the Ministry of Health expert advisory group for the 2015 review and update of the New Zealand Health Strategy. In 2014 she represented New Zealand as a nurse leader at a Global Symposium of Advanced Nursing Practice held in the United States. Dr Holloway was appointed by the Minister of Health to the Nursing Council of New Zealand in July 2015.

A registered nurse originally educated at Wellington Polytechnic, Kathy completed her Doctorate in 2011. Her doctoral work has been used by specialty nursing groups nationally to articulate the contribution they can make to addressing health care need through the National Nursing Consortium processes. Through her academic research and global engagement Kathy is involved in clarifying the potential of nursing expertise to improve the patient experience and inform workforce planning models.

Creativity – hereditary or learned

Destina Munro

Whitireia

Is creativity hereditary? Or is it influenced by nurture, the environment, or learned by example or encouragement? These questions inspired research as part of a Bachelor of Applied Arts in Photography for a Special Topic assignment to explore creative tendencies in generations of my family, with the intent to establish how this may have influenced my daughter's creative choice of study of a fashion degree at university.

The creative research output informed by science and psychiatric literature and progresses to poses questions for future educational research. Scientific literature suggest creativity is not hereditary but is a situational specific strategy which involves mastering a domain, the right work habits, and knowing how to select, combine and connect good ideas. The scientific literature proposes five circumstances to produce a cultural environment that nurtures creativity: intellectual freedom; critical mass of creative people; a competitive atmosphere that is free and fair; mentors and patrons; economic prosperity.

However research also indicates the creative brain may appear unexpectedly in people who seem to have been given innate gifts and creativity can run in families, which suggests some hereditary influence.

The conclusions of this research obtained from both family history and literature research were the basis of a series of photographic montages visually connecting family through nature, nurture, environment, and genetics.

Further research in this field would assist in informing teaching practice in the creative subjects of photography and video in the multimedia journalism and broadcasting programmes, and provide an exploration of ideas for a potential masters study.

Slow Photography: Opportunities for image making, creative problem solving and mindfulness in the darkroom (and elsewhere)

Deidra Sullivan

WelTec

This paper examines the growth of the 'slow photography' movement which has evolved largely in response to western digital culture. Continuing and expanding traditional darkroom printing, slow photography might include processes such as pinhole photography, cyanotypes, photograms, salt prints, chemigrams, lumen prints or any number of other historical or alternative processes which emphasises the materiality of photographic image making. This practice based movement has a parallel in what is described as 'the material turn' in photographic theory (see Elizabeth Edwards, 2005), which has cultivated a focus on the physicality of historic photographic process and objects, both commercial and art based.

This paper will argue, through an examination of contemporary literature and practice, that the 'slow' photograph as a material object has a continued significance for photographic and visual arts practitioners, arts educators and students. It functions as an engaged and sustained process of making and testing, of creative problem solving, and of the value of 'seeing' over 'looking' – affirming an enduring connection with materiality and process which belies our current cultural reduction of photography to the purely visual.

POPUPGLOBE: ROMEO AND JULIET. What do you do when your career brings you face to face with a long-held prejudice?

Carmel McGlone

Whitireia

After one has been a professional actor for over thirty years, certain attitudes and ways of thinking have become embedded over time. For me personally one such embedded attitude is a loathing of matinee and matinee audiences especially those made up almost entirely of school children. I have accepted a contract with POPUPGLOBE Auckland where there will be many such matinees. My research is therefore highly performative and personal: *How to move or to approach afresh, without previous approved prejudice, the phenomena of THE SCHOOL MATINEE'.* And not just The School matinee but the *SHAKESPEARE school matinee.* Shakespeare has its own troublesome nature, being essentially like performing in a foreign language (albeit a very simple one). To make matters more complex, Shakespeare is no longer a compulsory part of the English school curriculum.

I will be keeping a reflective journal through both rehearsal and performance seasons, exploring, analysing and criticising my own work in the light of this question.

I feel very exposed and small on the huge globe stage, open as it is to the weather, the traffic noises, planes and nine hundred school children. Can I grow the size of my performance to the meet the challenges of this encounter? Further can I re-program hardwired prejudice into a new and receptive attitude where I can discover how to relish these encounters.

Question – under what circumstance is it possible to shift long held attitudes?

Is this the circumstance that would allow me to shift?

I will critically examine my experience at The POPUPGLOBE in the light of current research into the impact of performance on schools and young people as well as interviews with both school children and my colleagues at The POPUPGLOBE.

Performing the bricoleur

Malcolm Doidge

WelTec

The adjective 'bricoleur' was an anthropological metaphor for 'the artist', a maker of bricolage, assemblages of 'bits and pieces' found within the world and reordered to acquire new meaning.

When bricolage was translated from the French as "D.I.Y." it became synonymous with artist's inhabiting their workshops. However, what would happen if the bricoleur/artist walked out of the workshop into the quotidian or 'everyday'? Furthermore, if the bricoleur developed a contemporary post-studio practice using social media, how would this practice emerge?

Exploring Fine arts as an interdisciplinary context for Creative technologies, my research methods combined sculpture with performance action, contemporary media technologies with spatial design, cobbled together to deploy Creative technologies within the everyday. As concrete and embodied tactics, these practices were modes of production combined with a dialogical method and a post-studio practice of sweeping, positioning myself as a bricoleur/researcher using a bricolage methodology

Referencing the complementary theories of Michel de Certeau and Nicholas Bourriaud, my research explores the quotidian within a social arena where dialogical exchanges are mediated by technology e.g. 'Go Pro' and 'livestream' apps. Here the ethical priority given 'face-to-face' encounters within dialogical aesthetics is mediated by deploying social media.

In this context my research was also site-specific, linking various Wellington City locations through recording this dialogical practice of 'Conversations with strangers'. Chance encounters eliciting stories specifically about this place.

My research demonstrates how bricolage, as a methodology, can be applied as a post studio practice within the quotidian. Newly developed streaming apps such as 'Periscope' now reproduce the everyday as broadcast humdrum. Using social media apps combined with Go Pro camera connectivity, the resulting bricolage is a digital assemblage repurposed within the social arena and site specific contexts becoming a visual and social aesthetic where, everyone is 'the bricoleur'.

Teaching not-so-old dogs new tricks: How useful is professional development for experienced teachers in vocational education?

Gerard Duignan, John Hitchcock, Carmel Haggerty, Sue Sewell, Janet Walke, Malcolm Hardy, Cath Fraser, Scott Casley, Deb Stewart, Lynette Singh

WelTec, Whitireia, Universal College of Learning, Toi Ohomai Institute of Technology, Eastern Institute of Technology

Tertiary institutions in New Zealand invest significant time, money and resources into professional development (PD) for experienced teachers. It is not clear how well this investment meets the needs of those undertaking PD. This presentation will report on a collaborative research project undertaken by educational developers from Whitireia, UCOL, Toi Ohomai, EIT and WelTec. Their research question was *How useful is continuing professional development for experienced teachers in the tertiary vocational education sector in New Zealand?* The project employed an online survey with a mix of closed and open questions along with quantitative demographic data. A sample of almost 400 teachers with at least five years' experience in tertiary teaching were asked how useful they have found their recent PD and what kinds of PD they would like in an ideal world. Responses were analysed and reported against a literature review. The main findings revealed they would like to:

- Develop learning and teaching practices
- Attend relevant conferences, workshops or talks
- Spend time with industry or network with teachers or experts in their fields
- Learn skills for leading, mentoring, managing – through informal and formal learning, including gaining qualifications
- Upgrade their research skills through publication or guidance on supporting research.

The main barriers to PD included teaching and workload, money, relevance of some PD and systemic problems such as planning attendance. A series of guidelines were developed for managers and educational developers who facilitate or design PD plans. The intention of the project is for experienced educators to be more engaged and supportive of PD across the spectrum. A further outcome was the fostering of inter-institutional partnerships amongst the project team and the building of a community of practice amongst educational developers in the vocational sector.

The performing subject: Tertiary education professionals in the performativity workplace

Catherine Ross

Open Polytechnic of NZ

Since the 1980s, the tertiary education environment in New Zealand has been one of continuous change and expanding regulation driven by a neoliberal turn in government education policy. Regulatory systems intended to make Tertiary Education Organisations more efficient and accountable have flourished. Organisations and their education professionals are held accountable for maximum efficiency and student outcomes and the tertiary education workplace is infused with the language and practice of performance indicators, quality assurance measures and academic audits. This emphasis on performance and accountability focuses organisational attention on student outcomes and therefore on education professionals. Such emphasis embeds a culture of performativity into the tertiary education workplace and into education professionals' everyday working lives.

This presentation reports on a research project which uses grounded theory methodology and a Foucauldian analytical framework related to governmentality and ethics to explore the impact of the performativity workplace environment on learning advisors' work. Results reveal learning advisors constitute themselves as both the performing subject and the ethical subject. As the performing subject, advisors are defined and judged by performativity standards of behaviour; as the ethical subject, they are defined and judged by their own professional standards of behaviour. Constituting themselves as both the performing and ethical subject enables learning advisors to reconcile the performativity and professional drivers of their behaviour, avoid being governed quite so much by performativity, and carry out their work in a way that meets organisational, student and their own expectations of how they should behave. The theoretical insight obtained through the analysis undertaken in this study is not only applicable to learning advisor behaviour but potentially to behaviour at the organisational, policy and sector level.

Changing the story: How knowing about Highly Sensitive People changes the rhetoric for sensitive students and empowers them to thrive in the tertiary environment.

Kaaryn Cater

Whitireia

In her role as an academic advisor, the researcher noticed patterns of overwhelm in some students that were consistent with those identified by American psychologist Elaine Aron as indicators of Sensory Processing Sensitivity (SPS). SPS is a sensitivity trait that leads to a finely tuned nervous system. In the human population, individuals with SPS are referred to as Highly Sensitive People (HSP). The measure of HSP is a 27 point self-test. 15 – 20 % of the population is estimated to be HSP, and it was hypothesized that a similar proportion of students at Whitireia would be HSP. Whitireia research and ethics approval was granted and the study "Does an understanding of HSP help students who identify as HSP to manage their learning?" was undertaken. A convenience sample of 179 Whitireia students was used to elicit initial quantitative data, a mixed method approach was utilized, and further quantitative and qualitative data were gathered during interviews with participating students. Students answered questions relating to growing up, school, tertiary education and managing life and study. The results showed a higher than anticipated number of HSP students. The overwhelming finding of the study was that 100% of the students completing the study report the knowledge of HSP to be life-changing, and they all recommended that information on HSP be made available to all in-coming students, and that tutors be given information, training and resources in order to support HSP students. In addition, it was found that HSP students are particularly stressed by having multiple academic tasks to complete at once. The researcher met with the world experts on sensitivities; Elaine Aron, Ted Zeff and Helen Irlen. All three give a clear mandate for further research into the implications of sensitivities and minority methods of information processing in teaching and learning.

Student engagement, affect, participation and success in a polytechnic online learning environment

Maria Ulloa, Christine Jones, Paula Foreman

WelTec NZ

This project aimed to determine associations between variables influencing online/blended environments as well as unveiling some of the students' experiences of these online learning environments.

This research shows results at two different stages of the study. The first stage presents quantitative data informing the relationship between active and passive participation and academic achievement and the results from two measures of student engagement and participation in online environments. The second stage presents results from a qualitative focus group describing the students' experiences of online learning environments.

Quantitative data supports previous studies associating online participation and student achievement (Davies & Graff, 2005; Nagel, Blignaut & Cronge, 2008; Codwell, Graig, Patterson & Mustard, 2008; Xia, Fielder& Siragusa, 2013). The average time of participation was higher in achievers than in non-achievers undertaking blended/online courses.

Results from two different measures of student engagement and online connectedness showed that respondents spend limited time online, very rarely look for peer support online, or feel emotionally attached to their online peers. The majority of respondents reported feeling afraid to participate online in spite of considering the online environments as safe enough to express themselves.

The thematic analysis showed factors influencing students' online learning such as interactive communication, time-related issues, navigating different technologies and media, learning strategies among others.

The results for this study will inform the current design and delivery of online environments in the polytechnic sector.

Finding common ground: Qualitative reflections on a professional workshop to critically consider 'common ground' across Indigenous and non-Indigenous knowledges in a complex cross cultural education environment

Stephanie Kelly

WelTec

This reflective presentation examines 'identity work' done by professional academics, managers and community representatives from across Australia at a workshop facilitated at an academic conference in a dual sector tertiary education provider solely for Aboriginal and Torres Strait Islander students in the Northern Territory of Australia by Dr Sue Stanton, a Senior Aboriginal academic and Dr Stephanie Kelly, then Manager Strategic Services, in this education setting. The theme of the conference was 'Indigenous and Western Knowledges: Finding Common Ground'.

Professional practitioners and managers in education, health and social services do 'identity work' whereby they actively position themselves in organisational discourses, shaping and being shaped by their work and changing conditions. In doing so they draw on and struggle with conceptualisations of ideal cultural, organisational, professional, and personal identities, values and knowledge systems. As a cross cultural researcher and educator in research methods, policy, professional practice, and bicultural practice, Stephanie Kelly has co developed an academic and applied peer reviewed theoretical, methodological and practical tool to develop and aid understanding of professional and cultural identities. The tool builds on CW Mills seminal work – The Sociological Imagination (1959) and earlier interprofessional collaborative work with academics, practitioners, and educators in the UK, Australia and New Zealand.

The workshop collectively explored assumptions and discourses about culture, policy, organisational practices, and Indigenous and non Indigenous knowledges. A key outcome was the voicing of a deep willingness by professionals to engage more in such collaborative opportunities. This finding concurs with previous informal qualitative observation and feedback where this tool has been applied by the author and suggests that the use of this tool in professional and academic spaces offers a qualitative research based framework that is at once theoretical, methodological, personal and practical, to reflect, share, and critically analyse professional identities in the context of contemporary cross cultural and diverse work environments for deep 'sensemaking', and ultimately for real practice gains.

It's here in our backyard: Exploring Te Whariki as a model for positive youth development practice

Arden Perrot, Fiona Beals, Mandy Hay, Sarah Finlay, Justine Te Moananui

WelTec

Positive Youth Development (PYD) practice is centred on the idea that young people are resources to be developed, as opposed to problems to be fixed. In the context of Aotearoa, PYD practice tends to be promoted within First Nations models of youth development; particularly the Circle of Courage. This has led to a cultural dissonance; while students do learn about Te Ao Māori models in the context of Aotearoa, their practice needs to align with indigenous approaches used elsewhere. This research paper involves a systematic exploration of the philosophy behind PYD practice and asks "Is there a current practice model that can sit alongside other indigenous models in Aotearoa?" Through exploring the philosophy of PYD practice, we argue that Aotearoa's early childhood education curriculum has such a model. That model, Te Whariki, transcends the period of early childhood, offering a holistic set of principles that incorporate the health and wellbeing of both the person and the community. We conclude that incorporating Te Whariki into PYD practice ensures that youth development retains its cultural essence what it is well known for while aligning with best practice as it occurs across the generations.

Life after Wharekura

Heather Ann Karena-Fuimaono

Whitireia

The effect of colonisation since the signing of the Tiriti o Waitangi in 1840 has had negative impacts on Māori. In response to the failure of government to providing appropriate support, Māori developed initiatives which were designed to maintain, revitalise and regain te reo Māori (Māori language), tikanga (Māori ways of doing things) and matauranga Māori (Māori knowledge).

This project has arisen from two places, firstly my desire to be part of revitalizing, rejuvenation and maintain te reo Māori/the Māori language and tikanga Māori/practices of the Māori. The second to provide an overview and validation of the outcomes for tamariki/children whose mātua/parents and whanau whanui who have chosen to put them into Māori initiated learning environments.

This is a longitudinal study which is focused on six tauira/students who began this journey of learning through the medium of te reo Māori from kohanga reo through to wharekura. I have been tracking them for the past three years. I wanted to find out whether the experiences and knowledge that they had gained through learning through the medium of Māori has assisted them in their aspirations for their adult lives.

A range of initiatives and recommendations is discussed throughout with the intention of seeking validation for Māori approaches toward success and experienced by Māori students who exit a Wharekura (secondary school). Alongside this investigation will be an examination of the retention and achievement rates of the students who have been educated in these types of learning environments. A theoretical outline will be investigated, analysed and discussed with the purpose of getting an insight from the participants point of view of what success is and how that success can lead on to positive outcomes for Māori. From this project may emerge a framework of success within the educational settings of Kohanga reo, Kura kaupapa/tuatahi, Wharekura and the next step Whare-wānanga

Overcoming challenges: Unearthing Pasifika resilience in education?

Arden Perrot

WelTec

This research explores the stories of eight Pasifika postgraduate students that were deemed academic failures at secondary school and became academically successful in tertiary study. The study focuses on their internal and external factors that facilitated their academic progress and resilience. This qualitative study was underpinned by appreciative inquiry as the theoretical framework and a Pacific methodology and method, Talanoa. The participants were selected via snowball sampling technique and one on one Talanoa discussions were used to explore their stories. The main finding from the research identified that as the participant's self-concepts changed so did their academic performance. The identified historical and recent education barriers were still present in both their education failure and success. However, through transferable success experiences, deep reflection, visualisation, and goal setting, enabled the participants to see a positive academic result before it eventuated. This helped the participants develop positive self-concepts and attitudes that facilitated their progress and resilience to overcome existing barriers and become successful postgraduate students. A "Fa'amalosi" framework was constructed as a model for how resiliency can be enhanced in young Pasifika and how these students can be successful despite obstacles, and previous failure in education.

Switching from fossil fuels to solar energy: Developing a solar powered battery lantern charging system for use in underdeveloped parts of the world

Frans Weehuizen, Colin Salisbury, Robert Holt

WelTec

The aim of this project was to develop a solar powered battery charging system where the batteries form part of, or can be used in battery powered lanterns.

The justification for this project is that in many parts of the world where there is no electricity, kerosene lamps are used as a light source. These lamps produce poor light and are potential fire hazards, often used in confined spaces. The smoke is carcinogenic, they contribute significantly to environmental pollution, and are expensive to run.

To make a solar powered battery charging system as efficient as possible no auxiliary or temporary storage batteries will be used as they have poor storage efficiency, thus the energy from the photovoltaic panel will be used via an efficient DC to DC convertor to charge the target batteries directly.

The initial requirement for the project was to develop a 5 volt source which can charge up to 100 lanterns which each has its own batteries and charge managers. The intention is to supply clients with a complete lantern which will run on a single charge for about 50 hours. On full discharge of the lamp the client would return the lamp to the charging station in exchange for a fully charged lantern for a fee less than the cost of the equivalent kerosene charge.

A further development for the project is to develop separate batteries giving the client ownership of the lamp so the client would only need to exchange the batteries at the charging station. This requires a change to the design of the charging station as each battery needs to be managed by its own charge manager. This also allows the battery to be charged at twice the rate as previously, halving the charging time and making it possible to charge each battery in one day.

A solution for on-site sanitation options for waterlogged areas

Induka Werellagama

WelTec

In developed urban centres, sewer pipelines carry human sanitary waste to a central treatment plant where it is biologically digested and allowed to settle, and any treated water is discharged to receiving water bodies. In rural situations, after natural disasters or during power failures, discharging systems may not be operating and the solution is to dispose of the effluent into the soil. Conventional treatment for onsite disposal of sanitary waste is septic tanks (ST) followed by soak pits. The septic tank anaerobically digests primary waste with the effluent infiltrating the soil in soak pits. In waterlogged soils, there are no soil pores for soak-pit effluent to enter, and the discharge system may fail. There also will be health and aesthetic implications.

This paper presents a feasible solution for discharging sanitary waste to waterlogged soils. In waterlogged areas, septic tank effluent is fed to a secondary anaerobic filter (AF) tank which has a biological digestion system attached. The secondary treated wastewater was found to meet WHO standards for discharge into surface water. While discharging to dry soil layers is the better option, in waterlogged areas or areas with seasonally high water levels, the ST/AF system provides a higher level of protection.

The sequence of ST, AF and leach-field can be used for in-situ treatment of sanitary waste, especially in waterlogged areas without central treatment facilities and can be deployed in Civil Defence situations, rural areas and the Pacific Islands, until central treatment facilities can be provided. In the event that the secondary treated effluent needs to be discharged directly into surface water or the sea, the Secondary treated AF effluent can be discharged after disinfection by chlorination.

Harnessing engineering and creative design in the development of a solar cell phone charger

Frans Weehuizen, Darren Ward

WelTec

The Hutt City Council approached WelTec with a request to build a solar powered cell phone charging tower.

The rationale is the novelty of using solar power to charge cell phones, and as the facility is of significant size, to also create a point of interest where people might gather to socialise while their phone is being charged.

The School of Engineering was approached to design the electrical system while the School of Creative Industries was approached to design the structure.

As the structure was using solar power it needed to be reasonably tall both to raise the photovoltaic panel and to give sufficient height to reduce the possibility of vandalism. The tower would have four ‘spaces’ to accommodate four groups of people, therefore a design was determined for a square tower.

To increase its attractiveness, Māori artwork was placed on the tower. A legend has been adapted to show that the Sun’s energy is being harnessed and utilized for 21st century technology advancement.

Assuming that most of the usage of the charging station will be in the late afternoon and evening when there is little to no sunlight, a battery will store most of this energy.

A solar panel was chosen which would provide ample energy in summer but would also provide sufficient energy on an overcast day in winter.

Investigating security and networking issues in the Internet of Things

Zawar Shah, Steve Cosgrove, Arkar Kyaw

Whitireia

The Internet of Things (IoT) is a novel paradigm that is becoming very popular in today's world. The basic idea of this concept is the pervasive presence around us of a variety of things or objects (e.g. Radio-Frequency Identification (RFID) tags, sensors, actuators etc.) which through an Internet Protocol (IP) address, are able to interact with each other or with humans in order to offer a given service. In recent years, the concept of IoT has been widely used in many applications e.g. smart electric meter reading, smart homes and offices, e-Health, intelligent transportation etc. However, IoT suffers from various issues including Security, Networking, Monitoring, Standardization and Quality of Service (QoS). This research work focusses on security and networking issues present in the IoT.

In this research, a systematic literature review is carried out to answer the following two research questions;

- What are the security issues in IoT?
- What are the networking issues in IoT?

Our study finds that confidentiality is a major security concern in IoT and existing encryption techniques are not suitable because they need a lot of resources in terms of energy and bandwidth. IoT devices are constrained in terms of energy and computation capabilities so these encryption techniques cannot be applied. We note that other security issues discussed in the literature are the lack of efficient key distribution schemes (needed for encryption techniques) and lack of security laws and regulations for IoT in many countries of the world. Our study also reveals many networking issues with IoT. We note that widely used Transmission Control Protocol (TCP) is not optimized to be used in the IoT applications. This is because the majority of IoT communication involves only a small amount of data, making the overhead of establishing a TCP connection via three way handshake unacceptable.

Our study shows that supporting multicast packet delivery is also a big challenge for energy constrained IoT mesh networks. We conclude that solutions to both security and networking issues are needed for the proliferation of IoT devices in the future.

Hubris, madness and sheer cheek: the perils of adaptation

Annie Ruth

WelTec

Adaptation is a tricky business, not one in which I had intended to engage. Yet within a year I found myself doing two adaptations, a classic European text and an iconic NZ play. What hubris set me on this path?

Directing within a tertiary institution is a particular situation. Cast size, gender and skill levels are set, rarely conforming to those of an existing text. Viewing these challenges as learning opportunities rather than obstacles propelled me into the world of adaptation, firstly with Brecht's *Mother Courage* and then Jean Bett's *Ophelia Thinks Harder.*

Research Questions:

1. Contemporary Context. By incorporating the experiences and awareness of the casts I worked to deepen their learning, enlisting them as writers as well as performers, enhancing their commitment by recontextualising the plays into their contemporary world.

2. Cast. The exigencies of the particular casts' make-up led to new revelations and possibilities in both iconic texts. The danger of reducing rather than enhancing was always present. The casts worked with me to find clarity within the chaos of possibilities. The creative catharsis, inside the safety of strongly held learning frameworks, gave vitality and deep investment to the exploration.

Courage (смелость), set today amid the wars and refugee crises in Eastern Europe, deepened our understanding of the local impact of those far-away wars. *Ophelia* led into the world of feminisms, fierce debates, and painful and surprising autobiography.

Both required original music and song, performed by the cast, stylistic and textual innovations, and riotous comedy offsetting these serious topics. The former looked outwards, the second inwards towards an examination of identity. Both justified the risks of adaptation in lively, innovative and provocative performances.

Using performative research practices, cast discussions, peer review and reflective and journaling, I critically examine adaptation as a valuable and enhancing pedagogical process

The violinist, the monastery and the KGB – how research at the wrong time can unravel the plot of a novel

Adrienne Jansen

Whitireia

In June 2016 I was in Sofia, Bulgaria, carrying out research for a new novel. With a driver, a guide, a small recorder and a pre-arranged itinerary, I spent a day recreating the life of a fictitious character who grew up in Bulgaria, left as a teenager, then returned 25 years later. Although I did plenty of reading and searching the internet before the trip, there is nothing like actually being in a place and having a live conversation to raise the possibility that the narrative, that I had so carefully constructed, might unravel over one simple question.

So what was the question?

Evaluative action research: SMARTETLA: A new learning objective framework to facilitate and augment student nurses professional development

Sandra Waayer

Whitireia

Student nurses attend clinical placements (wards) and work alongside a registered nurse. The registered nurse is responsible for role modelling nursing practice and facilitating the student nurses' experiential learning and professional development. Due to the busy dynamics of the ward environment, high patient acuity and multifaceted workloads, the registered nurses' time spent conveying the full depth and extent of their underpinning knowledge and rationale for their nursing practice is compromised.

To enhance the student nurses' depth of learning, a new learning objective framework called the SMARTETLA framework was developed. The purpose of the SMARTETLA framework was to facilitate and empower the student nurse to govern their own underpinning knowledge, and rationale for their nursing practice.

Through an action research process the SMARTELTA framework, and learning outcomes from the framework were explored and evaluated over a two year period. Fifteen, year 2, Bachelor of Nursing Māori student nurses completed a 5 point Likert scale (strongly disagree to strongly agree), with an additional option to provide written feedback. As a result of the evaluation minor revision of the design occurred. A second year of utilization ensued, followed by a second evaluation using a focus group and semi-structured questions.

In addition, the SMARTETLA framework was introduced and tested by 13 registered nurses. The registered nurses evaluated the SMARTETLA frameworks design, content and its contribution to clinical education.

Results: The SMARTETLA framework is easy to follow, transferable into the clinical context, and enhances the teaching and learning of student nurses.

The framework demonstrates the student nurses' depth of learning and professional development.

In conclusion, the SMARTETLA framework is an invaluable educational tool which facilitates and demonstrates the student nurses' depth of learning, augmenting their professional development.

The evaluative action research process and SMARTETLA examples will be presented for discussion.

Structured framework for online delivery of practical subjects

Sunethra Pitawala

WelTec

Fluid Power and Advanced Fluid Mechanics is one of the Level 7 courses on the Bachelor of Engineering Technology programme. Due to the limitation of resources, this course is jointly offered to three polytechnics using a blended delivery mode. WelTec is the facilitator of the course with delivery provided by WelTec.

Blended delivery is a delivery mode that includes distance and face to face delivery. In this particular case, part of the course material is delivered to the students via a learning management system and the face to face component is achieved using software. This arrangement gives some students access to the tutor and the class only via distance modes.

A range of activities are integrated into the course to foster the students' academic growth as this is particularly challenging in this online teaching environment. Approximately, 65% of the course is based on practical exercises and assessments. Challenges include:

- Technological barriers
- Keeping the students engaged and motivated in the online environment
- Difficulty of monitoring and assisting from a distance
- Time limitations
- Coordinating students at different geographical locations
- Quickly responding to student emails and queries

Creating a system or a model that minimises the time-intensive tasks is of great benefit to the teacher as well as to the students. Different strategies have been employed to improve the delivery.

Gilly Salmon's (2000) five-stage model of e-learning provides a structured framework that can be used to develop an online teaching/learning environment where the participants are supported through a structured developmental process. Essential components that need to be included in an e-learning environment are considered in the five stage model of e-learning.

A structured model tailored for online teaching of a practical course will assist in successfully solving some of the problems and to improve the delivery of the course.

The English as an Additional Language student journey in an integrated curriculum

Leanne Pool, Liz Day, Susan Ridley

Whitireia

Background: The Bachelor of Nursing (BN) Programme at Whitireia NZ is an integrated programme that utilises context based learning to facilitate independent learning through the process of inquiry. Context based learning also supports development of critical thinking and clinical judgement skills. Prior learning experiences for some students, including English as an additional Language [EAL] students, may not support development of clinical reasoning and clinical judgement skills. Having a shared understanding of the support needed for EAL students has the potential to improve the learning experience for these students and enhance their journey towards independent learning and support their practice as a health professional.

Research question: "What specific communication and learning strategies do English as an additional language (EAL) students need to acquire in order to succeed in the Bachelor of Nursing (BN) Programme?"

Methodology: Qualitative data was generated through focus group interviews representing EAL students from each year of the BN Programme. Ethics approval for the project was obtained from the Whitireia Research and Ethics Committee. Interviews were conducted by a facilitator from outside the BN Programme. Data were systematically analysed from each of the student focus groups.

Results: The over-arching themes that emerged related to:

- Support for writing and learning
- Managing learning
- Transitioning to a context based learning environment
- Wellbeing

This presentation will focus on the theme related to the student journey of transitioning to a context based learning environment. A model has been developed that illustrates the student journey across the three years of the BN Programme.

Conclusion: This research demonstrated that EAL Students face specific challenges adapting to a different culture of learning. The model developed from this research offers EAL students a transparent understanding of the learning journey

Creating an educational taxonomy to map the social work education curriculum in Aotearoa New Zealand

Neil Ballantyne, Kathryn Hay, Liz Beddoe, Jane Maidment, Shayne Walker, Liz Ngan

Open Polytechnic of NZ, Massey University

Background: Commencing in 2016, Enhancing the Readiness to Practise of Newly Qualified Social Workers (Enhance R2P) is a collaborative, sector-wide research project funded by the Ako Aotearoa National Project Fund for three years. Enhance R2P is focused on developing a professional capabilities framework to clarify the capabilities of newly qualified social workers and social workers at experienced and advanced levels of practice. The project involves a collaborative research team of social work academics from the Open Polytechnic, the University of Auckland, Massey University, the University of Canterbury, and the University of Otago.

Objectives: The research question for the first phase of the project is as follows: what is the content of the current New Zealand social work curriculum and how does it relate to the core competence standards of the Social Workers' Registration Board (SWRB)? This presentation will discuss findings from a rapid literature scan undertaken to support the development of a methodology to address the research question. The literature scan explored curriculum mapping and educational taxonomies and used this to draft a technical report on methods for creating the educational taxonomy.

Results: The scan uncovered very few publications on curriculum mapping or educational taxonomy development in the mainstream social work journals. However, the broader professional education literature (in teacher, nurse and medical education) include valuable studies on approaches to, and benefits of, curriculum mapping. The use of educational taxonomies is most evident in the medical education literature and there are some mature case studies of applications in the UK and Canada.

Conclusions/Implications: There are two methodological points of note arising from our literature scan: the importance of the distinction between three different curricula (the declared, the taught and the learned); and the recognition of the social, cultural and moral implications of taxonomy development.

Challenges in care management of type 2 diabetes mellitus in an urban community in Tanzania: An in-depth study of adult patients and their care givers

Lucy K Nguma

Whitireia

Background: About 371 million people worldwide are affected with diabetes, and 187 million are unaware of having the disease (IDF, 2012). Diabetes is among the ten leading causes of death globally (WHO, 2016), and the fourth leading cause of death in most developing countries (IWGDF, 2005). Diabetes is growing at an alarming rate, estimates show that by 2025 about 75% of cases will be living in the developing world (Dagogo-Jack, 2006). About 50% of people with type 2 diabetes mellitus in Tanzania, are unaware of their condition and almost 80% of the cases are undiagnosed. Effective care management of diabetes in developing countries including Tanzania is a major challenge.

Aims: To explore challenges in seeking care management of type 2 diabetes mellitus in an urban community in Tanzania.

Methodology: This qualitative study used structured in-depth interviews, key informant interviews and focus groups. Diabetic patients and their caregivers were interviewed. McKinlay (1972) framework was adopted in data collection from two diabetes clinics, and analysis was done using Miles and Huberman (1994) approach.

This presentation is part of my PhD work about Health seeking and health related behaviour for type 2 diabetes mellitus among adults in an urban community in Tanzania.

Results: Based on the findings, patients and their caregivers were faced with: The *"care service demand"* challenges – geographical long distance to the clinic; inadequate transport system/infrastructure; competing family demands and lack of financial resources to meet the transport and medical services. The *"care service supply"* challenges – inadequate quality diabetes clinic care services like; long waiting hours, misdiagnosis, inadequate diabetes equipment's, inadequate patient education/counselling and unaffordable diabetes drugs.

Conclusion and Recommendation: Quality care and management of diabetes, requires improvement of accessibility to diabetes drugs and equipment, proper patient education/counselling in existing public health services and infrastructure in the community.

I-Kiribati immigrants' accounts of health and approaches to manage health and illness in New Zealand

Teramira Schutz

Whitireia

I-Kiribati immigrants' accounts of health and approaches to manage health and illness in New Zealand

This presentation looks at key themes emerged from an initial literature review exploring I-Kiribati immigrants' traditional health beliefs and practices and how they manage their health and illness in New Zealand. The review considers immigrants' understanding of health and illness, how that understanding influences their decision making to manage their health and illness in their host countries and what informs immigrants' decisions to negotiate or reconcile their health beliefs and practices with the health systems of their host country.

Key findings from the reviewed literature help us understand the case of I-Kiribati immigrants to New Zealand. First, immigrants persistently use their traditional healing practices to manage health and illness and to preserve their genealogy and identity. Second, immigrants adopt a pluralistic approach when dealing with their health and illness, that is concurrent use of various traditional healing approaches for example: spiritual healing, herbal medicine, traditional massage, traditional diet as well as Western medicine. They may move between varieties of healing approaches, depending on their access to resources or past experiences with health professionals or traditional healers and people around them. Third, immigrants adopt a dichotomous pathway, that is, a decision to use either traditional or Western health approaches.

My observations as an I-Kiribati woman, nurse and immigrant suggest that I-Kiribati immigrants practice these different approaches but they face challenges and dilemmas in negotiating or reconciling their traditional understanding of health and illness with the New Zealand health system to maintain optimum health.

There is a dearth of research about I-Kiribati immigrants' health in general. In-depth scholarly research is necessary to develop an appropriate and culturally-grounded health framework for I-Kiribati immigrants to New Zealand. The research hopefully will also identify future interventions to benefit the health systems of New Zealand, other host countries and other immigrant populations.

A study on the use of a Paramedic Debrief Model to debrief simulation training for third year undergraduate paramedic students.

Alan Wilson

Whitireia

Background: Simulation training is a widely utilised training methodology in paramedic education. Central to optimising learning in simulation training is the quality debriefing of the simulation facilitated by the educator.

It has been observed that there is considerable variance in the way debriefs are conducted by paramedic educators, often leading to a varied perception of the quality of debrief by both students and tutors.

A paramedic specific model for debrief, the Paramedic Debrief Model, was developed to reflect the key elements of optimal debrief practice, feedback and reflective practice principles.

Aim: The research project explores the perception of both paramedic students and educators on the quality and utility of this Paramedic Debrief Model when used to debrief after a simulation experience.

Methodology: Study participants were third year BHSc (Paramedic) students and their tutors.

The Paramedic Debrief Model was tested as a method of debriefing simulation training sessions in which the paramedic students participated.

The outcomes that were the focus for the study were the perceptions of student and tutor participants on the effectiveness of the debrief.

Participants completed the Debriefing Assessment for Simulation in Healthcare (DASH) debrief survey after each debrief. The DASH measures participant perceptions of a simulation debrief on a seven point Likert scale, relating to six elements and 23 related debriefing behaviours.

Results: Mean overall (student and tutor) ratings on all DASH tool elements and behaviours indicated a positive perception of the debriefs. Students had higher ratings than tutors for some DASH elements; Element 2 -Engaging context for learning (5.588 vs 5.375 $p=0.014$) and Element 5-Focus on what went well or poorly and why (6.1176 vs 5.4048 $p< 0.001$).

Conclusion: Positive perception of the debriefs indicated that the Paramedic Debrief Model may be utilised as a model for facilitating simulation training debriefs for paramedic and paramedic students. Student perceptions rating higher than tutors may be due to tutors being more self-critical.

Functional anatomy: Is a biomedical approach the complete answer?

Phillip Silverman

WelTec

Functional anatomy has recently emerged as a field to create an academic foundation for areas such as exercise science, where integrated structural understanding is required for subjects such as posture and movement. What has become a point of contention is whether the traditional medical reductionist approach that is based on the morbidity of cadavers is appropriate for the theoretical foundation and teaching of Functional Anatomy (Beach 2010, Myers 2001). Anatomy as a scientific field developed from the origins of experimental medicine, where Versalius dissected bodies to create an observationally based topographical model or structural map (Versalius 1543). While useful for those with a surgical mandate, function was thought of as a secondary consideration.

The focus of this presentation is to explore what can be learned from traditional representational figurative art, where there is an extensive history of dealing with the challenges of understating and teaching anatomy from a functional basis. One key teaching strategy, the construction of ecroche models, will be discussed.

How real is real? Sustainability and heritage hotels

Ann Cameron, Jenny Cave

Whitireia, Waikato Management School

This presentation investigates the intersection of sustainability and heritage in commercial accommodation provision. It considers the literature on how accommodation providers address sustainability in their businesses, the environmental and social contributions to sustainability from the use of heritage buildings then examines the operational challenges of the use of heritage buildings for accommodation and how these can be addressed, utilising case studies from two New Zealand locations.

Examining approaches to sustainability by the hotel industry generally, these tend to be eco-focused and aimed at enhancing brand image and corporate reputation. This may in part reflect that while guests are aware of the issues they are unwilling to change their behaviour to any great degree.

For heritage buildings and man-made landscapes, their value goes beyond the physical artefacts to encompass a cultural dimension and which allows them to act as part of the glue holding the economic system together. The economic value of heritage preservation is often linked to tourism. This value draws on what is familiar to the locals, part of their sense of place, but is unique and distinctive from the perspective of visitors.

The weak definition of sustainability investigates trade-offs between economic growth and damage to other dimensions of sustainability. In the case of heritage, the loss of authenticity may limit the degree to which such trade-offs are acceptable, implying the need to utilize the strong definition of sustainability which states resources constrain the ability to develop. However, even within the growing desire for authenticity, guests still want air conditioning, televisions and other modern comforts that may not fit well with preserving heritage. Operators then have to make decisions on what they will prioritise, which shape their operations.

Organisational information culture: Case study of a government agency in Fiji

Eric Boamah, Gillian Oliver

Open Polytechnic of NZ, Victoria University of Wellington

Records management within organisations is beset with challenges because more emphasis is placed on the systems and tools used in the management of records at the neglect of the human issues affecting records management. Little attention is given to the people who manage the records. It is important to understand how employees perceive their recordkeeping duties, what kinds of information they prefer, with whom they share information and how much trust they place on existing recordkeeping systems and the ways these issues affect how they manage information within the organisation.

This paper reports an interpretive qualitative case study that analysed the information culture at a government agency in Fiji. The study is underpinned by the Information Culture Framework. The concept of information culture relates to values, attitudes and behaviours that influence the ways in which information is managed. Data was drawn from 26 semi-structured interviews with staff and analysed thematically.

Government records management agencies in Fiji are gradually but steadily moving aspects of their paper records to electronic records management systems. Interviewees were concerned about the transition from paper to electronic records management because the process faces many issues including technological challenges at both national and organisational levels. Although some digital technologies are available for communicating and sharing information, staff members are most likely to share information through face-to-face interactions than through emails and other electronic means. The paper concludes that existing patterns in information culture at the government agency in Fiji are similar to recorded-patterns from national archive authorities in different regional contexts. Giving more attention to staff concerns is very likely to facilitate the transition from paper to electronic recordkeeping and enhanced records management process at the agency in Fiji

R^2 and the corporate signalling effect

Maggie Hao, Udomsak Wongchoti, Jianguo Chen, Martin Young

WelTec, Massey University

A firm's R^2 (also known as price synchronicity) is the "goodness of fit" regression statistic derived from running a common asset pricing model. R^2 has been well established as the measure of the relative importance of firm-specific information in its stock price movement variations. However, whether R^2 represents more or less firm-specific information incorporation remains an active area of debate. Conventional wisdom holds that greater co-movement between stock and market returns reflects less public firm-specific information. The underlying rationale for this interpretation is that as firm-specific information is imputed into the stock price via the trading process, the stock return's co-movement (or synchronicity) with the market index decreases. However, a number of recent studies have found contradictory evidence and have proposed that lower R^2 instead captures noise regarding firm-specific news and thus a greater level of information inefficiency. In this study, we contribute to the debate over whether R^2 is directly or inversely related to price informativeness by examining the role of R^2 in the dividend signalling effect.

We examine the effect of R^2 on the price reaction to the dividend announcements from 1950 to 2012 for NYSE and AMEX listed stocks. Using both event study methodology and multivariate regression tests, we find that price reactions to dividend change announcements are significantly stronger for less synchronized firms (e.g. lower R^2 stocks). This result contradicts the conventional wisdom and indicates that lower R^2 stocks are less informative and thus more surprises on firm-specific news are experienced. These findings are particularly strong for dividend decrease announcements. As an important extension, we further investigate whether the ability of dividend changes to predict future earnings is stronger among lower R^2 stocks. Our results show that signals about firms' earnings prospects from dividend decrease announcements are more reliable among these companies.

Smarter ways to use MS Office in delivery and assessment of accounting and finance subjects: Sharing experiences

Jagath Pushpakumar

Whitireia

Most topics in accounting and finance subjects use standard calculations. Developing class examples for delivery and forming assessment materials in such topics demand a great deal of repeated preparations and therefore too much time consumption. On the other hand high accuracy of such materials is important at all times. Finding easy-to-use solutions could help many accounting and finance teachers to overcome the said difficulties.

MS Office component software could work with and within one another. MS Office is a widely available, user-friendly package owned by every business school. Using MS office wisely in developing materials for delivery and assessment saves time, money and labour. It is a way of working smarter which improves teacher productivity.

There is hardly any research done in the area of using MS Word, MS Excel and MS PowerPoint in developing reusable course materials for delivery and assessment of accounting or finance subjects. This presentation is based on the author's experience of over 20years, in three different educational institutions teaching accounting and finance subjects using the MS Office components interactively. Common to the use of all other technologies, the user requires a good understanding of each MS component and their interactive modes for a better result. Experimenting with simple applications helps gain confidence which leads to advance usage of them in more complicated standard accounting and finance applications. In building MS Excel applications the skills in financial modelling seems very useful.

This presentation/exhibit combines the use of MS Word as the text editor, MS Excel as the computing engine and the MS PowerPoint as the presentation tool for examples in simple accounting and finance topics. This will enable sharing experiences and encourage discussion among the participants.

Journalism education and cultural competency in Aotearoa New Zealand

Bernie Whelan

Whitireia

Cultural safety has long been an educational requirement for health professionals and this study proposes that it is time for journalism to follow their lead. There are two inspirations for the PhD research proposal. The first are new journalism qualifications developed by industry and polytechnic providers which include for the first time a general condition that programmes incorporate the cultural values and perspectives of Aotearoa New Zealand, including te ao Māori, into professional practice. Previously, biculturalism has been contained in a five-credit unit standard.

The second catalyst is a series of papers from a study by Massey University's Whariki health research team in which poor Māori health outcomes were linked with negative news media representations in sports, business and crime stories, suburban newspapers and television.

As a result of the study psychologists and nurses working with Māori are being guided to minimise the impact of news media's normative messages on their health and wellbeing. Health, therefore, is not just an exemplar for journalists' cultural competency, it is also a symptom for its necessity. Research dating back 25 years has shown that negative or minimising portrayal of Māori in the news shapes social attitudes of the dominant culture towards tangata whenua.

This PhD proposal, therefore, is interested in how journalism schools address cultural competency. The research framework will discuss myself as a Pākehā researcher beginning to engage with kaupapa Māori for educational research. In this presentation I outline three research layers: Interviews with journalism educators about cultural competency in their teaching will be qualitatively analysed; the strengths-based Appreciative Inquiry research methodology will involve focus groups of Māori and non-Māori striving for a culturally competent practice which can inform an educational model; and finally an auto-ethnographic narrative reflection will trace the research journey of myself as a journalism education programme manager.

Kapiti's efforts to increase youth educational engagement at a tertiary level

Marcella Gregan

Whitireia

Problem: Kapiti Youth are negatively represented in statistics which indicate some dysfunction/ disconnect with their community. Statistics also indicate a high teenage pregnancy rate; high numbers of youth suicide rates; a drinking/ drug culture; high numbers of youth leaving college before 16 years/ or with minimal qualifications; broken families; dysfunctional society and high levels of violence. Research was undertaken to explore the efforts by the Kapiti Community to increase engagement with educational opportunities.

Method: The study used critical theory to explore how these issues were being addressed. Critical theory has been defined by The Frankfurt School as thoughts which cause people to question power relationships, society, and inclusion/ exclusion of certain groups of people. It also focuses on the politics which generated the "unfairness" in society by giving voice to marginalised people. Most importantly critical theory attempts to engage WITH those affected, to identify THEIR issues, engage in discussions around these issues and provide achievable, practical goals for social transformation.

Outcome: Members of the local community had identified that too many of their young people were not meeting their potential in many areas of life – education included. This generated dialogue and evidence which, through a number of theoretical frameworks, lead to a variety of educational options being introduced or initiated in the Kapiti region. This included Youth Quest aimed at boys 14-18 years; Supergrans; KCDC Youth Council; Pre-school options (play groups, Play centre, Kohunga Reo; Steiner education, Montessori,) Capital Training, Youth Guarantee Programme; Kapiti Skills Centre; and Whitireia which includes Foundation Studies, Trades Introduction. There is improved communication between the local colleges and the Tertiary educational providers.

Conclusion: The above-named services are experiencing full enrolments within their services. Kapiti continues to strive towards developing a community that welcomes a diverse range of people and is a positive place to live for all ages and cultures. On-going discourse from various members of the community will ensure that people from different backgrounds will be heard and respected. This is occurring at a grass-roots level through to Council level.

Do we have the right Pearl? A literature review of professional learning sessions to enrich the learning of students professional practice

Chrissy Kake

Whitireia

It is known that presentation assessments are important to students learning to promote leadership in professional practice. More professional learning sessions are required to support a learning environment that builds on a student's personal and professional growth, critical thinking and reflection on practice. Personally Arranged Learning Sessions (PeArLS) is a tool that encourages sharing of ideas and experiences of an issue from professional practice in group discussion. This tool is currently used in the postgraduate mental health and addiction nursing course for new graduate nurses to enhance learning and growth in professional practice.

Although there is limited research evaluating PeArLS as a useful tool for teaching and learning sessions in health education; the belief PeArLS presentations are effective for a student's learning and development is strongly held (Schwartz & Heath, 1985).

Findings from a literature review undertaken to explore the suitability of presentation tools used in professional education practice will be presented. This exploratory study conducted within the Evidence Based Practice framework provides research evidence for presentation tools designed to enhance critical thinking and clinical decision making skills which are important attributes for nursing practice. The findings and limitations from the literature review will be presented.

Additionally, evidence based practice will discuss the view that PeArLS is an effective tool in the context of student learning, growth and development. More importantly this tool is found to be effective in addressing ethical issues in practice, the catalyst to reasons why PeArLS was used for this assessment. PeArLS further provides a structure to student's presentations and of more relevance mirrors nurses' ability to critically think and reflect on clinical judgements in a supported learning environment. Research is being undertaken to evaluate the effectiveness of professional learning sessions for professional practice.

Developing a community of practice amongst trades tutors: A case study

Cheryl Brown

WelTec

This report uses the work of Wenger, Trayner, and de Laat, (2011) and Wenger & Traynor (2010) to understand the events and processes that contributed to the development of a community of practice focusing on digital capability in the Automotive Team in the School of Engineering Te Kāhui Pūkenga o ngā Pūkaha at WelTec.

It traces the evolution of a project aimed at developing digital capability and setting up a proof of concept Moodle course and describes how the community of practice evolved.

It uses the idea of cycles of development proposed by Wenger, Trayner, and de Laat, (2011, p.34) to describe the development in the school and identifies seven themes that emerge from discussion and reflection. These seven themes correlate to items listed in the three key enablers that Wenger et al have proposed.

Suggestions for the way forward and further research are made.

On the relationship between L1 and L2 language aquisition

Yao-Kun Liu

Whitireia

In the study of second and foreign language teaching and learning, students' first language has been considered negatively: either as "unnatural" and "interference", or "the only major source of syntactic errors in adult second language performance" (Krashen, 2002, p. 64).Whereas the relationship between students' first language and the target language they are learning has long been either marginalized or ignored. As a result, the linguistic differences between learners' first language and the target language they are learning have yet been considered sufficiently.

My research is an attempt to elaborate on the significance of students' first language in their second or foreign language, how to use first language positively and effectively to support adult second or foreign language learning, and the impact of linguistic relationship between students' first language and the target language upon their learning outcomes.

It is an effort to illustrate that it is the language family relationship that determines the degree of linguistic difficulty for an adult learner to obtain a second or foreign language, and influences the quality of their learning outcomes. The importance of language family relationships re-affirms the significance of learners' first language in their second or foreign language learning, and a deeper knowledge of students' first language will help teachers to communicate much better with their students, comprehend more effectively their linguistic problems, and support them more sufficiently in their study of the target language.

Approaches and strategies used to render language support to international students in the Diploma in Early Childhood Education Level 5 programme.

Tanya Pintchouk

Whitireia

Aims: The aim of the presentation is evaluation of some existing effective approaches and pedagogical strategies (Content and Language Integrated Learning and Curriculum-focused Language Teaching) to impart the importance of incorporating language support for international students in the mainstream curriculum with a particular focus on the practices adopted in the Diploma in ECE at the Whitireia Auckland campus.

Background: Diploma in ECE at Whitireia Auckland campus is for international students only and language assistance is an integral part in the support structures for such students. In the programme, the Academic Proficiency in English and Advanced English for ECE papers are embedded in the programme's curriculum and the language acquisition is interwoven in all the ECE subjects.

A brief description of approach: The study is at its initial stage and reflects the lecturer's perceptions, reflections and perspectives. A brief literature review in the field of interest with the emphasis on the approach applied in the delivery of the English papers in both years of the two-year Diploma in ECE will be presented. It will be followed by the analysis of how some of the content of the English classes mirrors correlating ECE topics, of how acquisition of the language skills occurs through the content of the ECE papers and of how this can be linked to practicing IELTS tasks.

Conclusions/Implications: Further research plans aimed at obtaining data to confirm the efficiency of the chosen approach and strategies will be shared with the audience.

Anxiety: a barrier to paramedic student success

Howard Wills

Whitireia

How does anxiety affect paramedic students' ability to learn and achieve? Many students report levels of anxiety both in class and during summative assessments, and anxiety related behaviours in class have been observed by the researcher. In this study, participants are drawn from two student cohorts within the Bachelor of Health Science Paramedicine programme, campus-based and distance. The main aim of the study is to identify and compare the level of anxiety as well as the anxiety triggers across the two cohorts and also across all three years of the degree for both cohorts. As the distance cohort tends to be more mature, and is working in the industry, compared with the campus group, who are younger and less experienced, it is expected that there may be some differences in anxiety between the two cohorts of students. In this study, we examine both the intrinsic and extrinsic factors associated with exam-related anxiety, looking for any differences between the two student cohorts. To do this, we have used a mixed methods approach to data collection, which includes an anonymous online survey, which collects demographic data and the participant's responses to the Westside Test Anxiety Scale, along with qualitative free-response questions. The results are analysed statistically and emergent themes are extracted from the free responses. In order to ensure the greatest potential participation, a rolling recruitment over a three month period was undertaken. Results of the study as well as implications for teaching and course design will be presented.

We did it ~~my~~ ~~your~~ our way: Enriching the future for all of our students

Lin Ayo, Mary Weddell

WelTec, Whitireia

When WelTec and Whitireia entered their strategic partnership in 2015 to provide the Wellington region with comprehensive and accessible applied qualifications, Student Services at both institutions were challenged to shape the future of their services in providing an integrated, seamless service and resources for the combined student body, within existing budget and staffing parameters, with a future plan which also explored new horizons and aimed to enrich the student experience.

So within our separate frameworks, during a major institutional restructure, we devised a new framework to meet the needs of future cohorts of students. This model brought together many areas across the institutions into a structure which the Directorate called 'bigger than Ben Hur', and allowed a strengths-based approach to emerge to support student retention and success. This model was underpinned by the investigation of local and international best practice in areas of student support services, by organisations such as Australia New Zealand Student Services Association (ANZSSA), Student Affairs Administrators in Higher Education (NASPA), Higher Education Research and Development Society of Australasia (HERDSA) and Higher Education Academy (HEA), which will be broadly outlined here.

At the heart of our challenge however remained the question: what do students really want? Yes, they want it all, they want it now, everything available seamlessly at the touch of a screen, the pressing of a button. They want the richness and the depth, the breadth and the options, and their expectations are becoming increasingly complex. But how do we know what they really really want?

In this presentation, we will be discussing the methodology and implementation planned to elicit broad and meaningful discourse with students at both institutes on the potential structures for student support as led by the proposed changes to institutional structures, currently underway.

Paramedic decision-making: Expert evaluation of a new decision-making model

Ken MacIver

Whitireia

Background: Medical errors occur at levels that would shock most practitioners. A recent study estimated that 250,000 patients die in hospitals in the United States each year as a result of *avoidable* medical error. Decision-making failure is one of the key reasons for these deaths, yet paramedics receive no formal training in this skill.

Research question: Primary aim: to evaluate whether the use of a new, structured paramedic decision-making model (PDMM, created by the author), improves the quality of decisions and confidence in those decisions when used by professional paramedics in the field. Secondary aim: to produce a revised version of the model based on expert feedback.

Methodology: The PDMM, along with the theory that underpins it, will be launched to a group of expert paramedics who will trial it under field conditions. They will each fill out a questionnaire and attend a focus group to evaluate the model. Either the model works in its current format, in which case it will have been partially validated by this process, or it doesn't, in which case an improved version will be drafted based on the participants' feedback. The final version will be presented to the two main ambulance services in New Zealand for possible inclusion in future Clinical Practice Guidelines and In-service training.

Results: Preliminary data from two focus groups will be presented.

Conclusions: Currently, no formal, structured training in medical decision-making occurs in New Zealand, and no model exists to help guide clinicians with their decisions. Diagnostic failure in particular appears to be responsible for many avoidable patient deaths and clinicians urgently need specific strategies to improve the quality and consistency of their diagnoses. The PDMM could be the first step in filling this void.

Postgraduate Certificate in Perioperative Specialty Nursing

Myra Wilson, Mary Anne Johnson

Whitireia

The perioperative area of practice is characterized by increasing complexity, and patient acuity. There is growing evidence that higher levels of nursing education have a positive impact on individual nurses and consequently patient care, and has been linked to reduced mortality in the perioperative area of practice.

The Postgraduate Certificate in Perioperative Specialty Nursing has been delivered for twelve years and is a partnership involving Medtra New Zealand Limited and Whitireia New Zealand. The research sets out to explore the impact of this postgraduate qualification on individual participants, units / services and organizations.

A longitudinal study exploring the perceived gains of nurses having successfully completed the Postgraduate Certificate in Perioperative Specialty Nursing was conducted at two year intervals between 2005–2009, and subsequently in 2015. Surveys provided data for analysis, and research participants were sought from a variety of perioperative practice settings within hospitals which are identified as key stakeholders and supportive of the program.

The research explored perceived gains for individual participants in the areas of knowledge and skill, problem solving ability, decision making, confidence and self efficacy, and questioning and challenging practice. From a unit/service perspective, opinions were sought related to the quality of nursing care delivered, the application of evidence-based practice, team work and communication, and finally collegial support and teaching. Organizational gains focused on workforce development, skill mix and staff retention.

The research indicates that the Postgraduate Certificate in Perioperative Specialty Nursing is a worthwhile investment from a personal, service and organizational perspective. Further data collection, with a larger sample would provide further insights

Understanding the place of Advance Directives in paramedic pre-hospital care

Sean Thompson, Richard Sharp

Whitireia

Background: Resuscitation of a patient in cardiac arrest is not always the most appropriate course of action. When paramedics are called to assist critically unwell patients they often find themselves needing to make rapid decisions regarding end-of-life interventions. Many patients now have advance directives which express their wishes around end-of-life care. This presentation discusses the place of advance directives in paramedic pre-hospital care and identifies areas where practice can be improved.

Methods: A review of current paramedic practice, recent literature, and New Zealand legislation.

Conclusions: New Zealand legislation enables a competent person to complete an advance directive. Paramedics understand the importance of honouring these directives but frequently feel inadequately prepared to do so. Training delivered to ambulance staff overseas has resulted in a reduced rate of resuscitations attempted where resuscitation is deemed inappropriate.

Improved training would increase paramedics' understanding of, and confidence in honouring, advance directives. Clearer documentation of directives and improved education for patients and families would also assist paramedics when honouring a patient's final wishes.

Skin cancer risk: A climate change issue?

Adele Carson

Toi Ohomai Institute of Technology

It has been suggested that health, due to its closeness to individuals, may aid climate change communications in the future. This research centers on whether the public associate the risk of skin cancer with climate change issues. The primary aim was to discover if a personal relationship with a skin cancer sufferer would impact positively on personal skin cancer risk perceptions and vice versa. The second aim was to explore whether a high concern about solar skin damage will equate to a higher risk rating.

A paper-pencil Likert style survey was conducted among a convenience sample of 117 male and female respondents aged 18 to 65, at Toi Ohomai Institute of Technology. Participants were recruited via class teachers in the BITA faculty who expressed an interest in taking part. Surveys were completed in class time, by volunteers. Results were analysed using Excel.

Findings show a concern about solar skin damage and a belief that climate change could be causing skin cancer, but this did not follow through to a perceived personal risk. Half of respondents claim to know someone with skin cancer, but risk perception is largely neutral. It was found that not knowing someone with skin cancer does appear to decrease risk perception. However, a high concern for skin cancer was not found to equate to a high risk perception, due to age being a dependent factor in risk processing. Unfortunately age categories were not appropriately defined enough in the survey.

Age of respondents (due to “rational decision” processing (adolescents) versus “gist” processing (adults) (Reyna, 2004, p.62)) and lack of personal connection with skin cancer sufferers, appear to contribute to the concern-risk perception gap. Combining health and personal experience / emotions may be useful in climate change communication in the future, whilst noting the importance of age in the methodology

Show me and I will understand: The use of exemplars in a tertiary setting

Una Lightfoot

Manukau Institute of Technology

With increasing pressure on tertiary teachers to achieve better results with students who have increasingly diverse learning needs, is the use of authentic student exemplars part of the answer? This paper will discuss the preliminary findings of a small study in a large multi-cultural tertiary institution, on student perception of the use of exemplars.

The study was an interpretive, qualitative case study consisting of two aspects: a study of the teacher's (my own) use of exemplars and a study of 43 students' perceptions of the use of exemplars. Data were gathered through, firstly, a teacher planning journal and a researcher reflective journal. Secondly, students' perceptions and experiences were gathered through a short anonymous survey following each exemplar use and post-course interviews with seven volunteers from the 43 students in two classes.

The study showed that not only was the use of exemplars very helpful to the student's studies, but they applied lessons from the exemplars in a number of ways. Moreover, somewhat unexpectedly students reported higher levels of confidence and increased motivation as a result of using exemplars. Despite the very positive reactions by students to the use of exemplars, the study highlighted a number of pedagogical issues that teachers need to take cognisance of before exemplar use is incorporated into their teaching.

Exemplar use needs to be deliberately integrated into a programme of study, preferably at a team level. Higher levels of student engagement are more likely when, a variety of authentic exemplars are used and exemplars are closely related to assignment tasks. Finally, a sustained dialogic approach is key to encourage students to fully engage with the use of exemplars.

Implementing pair programming for students

Terry Jeon, Ian Hunter

WelTec

This paper outlines a study to investigate the effectiveness of Pair Programming (PP) on a small group of first-time programming students. Participants in this study were enrolled in a Level 4 Information Technology (IT) qualification at a New Zealand Institute of Technology and for many, it was their first exposure to programming.

A total of 40 students undertook a questionnaire after a series of experiential workshops. The cognitive results of the mappings were then collated and the different commonalities and differences were determined.

Participants were from two groups of students enrolled in the Level 4 qualification (an introductory-bridging program). The researchers chose Group A as one Pair-programming group while Group B was the Individual programming group using traditional individual based learning. The programming language used was Visual Basic for Application (VBA) in Excel 2010.

In Trimester 2, 2014, the pairs were randomly selected by the researcher for each Pair-programming group. This was a convenience approach used by the researchers. In Trimester 1, 2015, students were given the choice to be part of the pair programming group and to choose their partner or to work individually. As such, the Trimester 2, 2014 participants were referred to as the compulsory paired group while the Trimester 1, 2015 group were referred to as the voluntary group.

Participants in this study confirmed that pair programming reduced their anxiety during the programming classes however, little improvement was observed from their assessment marks. Factors that may have contributed to this include pairing of students with different ability levels, random pair selection, and negative peer pressure.

This research contributes to understanding how to implement Pair Programming for students who are in entry level of programming class. Variables, including academic level of each partner and role switching, need to be considered by the researchers.

The efficacy of a targeted collaborative group intervention to improve conflict resolution skills in tertiary students engaged in Project-Based Learning

Robert Nelson

WelTec

Students often come to team and project situations with expectations of how the process will play out and what the end result will be, before the team has come into being and the project started, often quite negative. Conflict becomes a self-fulfilling prophecy where there are no `winners`. We, as tutors, therefore have an obligation to equip students with a practical tool that helps them see potential conflict coming, and manage their way through it without depending on external intervention to resolve it for them.

This project involved a cohort of final-year IT students working on their team-based capstone project. Once their expectations around the existence of conflict as part of their project were established, they were trained in the use of the Restorative Approach Model and invited to use this if conflict occurred during the rest of the project. A further survey was carried out at the end of the trimester to ascertain how effectively conflict was managed and to draw conclusions about what might be tried differently in the future.

Acceptance of mobile wellness data integration ecosystem through Technology Acceptance Model perspectives

Sarita Pais

Whitireia

Background: The increase in Gestational Diabetes Mellitus (GDM) in the Auckland region (National Women's Annual Clinical Report 2014) has increased the workload on clinicians. However GDM for a large part can be self-managed. Mobile wellness apps have potential as a dietary assessment tool. While patients can choose to use a mobile app of their choice, data from such heterogeneous sources cannot be stored in one single database system available to clinicians.

Objective: The aim was to develop a prototype to store data from heterogeneous sources (apps) in a manner which can be used by clinicians more effectively and efficiently, and to investigate the acceptance of such an ecosystem through Technology Acceptance Model (TAM) perspectives (Davis, 1989).

Methodology: The Design Science Research Methodology (DSRM) approach undertaken in the current body of work followed Hevner (2004) framework and guidelines. An ecosystem was built to include existing mobile wellness apps and glucose meter data as a prototype for the research methodology (Pais, Parry, Rush & Rowan, 2016).

The first set of interviews was conducted to obtain the requirements and design specification using low fidelity prototype as paper mock-ups to build the ecosystem (Yen & Bakken, 2012). The second set of interviews was to refine the design process of the prototype. Midwives, dieticians and obstetricians were among five participants in the first two rounds of interviews. Focus group meetings were difficult to conduct as clinicians worked on a roster system. Hence Delphi method was adopted which kept the clinicians' responses and discussions anonymous. No participants were influenced by others in their responses.

Results: The first two rounds of interviews gave ex-ante evaluation as an early feedback to improve the prototype. The interview recordings were transcribed verbatim. Deductive themes from TAM variables: Perceived Usefulness (PU), Perceived Ease of Use (PEOU), and Behavioural Intention Use (BIU) were the starting point for finding inductive themes in the interview transcripts (Money et al., 2015) which were developed into a thematic mind map diagram.

Conclusions: Participants saw potential benefit in the system as patients were technically savvy and already using mobile apps. The combined data report could link all the missing data pieces together and engage in better self-management of the GDM condition. This research envisioned the potential through proof of concept. The clinic could use the new ecosystem with the choice of mobile apps in it.

Pacific nursing students' pedagogy in Applied Bio Nursing

Teramira Schutz, Faasala Tuigamala, Grace-Joy Tinielu, Tevita Vungamoeahi, Micala Samuel

Whitireia

The aim of this poster is to showcase how Applied Bio Nursing (ABN) and Pacific Health Traditional Healing (PHTH) courses are contextualised and integrated to enhance nursing students' pedagogy.

The ABN and PHTH papers are courses that run concurrently for second year nursing students of the Bachelor of Nursing Pacific at Whitireia. In the second year, the ABN course aims to cement knowledge learned in the first year of nursing on Bioscience and to increase their level of knowledge on identifying alterations to body systems, health conditions, treatments and nursing interventions to their health consumers. The PHTH course aims to enable nursing students to examine their own Pacific ethnic concepts and strategies to deal with health and illness. The ABN and PHTH courses were integrated in the classroom to contextualise the nursing students' learning to a culturally grounded, meaningful, and friendly learning environment. Nursing students worked in their ethnic groups to explore concepts of a given health condition and what it means to them, their beliefs on the causes of the diseases and the traditional healing methods they used for the disease. Non-Pacific students will look at their own cultural healing beliefs and practices. Students were also tasked with undertaking research to provide an understanding of the Western medicine perspectives on the given health condition.

Examples of students' work who were contributors to this paper are included in the poster to showcase positive impacts of the integrated Pacific-Western worldview teaching approach for the ABN course.

This poster provides a starting point to research on evaluating the effectiveness of the Integration of ABN and PHTH teaching approach among second year nursing students which will be carried out in 2017.

Developing effective teacher student relationships in an early childhood teacher education programme

Luama Sauni, Sadhana Kumari

Whitireia

This research aims to describe the notions and perspectives of two lecturers from two different Pacific islands, who are working with international students in an early childhood pre-service teacher education programme at Whitireia, New Zealand. Research has shown that teachers who hold deficit attitudes towards students from diverse backgrounds do more harm by not taking responsibility for the tensions and problems that occur in the classroom. Therefore, this research will help to identify some of the challenges and issues they experience in their classes and highlight some culturally appropriate pedagogical approaches that have been successful in establishing trusting relationships with their students and how teachers can develop positive attitudes towards international students.

The study began with discussions between two lecturers who are from two different Pacific islands (Fiji and Samoa). Semi structured interviews and ongoing 'talanoa' as the methods of collecting data were employed.

The development and evaluation of an online cultural safety module in preparation for publication

Georgina Orsborn, Kerri Arcus, Wendy Scott

Whitireia

Background: Ongoing cultural safety (CS) training is a requirement for health professionals. Nursing Council of NZ requires that nurses demonstrate competence through evidence yet opportunities to develop CS competence are not always accessible. It is increasingly difficult for health professionals to meet their continuing professional development (CPD) requirements due to time required and associated costs. Historically, it is also known there can be reluctance from some health professionals to participate in ongoing CS training. As a result a short online module for health professionals was developed and evaluated.

Method: Two experienced cultural safety educators and a nursing lecturer/ eLearning developer created an evidence based module entitled "Introduction to Cultural Safety for Nurses and Health Professionals". The aim was to provide accessible CPD and to create an evidence based non-threatening and self-paced online environment for health professionals to explore CS. The challenge was to create an engaging interactive module that explains CS, explores culturally responsive care and provides opportunities for participants to reflect on their own practice. The eLearning developer researched the content and developed a storyboard and prototype. These were reviewed by the CS educators and the module was developed using 'Articulate Storyline' and then evaluated using the Kirkpatrick framework to check functionality and educational design.

Results: The evaluation highlighted the enthusiasm of the participants for the interactive learning approach. The types of interactions used were analysed and all were received favourably. The module will be further evaluated for its CS content following its use in two in-house courses, which will be presented at the symposium.

Conclusion: One of the biggest challenges in the development of this course was the different theoretical views held by educators, which was also highlighted in the literature. To ensure that the module is not inadvertently 'culturally unsafe', the module requires further review and consultation.

List of Exhibitions

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4. **Accuracy of dense stereo for driver assistance systems**
   Waqar Khan: Abstract - Page 68

CNC Plywood house project

Bruce Haniel

WelTec

Background: Affordable Housing: There is currently a lot of discussion about how to produce affordable housing. This discussion has been on-going for many decades given the cost of building houses in New Zealand is more expensive than in other countries. No-one has successively solved this problem.

Wiki House: The principle of CNC controlled routered plywood was developed ten years ago and is known as the 'Wiki House'. It is a method for 'self-design and build' so that anyone is able to design and build their own house with consequent large savings in cost and the personal satisfaction of constructing a home that significantly benefits their family. A successful house concept has not been developed yet.

Aims: This proposal seeks to develop a viable design by using a stressed skin egg-crate construction method to create a structural model for testing.

A stressed skin egg-crate structure efficiently uses the shell as structure as well as enclosure. The thick egg-crate wall facilitates two-three times the current thermal insulation and therefore has greater thermal performance. This level of insulation is essential for passive solar design**.**

Methodology: A construction system was developed which had the characteristics of a complex 3D jigsaw puzzle. The development of the construction system involved:

a) design the system on paper
b) test it by building a 3D scale model using acrylic sheet and a laser cutter
c) create prototype joints in plywood to test joint fit tolerances
d) cut full size panels for one corner to check full size implementation
e) cut a full size but small house (approx. 3x3m. two storey)

Results: The paper design and 3D model have been completed successfully and the prototype joints are made and have been evaluated.

Conclusions/Implications: The design appears to be workable at this stage and the structural engineer is confident that the strength will be sufficient so a positive outcome is confidently expected. Cutting full size panels will confirm/ show areas requiring modification. Future work is needed to integrate services and design a weathertight, rainscreen cladding system. The 3D acrylic scale model will be exhibited**.**

Accuracy of dense stereo for driver assistance systems

Waqar Khan

WelTec

For the purpose of depth estimation a pair of cameras can be used in a canonical stereo configuration to compute the disparity between the corresponding pixels in the pair of images (stereo-pair) captured at the same time. Disparities being computed can either be sparse or dense which produces either a sparse or dense disparity map. Disparities are always mapped on the left camera image which is also called the reference image. Similarly, the right camera image is also called the match image.

Sparse disparity map works in two steps. Firstly, identifying unique features in the stereo-pair. Secondly, for each feature in the reference image, a corresponding feature has to be identified in the matched image. In the first step, all unique features were identified already. The corresponding feature is the one that has the most similar descriptors to the reference image feature. The advantage of doing feature detection before feature matching is that the search space for matching with a corresponding feature is reduced significantly.

The outcome of feature correspondence is although accurate but also sparse as well, so it can only represent only few pixels in the stereo pair.

Dense disparity maps on the other hand also have two steps. Firstly, for each pixel in the reference image, data cost is computed for all possible corresponding pixels in the match image. Note that the data cost uses the census transform to describe each pixel with respect to its neighbourhood. Secondly, in the reference image, each pixel communicates with the neighbouring pixels to identify the best confidence (with least overall cost) about its corresponding pixel. The radius of communicating pixels increases with the increase in the number of iterations. This leads to a global minimum solution. This also describes our previously proposed approach the linear Belief Propagation matcher (linBPM) stereo.

In order to reduce the processing time in producing the dense disparity maps, we proposed to also use the sparse disparities to provide the initial data cost as well as improve the confidence for the neighbouring pixels. To achieve this, we used our linBPM stereo matcher.

We were able to propose three different stereo matchers called Hierarchical LinBPM (HlinBPM), Hierarchical Feature LinBPM (FlinBPM), and Hierarchical Weighted LinBPM (WlinBPM). We tested these algorithms on a variety of datasets like KITTI 2012 dataset, KITTI 2015 dataset, CCSAD dataset.

For the purpose of driver assistance systems, the images being captured are from very easy to very difficult scenarios. linBPM generally performs better for a stereo-pair with smooth intensities (easier scenario), and fails often at the edges of the objects (difficult scenario). Features on the other hand are more useful at object edges.

Based on our evaluations we were able to identify that the feature based matcher is also affected like the census transform due to the type of scenario. There is not an all time winner here, however an adaptive approach can potentially improve the outcomes significantly

List of Primary Presenters

KEYNOTE

- Dr Andrew Cleland, Royal Society of New Zealand
- Dr Kathryn Holloway, Victoria University of Wellington

ORAL PRESENTATIONS

Session 1

Creative and Performing Arts 1

- Destina Munro, Whitireia
- Deidra Sullivan, WelTec
- Carmel McGlone, Whitireia
- Malcolm Doidge, WelTec

Session 2

Teaching and Learning 1

- Gerard Duignan, WelTec
- Catherine Ross, Open Polytechnic of NZ
- Kaaryn Cater, Whitireia
- Maria Ulloa, WelTec

Session 3

Indigenous, Māori & Pacific

- Stephanie Kelly, WelTec
- Arden Perrot, WelTec
- Heather Karena-Fuimaona, Whitireia

Session 4

Engineering & Information Technology

- Frans Weehuizen, WelTec
- Induka Werellagama, WelTec
- Steve Cosgrove, Whitireia

Session 5

Creative and Performing Arts 2

- Annie Ruth, WelTec
- Adi Brown, WelTec
- Adrienne Jansen, Whitireia

Session 6

Teaching & Learning 2

- Sandra Waayer, Whitireia
- Sunethra Pitawala, WelTec
- Leanne Pool, Whitireia
- Neil Ballantyne, Open Polytechnic of NZ

Session 7

Health & Wellbeing 1

- Lucy Nguma, Whitireia
- Teramira Schutz, Whitireia
- Alan Wilson, Whitireia
- Phillip Silverman, WelTec

Session 8

Hospitality & Business

- Ann Cameron, Whitireia
- Eric Boamah, Open Polytechnic of NZ
- Maggie Hao, WelTec
- Jagath Pushpakumari, Whitireia

Session 9

Teaching & Learning 3

- Bernie Whelan, Whitireia
- Marcella Gregan, Whitireia
- Chrissy Kake, Whitireia
- Cheryl Brown, WelTec

Session 10

Teaching & Learning 4

- Yao-Kun Liu, Whitireia
- Tanya Pintchouk, Whitireia
- Howard Wills, Whitireia
- Lin Ayo,WelTec

Session 11

Health & Wellbeing 2

- Ken McIver, Whitireia
- Myra Wilson, Whitireia
- Sean Thompson, Whitireia
- Adele Carson, Toi Ohomai Institute of Technology

Session 12

Teaching & Learning in Business & IT

- Una Lightfoot, Manukau Institute of Technology
- Terry Jeon, WelTec
- Robert Nelson, WelTec

POSTER PRESENTATIONS

- Sarita Pais, Whitireia
- Teramira Schutz, Whitireia
- Sadhana Kumari, Whitireia
- Wendy Scott, Whitireia

EXHIBITIONS

- Bruce Haniel, WelTec
- Phillip Silverman, WelTec
- Malcolm Doidge, WelTec
- Waqar Khan, WelTec