

OPSITARA

RESEARCH SYMPOSIUM 2022

14-15 JULY 2022



SOUTHERN
INSTITUTE OF TECHNOLOGY
TE WHARE WAIWAI O MANA OTEA



Ara
Institute of Canterbury
Ara rau, taumata rau

OPSITARA Research Symposium 2022 Book of Abstracts
Editors: Lesley Brook and Jenny Aimers

Published in New Zealand by:
Otago Polytechnic Press
Forth Street
Dunedin 9016
www.op.ac.nz

Otago Polytechnic Ltd is a subsidiary of Te Pūkenga - New Zealand Institute
of Skills and Technology

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First published 2022

ISBN 978-0-908846-79-5 (Online)

Citation: Brook, L. and Aimers, J. (Eds.) (2022) OPSITARA Research
Symposium 2022 Book of Abstracts, 14-15 July 2022, Dunedin, New
Zealand: Otago Polytechnic Ltd. DOI <https://doi.org/10.34074/proc.2204>

Design and typesetting: Rhina Chan
Cover image credit: Bernard Spragg

Kia ora koutou and welcome to the 2022 OPSITARA research symposium, hosted this year by Otago Polytechnic.

This symposium provides an opportunity for oral presentations of research undertaken on any topic by staff of Otago Polytechnic, Southern Institute of Technology or Ara Institute of Canterbury. Research can be co-authored with students however the lead researcher and presenter must be a staff member. This year the symposium is again online due to uncertainty over national or institutional travel restrictions due to COVID-19.

We were delighted with the number of submissions. To accommodate as many as possible without resorting to multiple streams, we developed a programme with a mix of 15 and 5 minute presentations. To maximise the time available, the 15 minute presentations are live and the 5 minute presentations are pre-recorded.

It is encouraging to see the broad representation of topics and of emerging and experienced researchers amongst our presentations this year. We hope you enjoy the programme.

2022 OPSITARA Organising Committee
Jenny Aimers and Lesley Brook

Instructions for participants

To support presenters, please turn your camera on during sessions if possible.

When joining, please mute your microphone initially in case a discussion is already in process.

Use a headset and microphone, if possible, to ensure people can hear you clearly and minimise external noise.

Please keep questions until the presenter has finished and use the "Raise Hand" function to let the chair know or type the question in the chat.

9.00 - 9.30am

Welcome ([Click here to join.](#))

9.30 - 10.30am

Session 1: Community and Professions

- chaired by Adele Parkinson (3 x 15min plus question time.)

Peter Olsen, Michael Hamlin, Richard Deuchrass, Shaun Owen, James Jowsey and Matt Lilley

Running demands in New Zealand club, semi-professional and professional rugby union competitions

Francesca Brown

Veterinary staff skill utilisation in companion animal veterinary clinical practice

Steph Mann

Insights into the impacts Facebook can have on management decisions for (recreational) sport-horses in New Zealand

10.30 - 11.00am

Group 1 (5 x 5min pre-recorded. [Click here to join.](#))

Carlo Gabriel and Jaime Arpasi

Design and Implementation of a Smart Traffic Signal Control System

Mujaddad Afzal, Rehan Masood, Carlo Gabriel and Herbert Melo

An empirical study on flexible pavement design for reconstruction of Tweed street

Omer Altaf and Matias Kaufman

Risks and Challenges with the adoption of modular construction in New Zealand

Rehan Masood, Samantha Menike, Pramod Nerlekar and Mujaddad Afzal

Establishing Quality Assurance Regime for prefabricated house building company

Rehan Masood, Sadegh Aliakbarlou, Luban Chan and Jesse Teo

Uptake of Offsite Construction in NZ - A Non-Supplier viewpoint

OR Group 5 (5 x 5min pre-recorded. [Click here to join.](#))

Yvonne Thomas, Anna Collier, Claire Squires, Lindsey Coup and Heidi Cathcart

Transitions from Professional Practice to Academia during Covid 19

Faye Wilson-Hill, Hemi Hoskins, Heperi Harris and Niki Hannan

Mauī te Pukenga Teaching the Mauī Learner

Martin Kean, Christine Liang and Adon Moskal

Microinvestigators website - designing a solution for future learners

Philip Roxborough	Out of Field Teaching in the Polytech Sector - Learner Benefits
Sundeepp Daggubati and Kam Cheng	Recognition of Prior Learning based on Organizational Training and Skill Development Records

11.00 - 12.00 noon

Session 2: Community and Professions - chaired by Selena Coburn

(3 x 15min plus question time. [Click here to join.](#))

Naveed ur Rehman	Breaking A Historical Legacy of Solar Concentrator Shape using Artificial Intelligence
Emma Fairs	The New Zealand Osteopathic Profession's Understanding of Continuing Professional Development
Adele Parkinson	Are we really who we say we are: Changing values or conflicting values within the social work profession in Aotearoa New Zealand?

12.00 - 12.30pm

Lunch break

12.30 - 1.00pm

Group 2 (5 x 5min pre-recorded. [Click here to join.](#))

Aica Rivero, Malinda Spencer and Analise Wilson	Using the Boardgame The Floor© to describe the Gameful Experience of Nursing Students
Andy Ang and Marcelo Rodrigues Magioli Sereno	Applying an Asymmetric Approach to Gamification application research
Prabesh Gautam, Edwin Rajah and Shafiq Alam	Effects of Gamification Mechanisms on the Behaviour of Bank Customers Using Credit Cards
Prasadie Rashmini Manawaduge Silva, Indrapriya Kularatne and Edwin Rajah	Facilitators and Barriers to Healthy Eating Behaviour and Physical Activity Level of Office-Based Workers in New Zealand
Farhad Mehdipour, Farzan Fallah, and Syed Shahid	Gamification of hand hygiene to save lives

OR Group 6 (4 x 5min pre-recorded. [Click here to join.](#))

Samanthi Menike	Enhance the performance of student accommodation buildings at Southern Institute of Technology (SIT) through value engineering
Barbara Dolamore and James Kandor	How hot are chilli sauces
Jonathan Muhl	Numerical characterisation of fermentations for process control

Claudia Leong,
Mary Fitzpatrick,
Michael Edmonds,
and Maria Choukri

Fatty acid compositions of different plant-based milks in Aotearoa

1.00 - 2.00pm

**Session 3: Issues for academia
- chaired by Linda Lawton**

(3 x 15min plus question time. [Click here to join.](#))

Leoni Schmidt

The Peculiar Case of the Visual Arts within the Context of Vocational Education Reform

Hemal Amarasekara
and
Naveed ur Rehman

Comparison Of On-Campus, Online and Hybrid Delivery of Education Programs

Rachel Dibble,
Katrina Le Cong
and Kerry Carson

Closer together: A narrative of co-delivery from Tiriti facilitators

2.00 - 2.30pm

Group 3 (5 x 5min pre-recorded. [Click here to join.](#))

Fiona Soper and
Michelle Eleno

A wicked reality: who will look after you when you are over 65

Morgan Oliver

Student Tracking: Reflections on Pastoral Care through a Pandemic

Helen Liley

Reduction in the risk of pressure injuries through design changes to patient handling slings

Peta Taylor and
Janice Groube

Student nurse perspectives of working in older people's health

Trish Conradson

Blowing out one hundred candles: Insights into the life of a centenarian

OR Group 7 (4 x 5min pre-recorded. [Click here to join.](#))

Michael Fallu and
Lynley Woodward

The Expectations and Perceptions of Younger (25 yrs or under) Business Students at a Higher Education Institution in NZ

Claire Benedict

The Solo Ensemble: Practice-led outcomes from sectional surrealism

Graeme Harris

Preliminary development of a novel engine type configuration and software simulation

Brendan Reilly
and Mark Aldridge

The Rise and Fall of Podcasting

2.30 - 3.30pm

Session 4: Issues for academia - chaired by Francesca Brown

(3 x 15min plus question time. [Click here to join.](#))

Johanna Rhodes

Claiming a space to stop, think, converse, and share in academia using deck chairs: A one-act ethnodrama

Olufemi Muibi
Omisakin and
Indrapriya Kularatne

Exploring International Students' Perceptions of the Value of New Zealand Postgraduate Education

Selena Coburn

Which hat will I wear today? The complexities of academic identity

3.30 - 3.45pm

Break

3.45 - 4.15pm

Group 4 (5 x 5min pre-recorded. [Click here to join.](#))

Chris Fersterer

Model: [Educate]

Colleen Fay

Model: [Explore]

Tobias Danielmeier

Model: [Engage]

Blair Isbister

Model: [Experience]

Sarah McCallum

Model: [Express]

OR Group 8 (3 x 5min pre-recorded. [Click here to join.](#))

Max Yap and
Naveed ur Rehman

Solar Power: Vegetarian or Vegan?

Amber Paterson

Embedding Capabilities and Sustainable Development Goals into Nursing Community Development Projects

Timothy Lynch

Regenerative and transformational restaurants - where do we start?

4.15 - 5.00pm

Session 5: Art & Design - chaired by Tobias Danielmeier

(2 x 15min plus question time. [Click here to join.](#))

Bruce Russell

The Vinyl Record as Gesamtkunstwerk of the Twentieth Century

Mark McEntyre

Theatre Design using a Pasifika 'Village Model'

9.00 - 10.00am

**Session 6: Learning and Teaching
- chaired by Johanna Rhodes**

(3 x 15min plus question time. [Click here to join.](#))

Paulette Halstead,
Naveed ur Rehman
and Max Yap

Curating the Self-Sustainable Website/Mobile Application Idea for Building Online Passive Income Streams

Carlo Gabriel,
Orland Basas and
Johans Claudine Ufano

Learning Styles and Challenges of Engineering Degree Students

Rehan Masood,
Kasey Ward and
Mujaddad Afzal

Towards HyFlex model for architecture, engineering and construction courses

10.00 - 10.30am

Q and A sessions with 5min presenters

Group 1 ([Click here to join.](#))

Group 5 ([Click here to join.](#))

10.30 - 11.30am

Session 7: Learning and Teaching

- chaired by Ana Terry (3 x 15min plus question time)

Charmaine Tukua
and Niki Hannan

'Mā te huruhuru, Ka rere te Manu' - A Self Help Guide to Teaching during a Natural Disaster

Wayne Green

Researching He Ara Mahi Tahī

Melanie Welfare,
Susan Crowther,
Andrea Gilkison
and Jane Frost

A systematic qualitative review to explore what is known and published about the experiences of virtual reality (VR) as a teaching and learning tool for midwifery educators and students?

11.30 - 12.00 noon

Q and A sessions with 5min presenters

Group 2 ([Click here to join.](#))

Group 6 ([Click here to join.](#))

12.00 - 1.00pm

**Session 8: Learning and Teaching
- chaired by Caro McCaw**

(3 x 15min plus question time. [Click here to join.](#))

Syed Faisal Hasan

Towards a Unified Work Based Learning Curriculum for IT

John Mumford

Artificial Intelligence and Software Quality Assurance: Critical Perspectives for Information Technology Teaching

Amber Paterson
and Ron Bull

What is the effectiveness of embedding tikanga and te reo Māori in the development and delivery of programmes

1.00 - 1.30pm	Lunch break
1.30 - 2.00pm	Q and A sessions with 5min presenters Group 3 (Click here to join.) Group 7 (Click here to join.)
2.00 - 3.00pm	Session 9: Learning and Teaching - chaired by Charmaine Tukua (3 x 15min plus question time. Click here to join.) Caro McCaw Bruno Balducci and Kishwer Sultana Rachel Dibble and Mackenzie Chapman
3.00 - 3.15pm	Break
3.15 - 3.45pm	Q and A sessions with 5min presenters Group 4 (Click here to join.) Group 8 (Click here to join.)
3.45 - 4.30pm	Session 10: Learning and Teaching - chaired by Philip Roxborough (2 x 15min plus question time. Click here to join.) Lynda Lawton Ana Terry, Michelle Ashbury and Ruth Myers
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PRESENTATION ABSTRACTS

An empirical study on flexible pavement design for reconstruction of Tweed street

Mujaddad Afzal, Rehan Masood, Carlo Gabriel and Herbert Melo

Abstract:

Most roads in Invercargill city have completed design life and required costly maintenance. Council has proposed the reconstruction of roads to improve the structural adequacy for heavy traffic. Pavement design is the crucial phase of road reconstruction. This study reports an empirical method of flexible pavement design.

In this study, the pavement design process was investigated. Austroads Guide to pavement technology Part 2 - Pavement structural design was followed. Focused key input parameters were design traffic, design period, average annual daily traffic, percentage of heavy vehicle growth rate, number of axle group, lane distribution and directional factor, traffic load distribution and design traffic load. The output was the optimized thickness of pavement layers and type of materials.

This study is part of a bachelor's of engineering industry project having umbrella ethical approval.

This study provides an understanding of the design of flexible pavement. The thickness of pavement layers was finalised based on a comparison of different average annual daily traffic values. The material for pavement layers was identified using CBR values and design traffic.

This study helps the students to familiarise themselves with the empirical flexible pavement design process. This study utilized both Australian and New Zealand common standards. The reconstruction of roads provides better mobility and safety to commuters.

Bios:

Mujaddad Afzal (mujaddad.afzal@sit.ac.nz) is an experienced academician and is currently involved in the delivery of civil engineering, construction, and transportation engineering courses. His current research is related to road network resilience, hazard management, and traffic simulations. He has NZ based and international industry affiliations.

Rehan Masood is an experienced academician and is currently involved in the delivery of civil engineering, construction, quantity surveying and project management courses. His current research is related to construction education, offsite construction, supply chain management, and building information modelling. He has NZ based industry affiliations such as NZIOB, PrefabNZ and EngNZ.

Carlo Gabriel graduated from Saint Louis University. From 2016-2018, he was a Process Control Engineer. Since 2017, he has been an Engineering Educator at Southern Institute of Technology and works as Programme Manager since 2020. He published various articles and his research interests include product design, automation and engineering education.

Herbert Melo is a student of Bachelors of Engineering Technology with Civil Engineering specialisation.

Keywords:

Pavement design, CBR, Austroads, road construction, Invercargill

Risks and Challenges with the adoption of modular construction in New Zealand

Omer Altaf and Matias Kaufman

Abstract:

This research focuses on some existing examples of the use of modular technology in Auckland and analyzes some of the advantages and challenges it brings. In general, modular construction has the function of reducing cost, shortening the construction period, and improving efficiency.

The research focuses on some of the most common applications of modular technology in Auckland's building industry and highlights the challenges of developing modular construction. As a result, this paper will show the prospect of developing modular construction and its significance for improving housing affordability and buildability with a risk analysis for its adoption.

Bios:

Omer Altaf (omer.altaf@op.ac.nz) is Lecturer in the construction department at the Auckland International campus. He holds a master's degree in Civil Engineering and currently pursuing Ph.D. from The University of Auckland. He has 11 years of teaching and research experience in geotechnical engineering including 5 years in New Zealand. His main area of research is geotechnical earthquake engineering and has recently completed liquefaction assessment projects with Auckland and Marlborough district councils.

Matias Kaufman is an Architect with 6 years of experience in design and construction management in a wide variety of projects. VR/AR, BIM and modular construction are his key areas.

Keywords:

Modular construction, innovation, prefabrication, risk analysis

Comparison Of On-Campus, Online and Hybrid Delivery of Education Programs

Hemal Amarasekara and Naveed ur Rehman

Abstract:

The lockdowns during the COVID19 pandemic have taught several new lessons to the whole education industry. Both the direct and indirect business stakeholders (e.g., tutors, management, marketing, suppliers, etc.) must now consider the unconventional delivery methods at the heart of their model if they want to succeed. On the other hand, the learners have also gained substantial experience in obtaining education and skills while staying at home. It has eventually trained their mindset to choose programs that offer diversity in the delivery methods. Given these circumstances, we have presented the similarities and differences between the on-campus, online, and hybrid delivery methods from the business perspectives. In addition, the cost structure, revenue streams, customer segmentation & relationships, marketing channels, partners, activities, resources, and value propositions have been explored and compared. This work will help both the developing and existing educational programs find opportunities and threats for improving the sustainability of their business. It will also create a better and more accessible environment for learners to reach their goals.

Bios:

Hemal Amarasekara (hemal.amarasekara@sit.ac.nz) joined SIT in 2020 as a lecturer in the school of Business and Management. He has more than nine years of experience in tutoring and has also worked for several years as a professional marketer in the corporate business sector. He is now working as Programme operation manager for SIT2LRN and teaches undergraduate and postgraduate subjects. His teaching areas cover Applied Marketing, Business operations marketing, Principles of Marketing, Integrated Marketing Communications and Digital Marketing.

Naveed ur Rehman ([ID 0000-0001-8511-1479](https://orcid.org/0000-0001-8511-1479)) is a mechanical engineering tutor at SIT. He is actively researching in the field of solar energy engineering, particularly potential assessments, systems analysis, and optics, and has published several articles in prestigious journals and international conferences.

Keywords:

Digital learning; Distant delivery; Learning management systems

Applying an Asymmetric Approach to Gamification application research

Andy Ang and Marcelo Rodrigues Magioli Sereno

Abstract:

Background

In recent years, the banking industry have to endure stiff competition by maintaining a high standard of professionalism among their workforces. Gamification has emerged as a solution to increase employee motivation and engagement in the banking industry. However, many companies view it with fear, due to the lack of scientific proof of its results and standardisation. This study seeks to discover gamified application system outcomes in the banking sector, comparing with traditional training outcomes.

Method

The case-based asymmetric configurational approach builds on a non-linear and tenet of contrarian cases which provide an in-depth investigation of gamification.

Findings

In a global empirical survey of banking employees (n = 388), the findings support the conclusion that complexity theory in combination with configurational analysis offers useful insights for explaining nuances in the causes and outcomes to gamification as well as non-gamification among finance employees. Although the banking industry strives to sustain professionalism by increasing employee motivation, we found there is no one simple path is sufficient or necessary for high engagement and job satisfaction. However, some of the finding is contrary to Self-Determination Theory (SDT) framework, which support the three basic psychological needs when seeking training.

Implication

The findings contribute to advancing a nuanced of complexity theory of the SDT research on gamification application, for organizations in the banking industry and those that can benefit from gamified application system, such as in service organizations.

Bios:

Dr. Andy Ang ([id 0000-0002-4951-4737](#)) (andy.ang@sit.ac.nz) possesses PhD in Management from University of Auckland. Dr. Ang is a research supervisor and facilitator in Occupational Health and Safety at SIT. He is actively involved on numerous projects, particularly researching in the area of OHS and Management. His areas of interest also include behavioural organization and human resource management.

Marcelo Sereno ([id 0000-0001-5704-7641](#)) is an experienced banker and has more than ten-years-experience in the banking industry in Brazil. He is currently working in the finance company at Wellington. As an alumnus of Southern Institute of Technology, he completed Master in Applied Management in 2020.

Keywords:

gamification, training, Self-determination Theory, fsQCA, asymmetrical approach

Reflective learning: How do English language students rationalise their editing decisions on written work?

Bruno Balducci and Kishwer Sultana


Abstract:

As part of a wider inquiry into experiential learning in theory and practice, the aim of the project is to investigate how a group of students reflect on their writing in an editing task. What aspects do they choose to edit, how do they go about editing them and how do they explain and rationalise these choices? Furthermore, seen in the context of reflective and experiential learning, what level of processing is involved in each case?

The approach taken is qualitative and designed to allow the free expression of thoughts and ideas by participants engaged in an experiential task. Students exchange their writing and give each other unprompted and unrehearsed editorial advice. The conversations are recorded and transcripts analysed to identify the patterns of reasoning used by the students to justify their editorial choices.

Findings can be coded in terms of topics (i.e. features of the texts that students choose to focus on) as well as the depth of student reflection on these topics, using Cathro, O’Kane and Gilbertson’s (2017) reinterpretation of Kolb’s (1984) learning cycle as an assessment tool. To what extent do the students’ reflections provide evidence of concrete experience, reflective observation, abstract conceptualisation and active experimentation? To answer this question requires discussion of the students’ rationalisation strategies, how they relate to the textual features involved and possible reasons for the use of those strategies.

Bios:

Bruno Balducci ( [0000-0002-0911-4114](https://orcid.org/0000-0002-0911-4114)) (bruno.balducci@op.ac.nz) supports academic staff at Auckland International Campus to design, develop and deliver courses. Prior to this, he worked as a training and development manager, a curriculum developer, a teacher trainer and a lecturer. His current research interests include experiential learning, authentic activities and student internships.

Kishwer Sultana is a Lecturer with the English Department at Otago Polytechnic Auckland International Campus, currently teaching Academic English to international students who may pursue their tertiary studies in New Zealand. Her research interests include experiential learning, learner-centred teaching practice, and feedback strategies on writing and speaking.

Keywords:

Experiential learning, reflective learning, English

The Solo Ensemble: Practice-led outcomes from sectional surrealism

Claire Benedict

Abstract:

Sectional Surrealism is a Doctoral project aimed at creating full range male and female voiced choirs from a single singer mediated by audio technology. The project is centered in practice-based research methodologies that help describe the process an artist and audio engineering practitioner experiences while undergoing autonomous creative practice within an independent recording studio environment. This includes autoethnographic self-reflections and the review and improvement of recorded artefacts by applying case study and action research methods. The findings from this research highlight impressive new technologies that utilise artificial intelligence algorithms in audio engineering processors for vocal synthesis. This research also disseminates vocal performance techniques alongside these audio engineering processes that must be employed to create realistic female and male voices from a single performer. In addition, the research points to new creative practice theories, specifically the power of autonomous workflow in understanding human interactions in the arts. The current climate of social isolation creates emphasis on the importance of such as study to generate creative practice models for solo practitioners of studio production. By constructing a new perspective on the sonic staging of choirs, integration with technology through creative performative mediation, this work also suggests that new pedagogical approaches to an individual's studio production and vocal performance could be evolved to the support the introverted student and focus on the discovery and innovation to encourage new media artforms.

Bio:

Claire Benedict (claire.benedict@sit.ac.nz) is a teaching staff member of the Audio Production, Contemporary Music and Screen Arts Programs at the Southern Institute of Technology (Te Pukenga) with specialisations in vocal performance, sound for visual media, acoustics and composition currently studying a Doctorate in Musical Arts at the University of Otago.

Keywords:

Creative Practice Studio Production

Veterinary staff skill utilisation in companion animal veterinary clinical practice

Francesca Brown

Abstract:


Aim: To develop models of optimal skill utilisation of all staff in companion animal veterinary clinical practice environments that could be used as a starting point for veterinary clinics to tailor staffing structures to meet their unique situation.

Research design / methodology: Undertake three focus groups of specific industry stakeholders (employer, employee, educator) to discuss the optimal utilisation of roles and skills in companion animal veterinary clinical practice and the opportunities and barriers from their own context and perspectives. Using the themes from the focus group feedback, researchers will develop 1-3 models (depending on how different the focus groups are in their solutions) and suggest financial cost structures, using algebraic formulations to avoid breaching any commerce commission rules that could lead to the risk of price fixing. Following this they will present the models for testing to a combined focus group (business owners, AVP educators and AVPs in clinical practice being represented). This research has been approved by the Otago Polytechnic Research Ethics, approval 944

Findings: The three focus groups were conducted in early June. Prior to the focus groups the participants were asked to allocate 187 tasks undertaken in companion animal veterinary clinical practice to specific roles (veterinarians, veterinary nurses, animal healthcare assistants and other). The findings very clearly showed that there was significant discrepancy in allocation regardless of the focus group they were going to participate in. This highlighted the need for clear definitions and guidance for industry. The focus groups started by considering these findings, creating a definition for each role, and then looking at reallocation of tasks according to the definition. Once it was broadly agreed, participants were asked to discuss how this looked in practice and what the opportunities were with this as well as the barriers to making it happen. Researchers then drafted up models that show a 5-6 staff to one veterinarian. This aligns with international literature but is a significantly higher ratio than seen in New Zealand veterinary clinical practice currently. The next steps are to test the models with the focus group participants and then undertake financial modelling to show how this could be achieved.

Implication for our learners and profession: The models will present ways to better utilise veterinarians, veterinary nurses and animal healthcare assistants. This will enable educators to clearly train for and articulate roles the learners will be able to undertake in practice and help provide better opportunities in employment for our graduates. In turn this will support the profession to achieve good outcomes for its people and for animal welfare.

Bio:

Francesca Brown ( [0000-0001-8471-6468](https://orcid.org/0000-0001-8471-6468)) (francesca.brown@op.ac.nz) Master of Professional Practice (Distinction), BVSc, BSc, NDAET, Cert Mata ā Ao Māori, Grad Dip Sustainable Practice is a veterinarian who graduated from Massey University (1998). Over her career she has seen first-hand and through her network of colleagues in the industry (both vets and AVPs) the significant challenges faced by personnel. Her research focus is into practical ways to create socially sustainable veterinary practice.

Keywords:

social sustainability, personnel wellbeing, utilisation

Which hat will I wear today? The complexities of academic identity.

Selena Coburn

Abstract:

Academic identity is a complex state which is individually constructed. Two semi structured interviews with five wāhine working in the ITP sector of Aotearoa New Zealand were used to give a voice to participants about the value they place on their multifaceted roles. Narrative inquiry has been used to explore, through the sharing of stories, the relationship between individuals and their academic identity. Ethics approval was gained through the University of Southern Queensland, with findings showing that as educators we are often pulled in many directions while we navigate their daily work requirements. The value that is placed on the many hats worn by educators' changes depending on job demands with research, teaching, administration, leadership, and pastoral care all vying for consideration. For the wāhine interviewed, their own personal values came through strongly, with all seeing themselves as educators first and foremost, even though studies suggest that research is valued more highly in the ITP sector in Aotearoa New Zealand. The changing educational environment in Aotearoa New Zealand sees many challenges ahead for both learners and educators. The impacts of Covid 19, PBRF expectations, and the merging of our industry into one unified institute under Te Pūkenga all impact the complex nature of academic identity. Implications for educators and our wider communities is to explore the value that is placed on the myriad of responsibilities of educators, to better understand the many hats worn, and to provide an environment where all of the complex roles captured within academic identity can flourish.

Bio:

Selena Coburn ([id 0000-0002-0025-0339](#)) (selena.coburn@sit.ac.nz) lives on the south coast of the South Island of Aotearoa New Zealand and am lucky enough to swim with endangered Hector's dolphins at the beach 2 minutes from my front door all year round. I'm passionate about education and the student journey.

Keywords:

Academic identity, narrative inquiry

Blowing out one hundred candles: Insights into the life of a centenarian

Trish Conradson

Abstract:

The aim of this research is to gain insights into the life of a centenarian and then integrate the findings into the growing body of research on this topic. The research suggests that while centenarians are a diverse group they do have many characteristics in common. This research seeks to identify and discuss these common characteristics.

The research design combines quantitative and qualitative research methods. The qualitative data was obtained through a semi-structured interview with a centenarian. Written information about the project was provided prior to the interview. The semi-structured interview protocol allowed for the collection of open-ended information and further exploration of the participant's thoughts and opinions. The quantitative strand of the research involved a literature review using online databases and journals. The literature review results were then integrated into the interview findings allowing greater exploration of the topic.

Ethics approval was granted by the SIT Ethics Committee in January 2022.

The research results confirmed that there are a number of genetic and non-genetic factors that contribute to a prolonged existence which enables a growing portion of the population to 'blow out one hundred candles'.

These research findings contribute to the evidence that confirms the increase in the survival rates of the oldest old citizens. This demographic trend has implications for our society in general and the nursing profession in particular. Adding life to years as well as years to life is a challenge for the health sector and our social structures.

Bio:

Trish Conradson (trish.conradson@sit.ac.nz) is a Registered Nurse and Midwife. BA, Cert for Graduates (Social Science) Post graduate Diploma Health service Management, Masters (Adult Education) Interests include social sciences and life span development.

Keywords:

Centenarian, oldest-old, resilience, health, ageing



Recognition of Prior Learning based on Organizational Training and Skill Development Records

Sundeep Daggubati and Kam Cheng

Abstract:

Recognition of Prior Learning (RPL) provides a pathway for Construction Management (CM) personnel with substantial work experience to gain formal qualifications from educational institutions if they desire. During the RPL process, assessors are usually tasked to map the knowledge, skills and dispositions acquired by the candidates against a graduate profile. However, validating and evaluating experiential learning within the CM domain using a structured processes and in an objective manner continues to be challenging. To a major extent, this could be attributed to the project-based nature of CM jobs and the loss of project execution information due to lack of digitization in this field. As a result, candidates struggle to produce a portfolio of evidence outlining various situations where they have demonstrated the competencies being sought by the RPL assessors. On the other hand, it has been noted that some top-tier construction firms which are committed to capability development tend to maintain records of employees' learning history. The existence of these organizational training and skill development records may shed some light on the competencies acquired at the workplace. Therefore, the researchers aim to develop an RPL assessment framework that is based on CM competencies specific to the New Zealand construction industry by analyzing the contents of the organizational training and skill development records. It is envisaged that this endeavour would enable assessors to make decisions and recommendations that are consistent and valid. This research intends to facilitate RPL assessments that are objective and evidence-based within the NZ vocational education system.

Bios:

Sundeep Daggubati (sundeep.daggubati@ara.ac.nz) is a Programme Leader for the Graduate Diploma in Quantity Surveying qualification. He teaches construction scheduling and procurement courses. He holds a bachelor's and master's degree in Civil Engineering and is currently pursuing a Phd. His research interests include automation in construction and construction management education.

Kam Cheng is the Programme Manager for the Construction Management and Quantity Surveying programmes at Ara Institute of Canterbury. He teaches Property Development and Estimation courses. He holds a master's degree in Building Services and European Law. He is currently pursuing a PhD.

Keywords:

Assessments, Competencies, Construction Management, Recognition of Prior Learning

Model: [Engage]

Tobias Danielmeier

Abstract:

To this day, architecture education in Aotearoa is dominated by western thought and theory. Māori architecture and representational forms are discussed as part of design studios and contextual history courses. The design precedents discussed explore key architecture artefacts as well as significant cultural developments and shifts. However, the use of imagery portraying “Māori architecture” examples often convey a generalised view, without acknowledging regional differentiation and iwi interpretations. Furthermore, thematic analysis of these significant cultural treasures (taonga) can lead to a simplistic view that Māori architecture can be categorised, culturally appropriated and applied to designs.

While research designs have started to consider a “decolonisation of methods” in research contexts (Tuhiwai Smith 2021), undergraduate course contents follow more ‘traditional’ learning contents and pedagogical frameworks. This paper explores how the principles of Tikanga Māori, a value-based framework for customary practices and behaviours, can be conceptualised for, and within, the dominantly western architectural discipline and teaching context.

As a vehicle to question and challenge these global architectural conventions, and to consider a regionally sensitive response, pātai (Māori; translated to enquire, question, examine, provoke) is a forum for discussion in our School. By exploring Māori concepts and values linguistically and ontologically, meanings and practices are analysed and interpreted for spatial contexts.

By creating a dialogue between different stakeholders and examining the role of architects in this process, a cultural discourse is developed.

Bio:

Associate Professor Tobias Danielmeier (tobiasd@op.ac.nz) is Head of School - Architecture at the College of Creative Practice and Enterprise. His research investigates how architecture spatially aid and improve processes and production flows. He also considers cultural narratives and place identity in and for corporate architecture settings.

Keywords:

architecture education, value-based customary practices, identity

A reflection on Tuakana Teina as teaching practice

Rachel Dibble and Mackenzie Chapman

Abstract:

Mā te tuakana te teina e tōtika, Mā te teina te tuakana e tōtika – The older will lead the younger and the younger will lead the older.

As wāhine Māori – Māori women navigating identities of being mana whenua and maata waka we have been facilitating and demonstrating teaching practice in action. The critical difference has been sharing a Tiriti facilitation space with another wāhine Māori in the same room.

Mackenzie reflects: “It’s easy to model and learn off Pākehā teachers – it teaches and embeds those models of practice and sets them up as the normal practice and becomes a “default setting”. Having an opportunity to share facilitation with an experienced practitioner who is also wāhine Māori gives space for new connections to the Tiriti kōrero, individually, and for the taurira - learners in the room”.

Rachel reflects: “Being in the room with another wāhine Māori early in her teaching career was giving mauri to a previously academic experience of Tuakana Teina. There is an awesome responsibility to tautoko and awahi in a potential space of raruraru”.

Sharing the journey through kōrero and waiata, the Tuakana Teina relationship was modelled with intention. This practice is more than two people teaching in a room, with both Rachel and Mackenzie being aware of and speaking to potential power dynamics. There were reciprocal moments of the Tuakana Teina roles being played out that offered mana enhancing transformational moments in the classroom.

This presentation is a kōrero and reflection of their experiences.

Bios:

Passionate about Tiriti Education and indigenous representation, Rachel Dibble (Ngāti Ruanui, Ngā Ruahine) ([ORCID ID 0000-0002-6394-9120](#)) (rachel.dibble@op.ac.nz) has navigated several roles to this current teaching role of 6 years in the Bachelor of Social Service. A māmā of two growing children and a collector of PDF’s related to this mahi, Rachel is currently focusing her Master Professional Practice on the educator in the room when Tiriti content is delivered.

Mackenzie Chapman has a degree in Social Services (Mental Health) and has worked in the sector for eight years. Mackenzie has been involved in the Certificate in Health and Wellbeing from mid-2021. She is a māmā to her tama and is passionate about empowering others on their journey.

Keywords:

#Tiriti #TuakanaTeina #ReflectivePractice #TransformationalClassrooms

Closer together: A narrative of co-delivery from Tiriti facilitators

Rachel Dibble, Katrina Le Cong and Kerryn Carson

Abstract:

Aim / question: How does co-delivery of te Tiriti content impact kaiako?

Research design / methodology: Narrative of collective practice as Tiriti facilitators.

Waiho i te toipoto, kau i te toiroa - Let us keep close together, not wide apart.

There is a navigation of te wā - time, space, people, place and wairua when facilitating learners into re:knowing the kaupapa - purpose of Te Tiriti o Waitangi education and application. Navigating a personal and political journey as a wahine Māori and Pākehā women we have manoeuvred around kōhatu - rocks and colonised places, both teaching alone and with others. This mahi of re:knowing can be re:newing. Sharing the navigation with hoa mahi - colleagues is re:turning to, re:placing of the significance of modelling mana enhancing practices in this learning space. As wahine Māori and Pākehā women this whakawhiti kōrero - sparkling conversation involves whakaaroaro - contemplation and huritao whaiaro - self-reflection through our narrative. This presentation speaks to our re:focusing of co-delivery and the inner navigation of whakaaro - thoughts it evokes and involves as we keep close together.

[the use of : here indicates a refreshing of the word. For example; knowing about the Treaty of Waitangi and then re:knowing is about learning about Te Tiriti o Waitangi, re:newing is to renew and then to re:know and re:new.]

The implications for our teaching, iwi, industry, professions or communities

Our aim is that the partnering relationship embedded in our teaching practice provides a demonstration of what te Tiriti o Waitangi partnership can look like in the future practice of our Human and Community Service Graduates; improving cultural consciousness - honouring each others value and ensuring hauora is maintained. We see opportunities for the system to better support this through valuing te wā - time needed to engage in this whakawhiti kōrero, resourcing appropriately - we are not each doing half the mahi - we each do 100%. Investigating the taurira - student experience of this style of teaching and the consequences for their practice is the next step.

Bios:

Passionate about Tiriti Education and indigenous representation, Rachel Dibble (Ngāti Ruanui, Ngā Ruahine) ([ID 0000-0002-6394-9120](#)) (rachel.dibble@op.ac.nz) has navigated several roles to this current teaching role of 6 years in the Bachelor of Social Service. A māmā of two growing children and a collector of PDF's related to this mahi, Rachel is currently focusing her Master Professional Practice on the educator in the room when Tiriti content is delivered.

Katrina Le Cong's ([ID 0000-0002-7473-2381](#)) ancestors journeyed to Aotearoa from Airani, she was raised under the Hokonui maunga and beside the Mataura awa. A bachelor of occupational therapy, a decade of mental health mahi and seven years at Otago Polytechnic has resulted in a passion for social justice, te Tiriti education and decolonisation.

Kerryn Carson's ancestors are a mix of Scots and Irish, and landed in North Otago, under Aoraki, along the banks of the Waitaki. Kerryn's mahi has included youth work, whānau support, and teaching, mostly in Melbourne, before returning to Aotearoa, to re-engage in her ako journey with te Tiriti.

Keywords:

#Tiriti #WhakawhitiKōrero #Co-delivery #NarrativePractice #TransformationalReknowing

How hot are chilli sauces

Barbara Dolamore and James Kandor

Abstract:

Chilli peppers (genus *Capsicum*) are one of the most popular spices with about one in four people world-wide eating chilli daily. The “burn” of hot peppers, is primarily due to two compounds; capsaicin and dihydrocapsaicin. The concentration of these compounds varies with plant species.

Wilbur Scoville (1912) invented a sensory test to measure chilli pepper heat. Briefly, a sample is homogenised and then diluted until testers can no longer detect the chilli sensation. A Scoville Heat Unit (SHU) value represents this level of dilution. The score ranges from 0 for bell peppers to 2,200,000 SHUs for the hottest peppers e.g., the Carolina Reaper. The Scoville Scale is still used but capsaicinoid concentration can be directly measured using ultra performance liquid chromatography (UPLC). These results are then converted to SHU's.

The aim of this study was to develop a robust method to measure capsaicinoids from chilli sauces made by a boutique Christchurch company. The data will be used to ensure ongoing product consistency.

Briefly, sauce was homogenised using an Ultra-Turrax Disperser set to 26,000rpm. A 10g sample was transferred to a cellulose thimble in a Soxhlet apparatus. Capsaicinoids were extracted by refluxing (6 hours) in hot methanol. Filtered extract was assayed using UPLC.

The tested sauce contained 1.50 mg/g capsaicin and 0.60mg/g dihydrocapsaicin. This converts to 32000 SHU's and is classed as highly pungent.

A graduate student was involved in method development and visited the company to see production methods. The company owner wishes to continue the relationship with Ara Institute of Canterbury, providing ongoing projects for students and has contributed to the costs. Students are more engaged when they are working with real clients.

Bios:

Barbara Dolamore (barbara.dolamore@ara.ac.nz) is a biochemist with a research interest in cyanobacterial toxins. She teaches molecular biology, biochemistry, research methods and supervises project work of students enrolled in the Graduate Diploma in Laboratory Technology. These projects focus on analysing compounds and microbes in food. Analytical instrumentation used includes the AKTA, UPLC, FAAS and qPCR. Her main outdoor interest is training with an outrigger club, Te Waka Pounamu.

James Kandor is a student completing his Graduate Diploma in Laboratory Technology. He is employed at Canterbury SCL doing a range of microbial analyses. Prior to enrolling in the Diploma he held a technical position with Australian Red Cross Lifeblood. In his spare time he enjoys skiing.

Keywords:

Chilli, capsaicin, dihydrocapsaicin, UPLC, Scoville

The New Zealand Osteopathic Profession's Understanding of Continuing Professional Development

Emma Fairs

Abstract:

The aim of this research was to investigate the beliefs and understanding of the New Zealand osteopathic profession in relation to continuing professional development (CPD); how they decided what CPD to undertake, what they saw as the perceived benefit of completing CPD, and whether they had any barriers accessing CPD.

A quantitative method was used to survey all registered osteopaths in New Zealand. Approval for the survey was obtained from the University of Otago Ethics Committee and the project was referred to the Kāi Tahu Research Consultation Committee, Te Komiti Rakahau ki Kāi Tahu to ensure that mana whenua were consulted appropriately.

The survey was completed by 48% of all registered osteopaths. Findings demonstrated that over 82% (n=234) of respondents completed CPD because it was a requirement of recertification, but 90% (n=256) also felt motivated to complete CPD because it assisted with clinical practice and improving their knowledge, skills and attitudes. Just over half of respondents 52% (n=139) stated they chose CPD based on their clinical focus and particular interests. Practitioners believed theoretical and practical skills and communication skills improved following CPD completion. Barriers to CPD were time (n=212, 71%), cost (n=170, 59%), availability (n=213, 74%), and maintaining a work life balance (n=210, 73%).

Findings from this study have shown that osteopaths engaged with CPD for both legislative requirements and also personal reasons. Barriers to CPD include time, cost, availability and work-life balance and seem to be magnified for the female respondent.

Bio:

Emma Fairs (emma.fairs@ara.ac.nz) is a registered Osteopath who has been in clinical practice in New Zealand and the UK for the last 29 years, she is currently Co - Programme Leader for the Bachelor in Musculoskeletal Health and the Post-graduate Diploma in Osteopathy at Ara, Institute of Canterbury. Emma has been involved in the regulation of Osteopathy in NZ and completed a Post-graduate Diploma in Pain Management and a Masters in Health Science with Otago University.

Keywords:

Osteopath, New Zealand, continuing professional development, competence.

The Expectations and Perceptions of Younger (25 yrs or under) Business Students at a Higher Education Institution in NZ

Michael Fallu and Lynley Woodward

Abstract:

This presentation will begin with a clear identification of the research questions and the reasons behind the research project.

Research Questions

What are the current younger (25 yrs or under, Gen Z) students' expectations and perceptions of higher level business education at SIT?

What potential changes are needed to the management, course content and teaching delivery methods to better meet the expectations of current younger and future students in higher level business education courses?

Research Methodology and Findings

This research project and methodology will be quickly outlined. Previous questionnaires for this project were conducted in 2021. The focus of this presentation will be to up-date the findings from interviews conducted in 2022 to further explore some of the key issues identified from the questionnaires.

The implications of the findings for experienced tertiary-level educators will be integrated into the discussion, identifying recommendations for our courses at SIT and other tertiary education institutions to become more in touch with the needs and expectations of our youngest groups of students.

Bio:

Michael Fallu (michael.fallu@sit.ac.nz) works at Southern Institute of Technology.

Lynley Woodward has been teaching papers in the accounting discipline at SIT for over 25 years. She has completed a Masters in Finance while teaching at SIT.

Keywords:

Expectations, Perceptions, Gen Z students

Model: [Explore]

Colleen Fay

Abstract:

While design-based practices are generally motivated by a desire to innovate and be creative, architecture has an obligation to accommodate the material and immaterial conditions of a lived environment. Kenneth Michael Hays (1984) defines architecture as a dichotomous relationship between "Architecture as an instrument of culture" and "Architecture as autonomous form"; this is the criticality of architecture. The complexity that exists within an educational framework is how does a student learn and engage experientially with material and space without the ability to 'experience' that conceptual idiom physically. This discussion will highlight the role of the model as a teaching and learning tool within architectural design education and examine the nuances of its application within our undergraduate program. The duality of digital and physical interfaces within the programme is negotiated through the modeling process where variances in scale, materiality, and construction methods determine the explorative nature of these models as educational tools or simulated realities.

Bio:

Colleen Fay (colleen.fay@op.ac.nz) is a senior lecturer at Otago Polytechnic. Her research interests lie in the pedagogy of architecture education specifically within the studio practices of both design and theory and the potential dialogues that are somewhat shared with other creative disciplines engaging in the physical and conceptual development of learners.

Keywords:

Model, architecture, pedagogy, design studio, experience

Model: [Educate]

Chris Fersterer

Abstract:

Physical modelling is a well-established tool for exploring and expressing concepts in architecture, engineering, product and other design fields. Architectural models are useful visualising tools for communicating with clients but can also help to provide clear understanding of structural relationships or systems.

The process of Physical model making that exploits contemporary construction practices, such as CNC laser cutting, use software to create a digital template. This requires the model maker to visualize the model in its various components in order to realise a physical output; the digital design is then tested through the physical model. The physical act of making the model provides learning opportunities allowing the construction process to be modelled, i.e. learning by doing as a means of understanding architectural systems or technologies.

With the introduction of remote learning, purely digital processes offer opportunities to both; pre-test vector files for physical models and to digitally model structural systems or practices.

This presentation reflects on model making as a pedagogy for teaching construction technologies to year one learners in an architectural program and questions whether the physicality of the model is essential to an experiential learning process or if a purely digital approach can achieve similar learning outcomes.

Bio:

Chris Fersterer (chrisf@op.ac.nz) is a senior lecturer in the Bachelor of Architectural Studies Programme at Otago Polytechnic. He has a background in building, ceramics, architectural technology and design with a focus on sustainability. His teaching practice includes Architectural documentation, Construction and design. His teaching pedagogy focuses experiential learning opportunities through making and doing.

Keywords:

Pedegogy, Model making, 3D digital modelling, Architecture

Design and Implementation of a Smart Traffic Signal Control System

Carlo Gabriel and Jaime Arpasi

Abstract:

In the last two decades, the increase of demand for transport and road traffic has caused, particularly in developing cities, signs of congestion, delays and accidents, mainly during peak hours. Hence, a multidisciplinary effort (e.g., the improvement of driving habits, the provision of better infrastructure and traffic management measures and the rationalization of the use of public roads) is needed. To propose measures that speed up vehicle flow mainly during peak hours, this project proposed the design and implementation of a smart traffic light control system to improve the vehicular circulation of Queens Drive - Layard Street. Finally, it evaluated the factors generating problems and social impact (e.g., lost man-hours, environmental pollution, and accidents) to propose strategies to improve the traffic flow and reduce the operational conflict and provide a safer environment for the community. From the analysis carried out with the VISSIM software, it was found that the proposed situation has reduced the delay and number of vehicles yet the service level remains the same as the current situation. On the other hand, it should be noted that the proposed situation includes improvements in horizontal and vertical signage, improvements that influence to avoid risks and reduce unnecessary delays.

Bios:

Carlo Gabriel (carlo.gabriel@sit.ac.nz) graduated from Saint Louis University. From 2016-2018, he was a Process Control Engineer. Since 2017, he has been an Engineering Educator at Southern Institute of Technology and works as Programme Manager since 2020. He published various articles and his research interests include product design, automation and engineering education.

Jaime Arpasi worked as an Operations Engineer at the Smart Tunnel Gambetta Project - Peru from 2016-2019. In 2021, he studied Graduate Diploma in Engineering Technology at SIT. Currently, he is working at NZTA as being part of the Traffic Signals Operation Team at Wellington's Transport Operation Centre.

Keywords:

traffic micro-simulation modelling, calibration, model application, analysis, smart traffic signal control system

Learning Styles and Challenges of Engineering Degree Students

Carlo Gabriel, Orland Basas and Johans Claudine Ufano

Abstract:

Learners preferentially process information and experiences in several ways. A proof to this is that learners have different learning style preference and experience various challenges based on their rich and pluralistic backgrounds. Employing the quantitative and qualitative research methods, the present study aims to determine the learning styles and challenges of engineering students enrolled in an institution of higher learning in Invercargill, New Zealand. The quantitative part was used to determine the participants' learning styles and their relationship and difference based on their demographics. Qualitative method was utilized in coming up with an inventory of the participants' learning challenges, and in determining differences in learning challenges based on their demographics. Results show that there were more participants who have well-balanced preference in all the four dimensions (i.e., Active-Reflective, Sensing-Intuitive, Visual-Verbal, and Sequential-Global) of Felder and Soloman's Inventory of Learning Styles (ILS). Inferential analysis reveals that there is gender difference on participants' learning styles specifically in the Visual-Verbal dimension. Further, among the four dimensions, two dimensions (i.e., Sequential-Global, Active-Reflective) have established significant relationship with each other. From the qualitative analysis, participants' challenges emanating from their course, tutors, culture and themselves were identified. Finally, difference on the learning challenges was analyzed and discussed qualitatively.

Bios:

Carlo Gabriel (carlo.gabriel@sit.ac.nz) graduated from Saint Louis University. From 2016-2018, he was a Process Control Engineer. Since 2017, he has been an Engineering Educator at Southern Institute of Technology and works as Programme Manager since 2020. He published various articles and his research interests include product design, automation and engineering education.

Orland Basas is an IT Tutor in the School of Computing at the Southern Institute of Technology where he has been a faculty member since 2019. He earned a Master's degree in Engineering at Mapua University. His research interest lies in the area of network security and educational correlational research.

Johans Ufano completed her B.S. in Chemical Engineering at University of the Philippines-Los Banos. She also finished Graduate Diploma in Environmental Management at SIT. She is currently working as Process Control Engineer at New Zealand's Alimunim Smelter Ltd. while teaching engineering courses at SIT.

Keywords:

traffic micro-simulation modelling, calibration, model application, analysis, smart traffic signal control system

Effects of Gamification Mechanisms on the Behaviour of Bank Customers Using Credit Cards

Prabesh Gautam, Edwin Rajah and Shafiq Alam

Abstract:

The strategy of integrating game design into non-game businesses to improve customer involvement and engagement has received much attention in recent times. The objective of this study is to investigate the effects of the gamification on bank customers behaviour when using credit cards. Banks adopt gamification strategies by offering reward points /benefits for customer credit card transactions, to improve the levels of customer engagement, satisfaction, and intentions to use of the credit card usage.

To investigate the hypotheses that gamification influences engagement, satisfaction, and intention on customer purchasing behaviours when using credit cards, a quasi-experimental research design was adopted to investigate this issue. The study adopted an online questionnaire and enlisted 88 participants throughout New Zealand using a convenience sampling approach. Ethics approval for primary data collection was granted by the Ethics Committee of OPAIC for this study.

The relationship between gamification and each of the 3 outcome variables were analysed by independent t-tests. The findings of the quasi experiments show that higher reward points in gamification have a positive influence on customer engagement and satisfaction on bank customers when using credit card transactions. This findings contribute to the field of gamification research and encourages banks to innovate on how they might improve the customer purchase experiences by embedding game element strategies for marketing of bank products and services. Further research could be undertaken to determine how much banks and other financial institutions profit by implementing gamification into their products and services.

Bios:

Prabesh Gautam is currently a student in the Master of Applied Management at Otago Polytechnic International Campus, Auckland, and undertaking research thesis on gamification in the NZ banking industry.

Dr. Edwin Rajah ([ID 0000-0002-6336-5045](#)) (edwin.rajah@op.ac.nz) is a Principal Lecturer in Otago Polytechnic Auckland International Campus (OPAIC) teaching Digital Marketing, Innovation & Entrepreneurship and supervising postgraduate projects and thesis research. His research interests are in the areas of marketing strategy, digital marketing, innovation, & learner engagement.

Dr. Shafiq Alam's ([ID 0000-0002-9566-8040](#)) PhD thesis "Swarms, Clustering, and Recommender Systems" was awarded the Department's Best Ph.D. thesis award for 2012-2013. Dr Shafiq's current research areas include detecting Risks in Recommender systems, security of recommender systems, shilling and fraud detection in recommender systems, data mining, web usage mining, and big data.

Keywords:

Gamification, Bank Credit card Reward points, Engagement, Satisfaction, Intention

Researching He Ara Mahi Tahī

Wayne Green

Abstract:

He Ara Mahi Tahī for Career Practice – building on Mason Durie’s 3 W’s

Whakapiri/Whakamārama/Whakamana

The aim of this presentation is to show informed reflection on using Mason Durie’s 3 W’s in practice and comparing with HAMT (He Ara Mahi Tahī) on application with a career practice and teaching practice lens.

I looked at my existing knowledge and implementation and investigated further application ideas. I located HAMT which detailed and provided further insight into the current model I have used. Also, discussing this model with other careers practitioners and how they might see it working. Consultation with Māori colleagues about Māori perspectives – after all it is a Māori model!

HAMT is an extension of the 3 W’s model. The previous model has value in that it demonstrates working with an individual and that it can help sequence a session, clarify approaches, incorporate approaches and is very clear in the mind of the practitioner. After investigation, the second model included many more dynamics and clarity for practice. This model has not just the individual at the centre. It recognises that the individual is connected to family/whanau, community, support workers as an increasing or widening net/circle. This demonstrates to the client the opportunities and resources that are available – also possibly the ‘barriers’ faced in accessing supports.

Person centred models are valuable but community centred models represent a more holistic view of the client. This will widen practice and illustrate that networking/building communities are imperative combined with building and maintaining positive relationships

Bio:

Wayne Green (wayne.green@op.ac.nz) is a Bachelor of Social Services Lecturer, Career Practice. Previously a Tertiary Careers Advisor (Otago Polytech), at risk youth worker (Youth Service), primary teacher (relief work at various Dunedin schools).

Keywords:

Community based model

Curating the Self-Sustainable Website/Mobile Application Idea for Building Online Passive Income Streams


Paulette Halstead, Naveed ur Rehman and Max Yap

Abstract:

Launching a self-sustainable website/mobile application that involves little to no involvement during operations is currently achievable. Such a product can be a great way to earn ongoing passive income. However, thinking of an appropriate product idea is always difficult, especially when an unorganized approach is adopted. Therefore, this study describes a methodology based on a lean canvas model for curating and assessing potential ideas. Monetization processes using advertising and freemium methods have been chosen as the revenue streams since they require minimum customer convincement. The technologies behind automated content and marketing are also elaborated. A case study of our recently launched website application, DownloadActivityBooks.com, is presented. Various sorts of analytics, from minimum viable product (MVP) to the final launch, are shared and discussed in detail. This study introduces several interesting directions for those who are looking forward to becoming online entrepreneurs, especially IT and Business students, techno-enthusiasts, and hobbyists computer programmers.

Bios:

Paulette Halstead (paulette.halstead@sit.ac.nz) is the Head of School of Business and Management at SIT. She has taught small business management for many years and has supervised postgraduate students undertaking business related research projects that have been applied to small business management planning. Prior to her role at SIT, Paulette was an owner/operator of a successful New Zealand based SME in the fashion industry. Areas of research interest include leadership and management, entrepreneurship, and organisational culture.

Naveed ur Rehman ( [0000-0001-8511-1479](https://orcid.org/0000-0001-8511-1479)) is a mechanical engineering tutor at SIT. He is actively researching in the field of solar energy engineering, particularly potential assessments, systems analysis, and optics, and has published several articles in prestigious journals and international conferences.

Max Yap currently teaches accounting at the Southern Institute of Technology. His research interests include the fundamental philosophies of accounting, computational modelling, and statistical analysis. He enjoys inter-disciplinary projects, particularly those which have real-world relevance and applications. Please email him at max.yap@sit.ac.nz if you have any interesting projects to share.

Keywords:

Business Model, Automated Marketing, AdSense, Alternate Income, Investing

Preliminary development of a novel engine type configuration and software simulation

Graeme Harris

Abstract:

The research aims to explore potential optimised configurations for a novel engine design that is intended to produce increased power output vs engine volume when compared to existing V8 engines.

The research questions for this particular part of the project are:

1. What are the potential cylinder head configurations for an efficient space layout and to optimise air flow for power output?
2. Is it possible to computer simulate to a functional level of this novel engine design.

Methodology

A number of options for the cylinder head design were developed and one of them was 3D printed and tested in a flow bench for air flow rate.

An existing beta software was examined for suitability to model this novel engine, with the intention that the outputs from the flow bench test to be included as one of the inputs for the simulation.

Results

The 3D printed cylinder head was sufficient to enable readings/measurements of intake airflows. Results are comparable to existing high performance aftermarket cylinders and therefore the cylinder head design shows potential for integrating into the novel engine and work with the industry partner is ongoing.

The beta software analysis found that while results were produced in the software there were a number of questions of validity of the data output, including being a result of some of the assumptions used in modelling, thus further understanding of the methodology of the computer software is required.

The outcomes from this student led research project has lead to further questions that future students will be able to take on in future projects.

Industry benefit from co-development opportunities with physical testing being used to develop and verify software. Students benefit from being at the forefront of product development and experiencing the iterative and sometimes convoluted research process.

Bio:

Graeme Harris (graeme.harris@ara.ac.nz) is a senior Lecturer at ARA with interests in motorsport, engineering, and fluids.

Keywords:

engine, software, 3D printing

Towards a Unified Work Based Learning Curriculum for IT

Syed Faisal Hasan


Abstract:

Recently, Work Based Learning (WBL) has been identified as a solution to address the ongoing skills gap in various disciplines. However, the concept of WBL in the field of

Information Technology (IT) is relatively new. It needs a collaborative model where the industry-academy can work together to align the learning outcomes that meet industry requirements while fostering innovation. Otago Polytechnic's Bachelor of IT (BIT) programme has adopted open-source technologies and learning contents from Microsoft Cloud (Azure), Google Cloud (gcloud), Amazon Web Services (AWS) and Fortinet to balance between innovation and bridging academy-industry gap. Several use cases and student projects in systems, security and operations areas will be demonstrated. A particular highlight will be to show how our learners learn about cloud platforms by building their own basic cloud infrastructure using open-source technology, get hands-on experience on an industry leading open-source cloud platform (OpenStack), build production services on Azure cloud platform and prepare for industry certification. Work is undergoing to develop several micro credentials so that learners, who want to upskill their skills or planning to change their career to take advantage of the tremendous skills shortage will be able to take full benefits of the curriculum from anywhere. This will provide a directive towards a unified and work-ready curriculum to be adopted by Te Pūkenga.

Learners, who want to upskill their skills or planning to change their career to take advantage of the tremendous skills shortage, will be able to take full benefits of the curriculum from anywhere. This will provide a directive towards a unified and work-ready curriculum to be adopted by Te Pūkenga.

Bio:

Syed Faisal Hasan ( [0000-0002-4820-3099](https://orcid.org/0000-0002-4820-3099)) (faisal.hasan@op.ac.nz) is working as a Senior Lecturer, Bachelor of IT Programme, Otago Polytechnic, Dunedin, New Zealand. His research interest is in security and Internet protocols. He was a Commonwealth scholar for PhD at Computer Science, University of Otago and awarded Internet Society fellowship to the Internet Engineering Task Force (IETF) in 2011 and 2013.

Keywords:

Work-Based-Learning, IT, Cloud, Micro-credentials, Cyber-security

Model: [Experience]

Blair Isbister

Abstract:

The development of digital technologies beyond traditional computer aided design is transforming the way we express design and communicate architectural design and technical information. The resolution of information available through detailed three dimensional digital building models has never been higher and the digital model is leaving the realm of representation and into the realm of simulation.

Using traditional architectural representation methods, digital building model development phases are communicated by abstraction of two dimensional views such as plans, elevations and orthographic projections from digital building models. This process can subvert complex form, scale, spatial and illumination information contained within the digital building model.

The emerging accessibility of immersive technologies such as virtual reality and mixed reality is removing and reshaping traditional abstraction between architectural practitioners and their digital building models.

This presentation will explore teaching and learning strategies within the Bachelor of Architectural Studies programme to ensure immersive technology is leveraged to maximise the experience learners can gain and work someway to close the divide between interpretation and design.

Bio:

Blair Isbister (blair.isbister@op.ac.nz) is a senior lecturer in the Bachelor of Architectural Studies Programme at Otago Polytechnic, teaching primarily in architectural technology and documentation studio courses. He has a foundation in architectural building information modeling and is passionate about the juncture between architecture, communication and information technologies.

Keywords:

model, architecture, representation, teaching and learning

Microinvestigators website – designing a solution for future learners

Martin Kean, Christine Liang and Adon Moskal

Abstract:

As a senior lecturer in the Communication Design degree programme at Otago Polytechnic, I teach courses in web design.

As part of my teaching practice, I engage with others in the teaching community, and was approached by Dr Christine Liang, Programme Manager for the School of Environmental Management, Southern Institute of Technology, Invercargill, New Zealand, to help develop a website portal that showcases the work she and her students are undertaking, documenting microplastic distribution in inland waterways in Southland, New Zealand.


In this paper, I will outline the methods I used in supervising a group of Level 7 students, who created branding, video, social media, and website outcomes and assets for the Microinvestigators with the expert contributions from Adon Moskal, Principal Lecturer in Bachelor of Information Technology, Otago Polytechnic, Dunedin, New Zealand. I will also relate my methods and experiences in presenting a green screen interactive experience for the Microinvestigators Hui at Southern Institute of Technology in July 2021.


The hui engaged over 100 attendees, including decision makers such as Invercargill City Councillors, the local MP, and district waste agency. It was an opportunity for participating students to voice their “call to action” against plastic pollution.

Through presenting my research I hope to develop a community of practice with other web design lecturers to better support our community.

Bios:

Martin Kean ( [0000-0002-7539-7976](https://orcid.org/0000-0002-7539-7976)) (martin.kean@op.ac.nz) is a Senior Lecturer at Otago Polytechnic, teaching web design and project supervision.

Christine Liang ( [0000-0003-2709-7060](https://orcid.org/0000-0003-2709-7060)) leads a Microplastics Citizen Science project called Micro-Investigators that received the Environmental Action in Education Award at the 2021 Environment Southland Community Awards. Dr Liang manages the Bachelor’s Degree and Graduate Diploma programmes, as well as research and supervision, and lecturing in earth science and environmental science courses.

Adon Moskal ( [0000-0003-4089-2130](https://orcid.org/0000-0003-4089-2130)) is an experienced Information Technology Lecturer with a demonstrated history of working in the higher education industry. Skilled in web development, data analysis, and research into teaching and learning.

Keywords:

web design, green screen, microplastics, mapbox

Constructing NEET young people as economic liabilities

Lynda Lawton

Abstract:

Young people who fail to engage with education, employment, and training (NEET) are arguably constructed as problematic for society and the New Zealand economy. In this document analysis I use the WPR analytic strategy to show how on one hand NEET young people are positioned as an economic problem due to their perceived lack of human capital, and on the other hand, the governing rationality of social investment constructs young people as a worthwhile future financial investment. I argue that early government investment in NEET young people through targeted support and educational services are provided as a solution to a socially constructed problem. All the documents that have been analysed, describe social investment as an 'approach' to assist young people so that they can become financially independent from the state. However, I draw on Foucault to show that social investment is more than an approach to 'help' solve the problem that young people are financially dependent upon the state. Instead, I argue that the rationality of social investment is involved in constructing and reinforcing (NEET) young people as an economic problem that needs fixing.

Bio:

Lynda Lawton (lynda.lawton@ara.ac.nz) is an Academic Manager at Ara Institute at Canterbury and a part-time PhD student at the University of Canterbury. Lynda's background as a social worker and a lecturer led to her interest in how young people who are not in education, employment or training (NEET) are constructed within wider government policy and documentation that spans Education, Social Care, Youth Development and The New Zealand Treasury.

Keywords:

human capital, Foucault, social investment, NEET, economy

Fatty acid compositions of different plant-based milks in Aotearoa

Claudia Leong, Mary Fitzpatrick, Michael Edmonds,
and Maria Choukri

Abstract:

Long chain polyunsaturated fatty acids (LCPUFAs) are essential for early human growth and development. Some research also reports that the ratio of n-6/n-3 LCPUFAs in early life could influence infant body composition. World-wide, plant-based milks have been gaining popularity. However, the nutrient quality of plant milks can be very variable. There have been many studies involving gas chromatography (GC) analysis of fatty acids in cow's milk (and some in human milk) in relation to their diet. The objective of this study is to analyse and compare the fatty acid compositions of a range of plant milks and use this as a basis for future studies to explore plant milk fatty acids on health outcomes. The sample preparation of milk for GC analysis generally involves solvent extraction of the lipids followed by conversion of the fatty acids present to the more volatile fatty acid methyl esters (FAME). The standard FAME synthesis methods avoid water and use only dried samples and reagents. This study proposes to find a reliable method for directly methylating fatty acids in fresh milk samples in order to carry out the GC analysis of a number of different plant milks. The 5-minute research bite will briefly summarise the interest in plant milks and focus on the methodology of the study. This study showcases the collaboration of two fields, laboratory science and nutrition.

Bio:

Claudia Leong ([ID 0000-0002-6388-4646](#)) (claudia.leong@ara.ac.nz) is passionate about making nutrition education engaging and accessible to all children. She is an educator at Ara Institute of Canterbury with a focus on a student centered approach. She enjoys sharing knowledge, and is constantly keeping updated in the nutrition field. She teaches into BAppSci courses. She is also a research-active as a lecturer at Ara, involved in topics in fatty acids in plant and human milk, food insecurity, ki-o-rahi, and digital technology for nutrition education. Claudia is also an entrepreneur, being a co-founder & director of NutriBlocks Limited (est. 2020). Nutriblocks consists of a multi-disciplinary team of game developers, artists, educators to develop entertaining, engaging, and educational video games for health.

Keywords:

fatty acids, nutrition, GC, methodology, plant milks

Reduction in the risk of pressure injuries through design changes to patient handling slings

Helen Liley

Abstract:

Zenitec is a manufacturing and design company based in Invercargill ("Zenitec," n.d.). One of their product lines is the Nortec Medical sling range, which are used for lifting physically disabled persons to assist with necessities such as toileting.

Zenitec have identified a design flaw in the sling where the edging material has less elasticity than the mesh fabric. This is believed to create localised high pressure on the area of the patient's limb that is in contact with the edging material. Localised high pressure points are of particular concern for older patients and/or individuals with spinal cord injury (SCI), where factors such as lack of sensation and immobility add to the risk of pressure injuries (PUs). (Garber, 2000)

Zenitec have developed a better design for their slings, through changing the edging material and the type of stitch. The purpose of this research is to build a body of evidence supporting the design change as a more comfortable and safer option. Ultimately, quantitative data will be gathered through X-sensor pressure mapping, and qualitative data gathered from users and medical professionals.

This presentation will cover the literature review that has been conducted by the researcher. Studies have suggested that a lack of fatty tissue contributes to the incidence of pressure injuries (J. Black et al., 2015; J. M. Black & Kalowes, 2016), but there is limited correlation between PU occurrence and the degree of musculature in the affected area. Other factors that may have an effect on pressure distribution could include the gender of the user, the mass of the user, or the use of an incorrectly sized sling.

Bio:

Helen Liley (helen.liley@sit.ac.nz) studied Biomedical Engineering at the University of Auckland, and completed my PhD in 2018. My PhD used statistical shape modelling to investigate the effects of shape and bone mineral density variation on stress fractures. I have recently started a research project at SIT, collaborating with local company Zenitec.

Keywords:

patient handling sling, pressure distribution

Regenerative and transformational restaurants – where do we start?

Timothy Lynch

Abstract:

Economics and culinary arts aren't generally considered natural mates, the former considered -by those that work in the area- as being a stifling tool for the creative energy the sector is famous for, more of an Oscar worthy slap rather a silent gilding hand.

However, with the current upward pressure on wage rates- in a traditionally low wage sector- combined with the removal of foreign labour, and unilateral commitments to a carbon neutral, transformative and regenerative economy, the question is now forming "what does an economically viable culinary arts sector in a new economic hierarchy look like" and within this, "what is the role education have to play in this reset" (in a Tē Pukenga landscape)

The presentation explores these ideas using the economic theories of Joe Pine as a source of secondary research, and combines them with applied evaluative research methods as outlined by Alan Clarke to gather primary data and user centric insights. These insights are then contrasted against current and potential teaching practices.

Due to the nature of the research, the presentation will be delivered as a pre edited digital, audio-visual document.

Bio:

Timothy Lynch's (timothy.lynch@op.ac.nz) background is as a chef with over two decades professional cooking experience within New Zealand and throughout Europe. Tim currently holds the position of senior lecturer at the Food Design Institute and has been tasked with co-ordinating the second year of the bachelor of culinary arts and creating a blended educational and enterprise model for students.

Keywords:

transformative, regenerative, economy, audio-visual, culinary arts, change

Facilitators and Barriers to Healthy Eating Behaviour and Physical Activity Level of Office-Based Workers in New Zealand

Prasadie Rashmini Manawaduge Silva, Indrapriya Kularatne and Edwin Rajah

Abstract:

The primary goal of this research is to explore the facilitators and barriers that the New Zealand office-based workers face in terms of healthy eating and physical activity at the workplace. Furthermore, this study investigates office-based workers perceptions of healthy eating and physical activities, and their preferences for future health initiative strategies at the workplace.

The primary data collection process included an online questionnaire completed by 106 New Zealand office-based employees followed by a semi-structured interviews with 13 office-based employees. Ethics approval has been granted to this study by the Otago Polytechnic Auckland International Campus Ethics committee.

The primary data analysis findings shows that the majority of office-based workers vegetable intake at workplace is relatively low. However, their fruit intake is in line with the government recommendations. Also, the majority of the office-based workers do not undertake any vigorous or moderate-intensity physical activity during the worktime, and their average sitting time at office was approximately seven hours. The qualitative interview findings discovered that excessive workload, work stress, organization culture, unavailability of healthy food options at worksite and lack of encouragement from the management are the main barriers for healthy eating and physical activity behavior at workplace.

To promote healthy eating and physical activity at workplace, the present investigation recommends reducing the workload and stress level at the workplace, provide extra breaks for stretching and exercise, longer lunch for walking groups or fitness classes and increased availability of healthy food options at worksite.

Bios:

Prasadie Silva is a Chartered Management Accountant by profession and currently working at Beca, New Zealand. She has obtained her Bachelor of Accountancy degree from the University of Sri-Jayawardhenapura, Sri Lanka. Prasadie is currently finishing her Master of Applied Management at Otago Polytechnic International Campus, Auckland. Her research interest includes workplace health management, nutrition, and physical activity education.

Indrapriya Kularatne ([ID 0000-0001-5699-0638](#)) is a Principal Lecturer at Otago Polytechnic Auckland International Campus New Zealand. He has obtained his Ph.D. from the University of Auckland, Master of Management from the Massey University. His research focuses on sustainability, environmental management, employability skills, project management and corporate social responsibility.

Edwin Rajah ([ID 0000-0002-6336-5045](#)) (edwin.rajah@op.ac.nz) is a Principal Lecturer in Otago Polytechnic Auckland International Campus (OPAIC) teaching Digital Marketing, Innovation & Entrepreneurship and supervising postgraduate projects and thesis research. His research interests are in the areas of marketing strategy, digital marketing, innovation, & learner engagement.

Keywords:

Healthy eating, physical activity, office workplace setting, New Zealand, facilitators & barriers

Why are horse-owners ending their relationship with vets for Facebook?

Steph Mann

Abstract:

Aim: The aims of this project are to

1. Explore the motivation New Zealand recreational horse owners for using Facebook as a source of answers and advice on matters of horse husbandry, rather than using more evidence-based methods.
2. To gather insights about the impact this form of decision-making can have on horses and the veterinary professionals around them.

Horse owners appear to be turning to Facebook with increased frequency to ask husbandry questions about horses. Posts made on equine-themed Facebook groups range from the fairly innocent to questions about very specific disease processes, diagnosis and treatment options. Replies are not made by veterinarians or other equine professionals (e.g., nutritionists, farriers) but by other horse owners. Advice is often out of context, can be harmless but useless, or dangerous to the health and well-being of the horse.


Research design / methodology: This research was based on qualitative research design and comprised of two parts. Firstly, an invitation to complete an anonymous survey was sent to 25 equine-themed New Zealand Facebook groups. The respondents answered questions about their demographics, horse ownership, use of Facebook and how they made management decisions for horses. 160 horse-owning Facebook users responded, and 156 valid responses were analysed. In the second part of the research project, six equine professionals were interviewed about the survey's findings to learn about their response and insights.

Ethics: The project was designed in consultation with Kaitohutohu and received approval from the Otago Polytechnic Ethics Committee.

Results and findings: The results of the survey showed people asked and responded to posts because Facebook is quick and free. That people answered to tell a story, even if the context is incorrect, and that people don't know what they don't know -they have a false confidence on the advice they are giving and receiving. The interviewees spoke of mental well-being, cyber-bullying, and a veterinary industry in deepening crisis. This was supported in part by a comprehensive literature review conducted in 2020.

The implications for industry and community: The project has produced ideas on mitigating the miseducation, but a unified approach is needed to overcome the issues with social media in place of professional advice. Educators should be including social media navigation and responding to programme material so that students can safely plot a course through social media and be part of the solution, rather than part of the problem when it comes to being an evidence-based practitioner, rather than using Facebook to seek answers.

Bio:

Steph Mann ( [0000-0002-8764-6490](https://orcid.org/0000-0002-8764-6490)) (steph.mann@op.ac.nz) is the Programme Leader for Rural Animal Technology at Otago Polytechnic. She has been with the School of Veterinary Nursing for 18 years and completed her Master of Professional Practice in 2021. Steph is based in the Wairarapa and works with her students extramurally.

Keywords:

Facebook Well-being Veterinary Horses NZ

Uptake of Offsite Construction in NZ – A Non-Supplier viewpoint

Rehan Masood, Sadegh Aliakbarlou, Luban Chan
and Jesse Teo

Abstract:

Prefabrication and offsite construction have proven globally an alternate solution for the housing crisis and skilled workforce shortage. However, the pace of adoption of this innovative construction approach is slow in comparison to other OECD countries. The perception of non-prefabricated organizations as designers and contractors has a significant role in the uptake of prefabrication. This study aims to investigate the issues along with the main benefits and challenges towards enhancing the uptake level. An online questionnaire survey was conducted to collect the responses from practitioners having prefab experience and affiliations to professional bodies. The result shows there is an increasing trend in uptake level with a focus on prefab component-based and complete buildings. The top three benefits are reduction in the overall construction schedule, better building quality and high-quality control and reduction in environmental impact. The top three challenges are lack of expertise in prefabrication design and manufacturing, extensive early project planning and design, and complex code compliance and inspection process. Many strategies were proposed to address the critical issues regarding the uptake of prefabrication. This study helps educational institutes to learn the need of the industry for skills and knowledge for prefabrication. Further, prefab producers will gain knowledge about the non-supplier perspective which is helpful for supply-driven solutions and prefab uptake framework. Government bodies will get an insight into the industry practitioners' perspectives to formalise the policies and programmes.

Bios:

Rehan Masood (rehan.masood@sit.ac.nz) is an experienced academician and is currently involved in the delivery of civil engineering, construction, quantity surveying and project management courses. His current research is related to construction education, offsite construction, supply chain management, and building information modelling. He has NZ based industry affiliations such as NZIOB, PrefabNZ and EngNZ.

Sadegh Aliakbarlou is currently involved in academia as a senior lecturer. He achieved a Bachelor's degree in civil engineering, as well as a Master and a PhD degree in construction management. He is also a Chartered Civil Engineer and a Professional Quantity Surveyor. His research interest lies in post-disaster reconstruction, innovation, and advanced technologies in construction.

Luban Chan is a Chartered Construction Manager and a Professional Project Manager. He is contributing into teaching and research as an academic lecturer at the department of building construction, Unitec Institute of Technology. His current teaching and research is related to offsite construction and construction project management.

Jesse Teo completed Bachelor of Construction and currently working as Quantity Surveyor at a construction supplier organization.

Keywords:

Prefabrication, offsite construction, designers, contractors, uptake, New Zealand

Establishing Quality Assurance Regime for prefabricated house building company

Rehan Masood, Samantha Menike, Pramod Nerlekar
and Mujaddad Afzal

Abstract:

Prefabricated house building companies are suppliers of prefab components to modular houses. Prefab construction is alternate way with relative cost-effective and potential to save time in all phases of the supply chain as most work happens in the factory environment. These companies are facing critical challenges to address the complex requirements for compliance with building consent authorities across New Zealand. Initially, regulatory requirements applied to prefabricated house buildings were studied. A typical modular house was selected to understand the complete process from concept, design, manufacturing, transportation and onsite construction in the company supply chain. The process for applying building consent was reviewed and consulted to understand relevant aspects of a given case. A quality assurance plan was developed to identify the key control points when third-party inspection could happen. Data collected for this case study research is from reports, archives, offsite observation at the factory, and interviews with practitioners and councils. A detailed process flow chart was established showing all the key processes of building a modular house in a factory environment. All factory inspection requirements were reported. Three control points were established when the third party intervene in the supply chain. This study is one of the industry projects of the graduate diploma programme which was executed with industry collaboration. This study helps in defining the approaches to investigate the industry issues and solve them with research investigation. Speeding up the consent process for modular houses will increase the supply of the houses which in return help in achieving affordability. The proposed quality assurance process is currently in use by the industry partner.

Bios:

Rehan Masood (rehan.masood@sit.ac.nz) is an experienced academician and is currently involved in the delivery of civil engineering, construction, quantity surveying and project management courses. His current research is related to construction education, offsite construction, supply chain management, and building information modelling. He has NZ based industry affiliations such as NZIOB, PrefabNZ and EngNZ.

Samantha Menike is a Senior Lecturer and a Professional Quantity Surveyor with memberships in the RICS, NZIQS, and IQSSL. She is an Assessor for RICS South Asia and Australasia. Her research interests are in the areas of Value Management, Value Engineering, Bid Management, and Technical Auditing of Construction Projects.

Pramod Nerlekar has successfully completed Graduate Diploma in Construction specializing in Project Management. He is currently working in the industry.

Mujaddad Afzal is an experienced academician and is currently involved in the delivery of civil engineering, construction, and transportation engineering courses. His current research is related to road network resilience, hazard management, and traffic simulations. He has NZ based and international industry affiliations.

Keywords:

Prefabrication, Modular houses, building compliance, quality assurance, quality control

Towards HyFlex model for architecture, engineering and construction courses

Rehan Masood, Kasey Ward and Mujaddad Afzal

Abstract:

COVID-19 compel the tertiary education system to adopt hybrid and flexible learning approaches for the successful delivery of professional programmes. However, lack of necessary awareness and training, and also an increase in workload made academic faculty transition difficult from face-to-face to online delivery. This study is an attempt to investigate the andragogy for online teaching and evaluate the principles of the HyFlex Model for architecture technology, engineering and construction courses.

In this study, three courses, levels 5-6, were selected from each discipline, as delivered under the faculty of Trades and Technology for diploma or bachelors programmes. Prime selection criteria were the inclusion of a wide range of teaching practices. Teaching methods and practices were assessed and compared, as applied during off-campus teaching based on andragogical assumptions. HyFlex model principles including learner choice, equivalence, reusability and accessibility were then evaluated for each course to determine the potential and viability.

The comparison of the teaching practices revealed the diversified approaches toward online teaching and depends on factors like incompatible course design, time constraints, student participation and engagement, educational technology adaptation, and limited IT and media support. A HyFlex model has been proposed with adoption strategies in wider disciplines but there is still a need to modify considering learning outcomes, teaching approaches and assessment types. In the next stage, a survey will be conducted with relevant faculty to formulate the application.

This study helps Te Pukenga towards the adoption of Hyflex as most of the programmes will be unified in the coming years despite the offering by location of the subsidies. This delivery approach has the potential to enhance enrolment which helps the community to attain high-quality professional qualifications from New Zealand's largest education provider.

Bios:

Rehan Masood (rehan.masood@sit.ac.nz) is an experienced academician and is currently involved in the delivery of civil engineering, construction, quantity surveying and project management courses. His current research is related to construction education, offsite construction, supply chain management, and building information modelling. He has NZ based industry affiliations such as NZIOB, PrefabNZ and EngNZ.

Kasey Ward is a tutor for Architecture Technology courses. Experienced Quality Assurance Officer in a Building Consent Authority environment. Has a technical background with time spent working for architectural firms in a drafting role as well as vetting and processing building consents during employment at Invercargill City Council. Has held leadership roles within the hospitality industry. Well versed in the Building Consent Authority Accreditation regulations, the NZ Building Act and NZ Building Code. Holds a relevant regulation 18 qualifications. Received a BOINZ Emerging Leader award in 2018.

Mujaddad Afzal is an experienced academician and is currently involved in the delivery of civil engineering, construction, and transportation engineering courses. His current research is related to road network resilience, hazard management, and traffic simulations. He has NZ based and international industry affiliations.

Keywords:

Teaching practices, learning design, AEC, COVID19, Hyflex, Te Pukenga

Model: [Express]

Sarah McCallum

Abstract:

As a mode of expression within architectural language, the model has unmatched potential. Communication of an architectural project or idea through technical and/or gestural drawings relies on the viewer's ability to decode conventions, interpret scale and cross-reference images to build up a clear picture of 'the whole'. A well-crafted and visually compelling model, on the other hand, can serve as both an inclusive and expressive form of communication. Within the context of a completed project, the model can embody a designer's aesthetic, while at the same time representing core architectural elements to varying degrees of abstraction. Despite this potential, the model is often reduced to a static object, generic in approach and aesthetic, and positioned next to a set of architectural drawings as an afterthought.

As a teaching and learning strategy within our programme, learners are exposed to a diverse set of approaches, technologies, and references relating to the role of the model as a tool for learning. The use of the model within iterative design processes is well established as a method of exploring, educating (about) and experiencing architectural space. This presentation will explore the role of the model as a means of expression, which is viewed as an elevated form of communication. We have observed a discrepancy between the value learners place on the model as a process tool, versus the model as an expression of the finished product. Why is this happening and what are we doing to challenge this?

Bio:

Sarah McCallum (smccallum@op.ac.nz) is a lecturer in the Bachelor of Architectural Studies Programme Otago Polytechnic, teaching primarily in design studio courses. She has a foundation in architectural practice and is passionate about merging educational pedagogy and workplace practices. Current research interrogates educational practice in an environment that is experiencing rapid change.

Keywords:

model, architecture, design, pedagogy, studio

Let's Chat!

Caro McCaw

Abstract:

This short paper is a provocation toward rethinking student evaluation of teaching in times of change. I will reflect on teaching a course online this year, in response to covid contexts, where I experienced students participating with challenging learning (both online and offline) with high levels of engagement and project success. The course content was delivered via Teams, drawing on learners in two institutions, based in Dunedin and Vancouver. Using teleconferencing software, I found learners were very reluctant to turn on their cameras or even to answer questions verbally, but would happily demonstrate their learning via Teams chat. At the close of the course when I asked students to give feedback on my teaching not one student completed the online survey. This paper considers ways we might seek productive feedback that can help inform teaching practices, capturing evidence of engagement through our teaching and learning contexts, as and through response to change.

The paper will outline my experience and ask others to consider how they experience online teaching in times of change, and what we may need to consider about our teaching methods to engage learners in different ways. The presentation will use the 'chat' function in Teams to engage symposium attendees in conversation, and we will analyse our own learning from and with the presentation. Finally, we will reflect on what counts as evidence of this learning and how this evidence could augment formal teaching surveys at our own institutions

Bio:

Dr Caroline McCaw's (caroline.mccaw@op.ac.nz) research employs creative social practice and approaches, across diverse projects and contexts. Caroline co-ordinates the Otago DESIS lab, a node in an international network of Design schools for Sustainability through Social Innovation. Caroline is an Associate Professor and Programme Manager of Communication Design at Otago Polytechnic.

Keywords:

Chat box; evaluating teaching; online learning

Theatre Design using a Pasifika 'Village Model'

Mark McEntyre

Abstract:

This conference presentation will focus on a project that I am currently working on as a set designer with Pacific Underground (PU) and The Auckland Theatre Company (ATC). This presentation explores the negotiations implicit in my position as a palagi set designer working with PU, a Pasifika collective.

The project is staging the play Dawn Raids, written by Oscar Kightley. The play deals with fictional characters set against a pivotal point in the history of Aotearoa. In the mid -1970s the Muldoon government introduced clearly racist policies against Pacific peoples. The police rounded hundreds of Pacific people who they considered illegal immigrants or overstayers. In 1992 at a time of again high unemployment a young playwright Oscar Kightley wrote the play Dawn Raids to document these events. The Play was produced by PU and staged in the Herald Theatre Auckland in 1997. I was involved in the design of this first staging of Dawn Raids. ATC approached Pacific Underground to collaborate on the restaging of Dawn Raids for 2022. Following the official government apology and the recent documentary.

This presentation explores my position as a palagi set designer working with a Pacific collective (PU). Unlike in a conventional western theatre tradition PU have created a very inclusive approach where everyone including actors are part of creating the staged work. This effects not only the aesthetics of the work but the process by which the whole project is created.

Tanya Muagututi'a the Creative Director of PU calls this approach the 'a village model'. This model of working has always been at the heart of PU- but it is a new way of working for ATC. This is a fruitful space for PU to gain traction and possibly shape a decolonised future of mainstream theatre.

Bio:

Mark McEntyre (mark.mcentyre@ara.ac.nz) is a Programme Leader in Applied Visual Arts, Bachelor of Design, Ara and teaches into the Masters of Creative Practice. Mark's practice-based research is in the area of set design. His current collaborations are with Tawata Productions, Pacific Underground and Auckland Theatre Company. Mark has represented New Zealand in the Prague Quadrennial of Scenography and Theatre Architecture

Keywords:

set design, Pacific theatre, decolonised space, reflection on practice

Gamification of hand hygiene to save lives

Farhad Mehdipour, Farzan Fallah, and Syed Shahid

Abstract:

Every year hundreds of millions of people get infections in hospitals around the world according to the World Health Organization, and millions of them die. Hospital-Acquired Infections are problems in every country in the world, including New Zealand. According to the District Health Board hand hygiene compliance rate is relatively high, 90%, in New Zealand. Yet about 10% of patients acquire an infection according to the Health Quality & Safety Commission of New Zealand. This clearly shows a need to further improve the hand hygiene compliance rate. We have been working on using rewards to create an incentive for people to clean their hands. It works by gamifying hand sanitization. If a person is using hand sanitizer, he will have a chance to win a prize. This work is in collaboration with a US company, Idelan Inc., which has developed the technology and the software called Ignaz which runs on Android devices. In an experiment on campus, we increased hand sanitizer usage in a building 13 fold. This clearly showed that offering rewards increases hand sanitizer usage.

Bios:

Farhad Mehdipour (farhadm@op.ac.nz) is an educator and R&D expert with over 20 years' experience and significant achievements in trending areas of information technology including data analytics, internet-of-things, AI, cloud computing, and cybersecurity. He has led / participated in several industrial multi-disciplinary projects in different countries including Japan and New Zealand. He is currently a head of department - information technology at Otago-Polytechnic Auckland International Campus (OPAIC) and Futures Skills Academy.

Dr Farzan Fallah is the founder and the CEO of US company Idelan Inc., which has developed the Ignaz app. Farzan is a highly skilled professional with a broad work experience ranging from start-ups to major companies, industry to top universities, and theoretical research to product development with a track record of excellence. He has initiated and managed many R&D projects, filed 20+ patents (granted or pending) and published 70 conference and journal papers.

Syed M. Shahid, male, PhD in Medical Biochemistry from University of Karachi, Pakistan, is currently working as Postgraduate Lecturer - Health Science at Eastern Institute of Technology (EIT), Auckland Campus, New Zealand. He has recently been associated to Faculty of Medical & Health Sciences (FM&HS), the University of Auckland as Postdoctoral Researcher and as Senior Lecturer & Programme Leader - Health at National Tertiary Education Consortium (NTEC) Aspire2 International, Auckland, New Zealand. Dr. Shahid has got pleasant experience of academic administration & leadership, educational facilitation & delivery, programme & course development, assessment designing and moderation, self assessment & review as well as research project supervision at graduate and postgraduate levels in New Zealand tertiary education sector. Earlier, Dr. Shahid has more than 15 years of teaching and research experience as Head of Health Biotechnology Section and Assistant Professor at KIBGE, University of Karachi, Pakistan. He has published over 50 research papers in the field of basic health science in international and national periodicals.

Keywords:

Hand hygiene, gamification, sanitisation, software application

Enhancing the performance of student accommodation buildings at Southern Institute of Technology (SIT) through value engineering

Samanthi Menike

Abstract:

Value Engineering entails identifying and eliminating unnecessary costs of a building element while securing its intended functions. In line with value engineering principles, this study analyses the current architectural, structural, mechanical, and electrical designs and materials used in construction of an existing student housing building located at Yarrow Street in Invercargill. A key aim of this research is to identify alternative design solutions that enhance performance and provide value for money for future student accommodation buildings in Southland.

The whole-life costs and performance data from six building components of the existing student accommodation building were analyzed in this research. After assessing a long list of randomly selected items, the six components were chosen using a variety of selection strategies used in value engineering. The study determined the functions of the selected building elements and investigated several alternative design options available for achieving those functions. The whole-life costs and performance criteria, such as budget, schedule, durability, aesthetic, sustainability etc., for each option were evaluated, using descriptive analysis, to assess its suitability to meet the specified function of that element. The weighted pair-wise comparison method was used to develop a comparative scale to find out the performance value of each design option.

This study recommended sustainable options with lower whole life costing (WLC) for boundary walls, high performance floors that require fewer replacements, long-lasting and low-maintenance parking pavements, quality, reduced carbon footprint, cost-effective and easy to install structural floor options, and walling with higher performance at the same price to be incorporated into future designs of student accommodation buildings in Southland. This opens a view of looking at the overall performance of building components over the lifetime of the building as opposed to making decisions solely based on the initial cost. A dedicated value engineering process applied on past similar projects could yield an effective impact on the set of value and cost parameters of building design for future buildings with the same use.

Bio:

Samanthi Menike (samanthi.menike@sit.ac.nz) is a Senior Lecturer and a Professional Quantity Surveyor with memberships in the RICS, NZIQS, and IQSSL. She is an Assessor for RICS South Asia and Australasia. Her research interests are in the areas of Value Management, Value Engineering, Bid Management, and Technical Auditing of Construction Projects.

Keywords:

student accommodation, value engineering, whole life costs (WLC), performance, Southland

Numerical characterisation of fermentations for process control

Jonathan Muhl

Abstract:

The wine industry is one of New Zealand's key primary industries, with a total export value of \$1.86 billion in 2021. Dealing with a large range of environmental conditions including, but not limited to, grape varieties, local, and regional variation of soils, temperatures, daylight, rainfall and other weather has resulted in a high level of craft in the industry. Small scale experiments (micro fermentation) undertaken by researchers, such as the Wine Science group at the University of Auckland's School of Chemistry attempt to address these issues and provide valuable insights back to industry. However, while showing good consistency of results within experiments, a lack of standardisation in volumes, equipment and process parameters makes comparisons with other experiments, let alone industrial processes, difficult.

This presentation will investigate the use of engineering data analysis methods to identify process dependencies from existing data from The University of Auckland. Existing fermentation weight loss data will be analysed with respect to mass and estimated CO₂ production. As experiments are typically stopped before all fermentations have completed, characteristic points other than end point will be identified and used to investigate correlations between different experimental conditions.

This represents a small step in an ongoing project to apply engineering design methodologies to the work in Auckland to greatly increase the experimental and enable better correlation between individual experiments and industrial fermentation processes. In addition to academic and industrial value it provides valuable teaching opportunities in mathematics, design and engineering projects.

Bio:

Jonathan Muhl (jonathan.muhl@sit.ac.nz) An old school research engineer with current interests in engineering and circular design, and additive manufacture.

Keywords:

Vinification fermentation data analysis

Artificial Intelligence and Software Quality Assurance: Critical Perspectives for Information Technology Teaching.

John Mumford

Abstract:

This research explores the nature of the relationship among the prevalence of critical thinking references within Information Technology (IT) curriculum documentation, interpretation of these by teachers and the experience of Critical Thinking (CT) for students within the School of Computing. The second phase of this research involves a questionnaire exploring teaching staff perspectives on CT in their respective IT fields supported by relevant literature in the fields of Artificial Intelligence (AI) and Software Quality Assurance (SQA). Qualitative and quantitative data collection from the questionnaire responses with ethics approval is employed. Key themes and summary statistics are used to illuminate staff reflections on CT and how it may shape their teaching practices. CT is crucial with the rise of AI and the increasing reliance on AI in diverse contexts. AI utilizes diverse forms of data using highly complex algorithms to mimic human intelligence. Provisional findings from the AI literature indicate risks including algorithmic complexity and the challenges of testing AI, which face computing teachers and IT industry employees. Issues in testing AI include the test oracle problem, the data used, the large input space, and intractability of white box testing. AI testing demands interdisciplinary knowledge. AI can create its own code and testing is technically demanding. AI has limitations to detect potential vulnerabilities within itself. This raises questions about SQA and AI testability. Academics must model CT to students by critiquing AI generated code and the testing of AI algorithms to mitigate the risks of unexpected software behaviour for optimal SQA.

Bio:

John Mumford ([id 0000-0003-3000-7820](https://orcid.org/0000-0003-3000-7820)) (john.mumford@sit.ac.nz) is an IT Teacher at the Southern Institute of Technology, whose research interests include Teaching Innovation, Mathematics Education, Adult Literacy and Numeracy and Postgraduate Education. John has a Master of Adult Literacy and Numeracy and is dedicated to empowering learners to develop their critical thinking skills and dispositions.

Keywords:

Artificial Intelligence, Software Quality Assurance, Critical Thinking, Algorithm

Student Tracking: Reflections on Pastoral Care through a Pandemic

Morgan Oliver

Abstract:

The research aim:

How we can best use digital technologies to assist in pastoral care during prolonged periods of remote learning and covid affected teaching. In a large design school with a diverse student body, we needed to adapt quickly to meet the challenges of the global pandemic. This research looks at the usage and implementation of a variety of digital tools and processes that enabled us to manage learner wellbeing and success through more than two years of disruption from covid.

The research methodology:

Using Action Research methodology, we were able to quickly implement strategies, collect data, and analyse and reflect critically on that data. We were able to continue this loop to create and refine meaningful processes that directly empowered staff and enabled learners to continue studying despite significant challenges.

The findings:

Despite the challenges of the pandemic, our 2021 learner data shows that course completions and overall satisfaction with our programme were higher than 2020, and compared very favourably against other similar programmes. By combining high tech solutions with principles of manaakitanga, we are successfully weathering the pandemic and maintaining a high level of pastoral care for our learners.

The implications:

The research discussed here directly benefits our learners and stakeholders. Keeping a high level of care at the forefront of our efforts means our learners have remained resilient and versatile. We have developed processes and strategies that we can continue to rely on in a post pandemic landscape.

Bio:

Morgan Oliver (morgan.oliver@op.ac.nz) is an interactive artist and designer, lecturing in Communication Design at Otago Polytechnic. He holds a Master of Fine Arts from the Dunedin School of Art at OP. Morgan has exhibited at the Dunedin Public Art Gallery, Blue Oyster Gallery, The Honeymoon Suite and The High Street Project (Christchurch).

Keywords:

Pastoral Care, MS Teams, Pandemic

Running demands in New Zealand club, semi-professional and professional rugby union competitions

Peter Olsen, Michael Hamlin, Richard Deuchrass, Shaun Owen, James Jowsey and Matt Lilley

Abstract:

Game demands of professional rugby players are well documented, however, there is minimal research on the running demands in amateur and semi-professional competitions. To the authors knowledge, no research has compared the running demands in club, national (division 1 (NPC) and division 2 (Heartland)) or international provincial (Super rugby) competitions. Information on the running demands of each competition would enable trainers to develop training programs specific to player's needs and assist in the transition of players between competitions. Players from a team in each competition level wore a 10 Hz GPS unit during all games in a rugby season. Total distance (m), running distance (≥ 7 km.h⁻¹(m)) and high intensity running (≥ 16 km.h⁻¹(m)) were recorded. The research was approved by an Institutional Ethics Board and the NZ Rugby Union. Lower competition (club and division 2) players covered greater distances (150m to 400m) per game than higher level players. As in total distance, division 2 players ran (≥ 7 km.h⁻¹) more in games (120m) compared to higher level players. However, club players typically covered less running distance than higher level players (3102m vs 3237 to 3319m, $p=0.10$ to 0.00). In contrast, Super rugby players typically ran greater distances (962m) at higher speeds (≥ 16 km.h⁻¹) per game. This information could assist in the development of competition-specific training programs, and the monitoring of training loads during a season and when a player returns from an injury. Further analysis will investigate running demands of rugby positions in each competition to enable the development of position-specific-training programs.

Bios:

Peter Olsen ([ID 0000-0001-7815-215X](#)) (peter.Olsen@ara.ac.nz) is a Principal Lecturer and Programme Leader for the Bachelor of Applied Science in Sport, Nutrition, and Health Promotion. He has a passion for teaching and sport science, especially in areas such as critical thinking and research. His recent research has focused on equity in sport and exercise settings.

Mike Hamlin's ([ID 0000-0001-7941-8554](#)) research specialises in the effects of exercise on human physiology and he is a world expert on altitude/hypoxic training. His research is theoretical (regarding the physiological mechanisms behind exercise training adaptation) as well as practical (how does altitude training effect a rugby player's sprinting and game performance?).

Richard Deuchrass has been an Athletic Performance Manager at Lincoln University for more than 17-years. He has a passion for strength and conditioning and has held many positions in this area and trained athletes and teams that have competed at the National and International level.

Shaun Owen has a PhD in sport performance and has worked with elite sports teams from New Zealand, Japan, South Africa and the United States.

James Jowsey is a Manager at Ara and also a coach. He is passionate about Leadership and Coaching, and thinking outside of the square to help teams and individuals achieve their goals. He is a World Ruby Accredited Coach Educator and has had many coaching roles with club and representative teams.

Matt Liley is a sport science graduate who participated in the research as part of his final year of study at Ara Institute of Canterbury.

Keywords:

GPS, rugby, specificity


Exploring International Students' Perceptions of the Value of New Zealand Postgraduate Education

Olufemi Muibi Omisakin and Indrapriya Kularatne

Abstract:

This study examined international students' (IS) perceptions of the value of New Zealand postgraduate education. Perceived values are evaluated from the following perspectives: motivation for coming to study in New Zealand, how IS engaged to achieve their goals, how IS were supported by their institutions towards learning, and overall perceptions of IS on value of New Zealand postgraduate education. The study evaluated personal and professional values that IS receive from postgraduate institutions. Findings indicated that students' professional outcomes are relatively lower than their expected professional development goals. Though students' personal goal outcomes were relatively higher than they anticipated. Study identifies and discusses areas of institutional support needed for students to realize and achieve goals. Finding indicated that practical experience acquire by students were relatively lower than their expectation. However, international students require more assistance in the acquisition of practical experience. Suggestions were made to redeem this negative trend.

Bios:

Olufemi Muibi Omisakin ( [0000-0003-2008-0426](https://orcid.org/0000-0003-2008-0426)) (olufemi.omisakin@op.ac.nz) is a senior lecturer at Otago Polytechnic Auckland International campus, Auckland New Zealand. He obtained his PhD from Auckland University of Technology (AACSB accredited), Auckland, New Zealand. His main research interests are migration and migrants' entrepreneurship, small and medium enterprises, sustainable practice, international business, and organizational management.

Indrapriya Kularatne is a Principal Lecturer at Otago Polytechnic Auckland International Campus New Zealand. He has obtained his Ph.D. from the University of Auckland, Master of Management from the Massey University. His research focuses on sustainability, environmental management, employability skills, project management and corporate social responsibility.

Keywords:

Postgraduate, education, international students, goal engagement, perceived value of education.




Are we really who we say we are: Changing values or conflicting values within the social work profession in Aotearoa New Zealand?

Adele Parkinson

Abstract:

Radical responses to social injustice are said to lie at the heart of social work yet in Aotearoa New Zealand (A/NZ), beyond small pockets of dissent, the social work profession has remained publicly silent in the face of four decades of neoliberal damage to inequality rates, marginalised populations, social policies, social welfare, and social service delivery. This presentation considers findings from a theoretical article currently in progress. An understanding of the impact of neoliberalism on the radical roots of the social work profession will be explored through the lenses of institutional logics, organisational hybridisation theory, and the work of Bourdieu. Strategies to counter values loss will be suggested. This presentation may have application to other professions similarly impacted by neoliberal discourse.

Bio:

Adele Parkinson ( [0000-0002-7776-7280](https://orcid.org/0000-0002-7776-7280)) (adele.parkinson@ara.ac.nz) worked for 10 years in social work practice, primarily with families affected by parental mental illness and associated psychosocial factors. Following PhD research in this field, Adele is now in academia where she enjoys teaching and mentoring future social workers, whilst also engaging in research.

Keywords:

social justice, radicalism, neoliberalism, community development, resistance.

Embedding Capabilities and Sustainable Development Goals into Nursing Community Development Projects

Amber Paterson

Abstract:

We have integrated Learner Capabilities (transferable skills) and microcredentials into our Year 3 Bachelor of Nursing community project where their focus is to become Community Development Practitioners. The students have been working towards other learner capabilities during the past two years of their study and are using these to help with future employment, and nursing registration. Core community development practitioner values guide and underpin their practice including commitment and dedication to partner together with respect of different ideas and cultures; being patient and mindful of responsive communication while maintaining ethical practice with the aim to improve health status through change, empowerment and education.

We have developed a mega-credential package where the students complete their community project in small groups as part of their assessment for their 700-level course. Through this work they are awarded Microcredentials for Learner Capabilities and also the UNESCO Sustainable Development Goal/s that they were focusing on. For our learners it is showing them that not only does their project make a difference in the health sphere, but it is also setting them up for success in whatever career they decide to work in as these are transferable skills.

The students use a problem-solving cycle and focus on:

- Thinking Critically - Kia hōhonu kā whakairo
- Practices Ethically - Kia matatika kā mahi
- Participates in Behaviour Change - Kia panoni whanoka
- Performs Community Service - Kia hāpai i te hāpori
- Solves Problems - Kia whakatika i kā raruraru

Bio:

Amber Paterson ([ORCID ID 0000-0002-4337-5334](#)) (amber.paterson@op.ac.nz) is a Learning and Teaching Specialist and Senior Lecturer at Otago Polytechnic. Amber is the Year 1 Coordinator for the Graduate Diploma of Tertiary Education and facilitates on this programme. Amber also leads the implementation of the Learner Capability Framework and iamcapable both at OP and with external clients.

Keywords:

capabilities, SDG, sustainability, nursing, microcredentials

What is the effectiveness of embedding tikanga and te reo Māori in the development and delivery of programmes

Amber Paterson and Ron Bull

Abstract:

This research is just at the start and we are still forming our ideas. So far we have:

What is the lasting impact on students of studying in a programme

Evaluate the change and progression of understanding te reo and tikanga by students who have taken a programme - the idea is that we will follow Health Bridging Certificate learners this year and then follow them into whatever courses they do in 2023 to see how their knowledge has changed.

Māori Strategic Framework priority 4: "Programmes of learning at Otago Polytechnic integrate mātauraka Māori in a relevant and meaningful way (as well as being discipline-specific and embed sustainability, this includes the use of te reo Māori, tikaka Māori, Māori values and perspectives)"

Focus areas:

1. Staff uptake and embedding in programmes and courses:
 - a. Programme docs, blueprints, ask them to create a glossary of te reo words, terms and core concepts used (for student post- survey)
 - b. Effectiveness of embedding in dev & delivery - conversations/interviews
 - c. Engagement in the Cert. in Bicultural Competency (esp. Tikanga and Te reo EduBits)
2. Student-focused:
 - a. Confidence with - perceptions, attitudes - pre (e.g. Shaun T's te reo survey) and post (based on te reo words, terms and core concepts used, add new terms)
 - b. Progression onto OP's other programmes
 - c. Optional, advertise EduBit/ microcredential

Bio:

Amber Paterson ([id 0000-0002-4337-5334](https://orcid.org/0000-0002-4337-5334)) (amber.paterson@op.ac.nz) a senior lecturer/Learning and Teaching Specialist with the Te Ama Ako-Learning and Teaching Development Team. Amber coordinates the Year 1 part of the Graduate Diploma of Tertiary Education, as well as teaching on the GDTE. Amber also coordinates the implementation of the Learner Capability Framework and iamcapable across programmes.

Keywords:

Tikaka Māori, Matauranga Māori, Te Reo Māori

The Rise and Fall of Podcasting

Brendan Reilly and Mark Aldridge

Abstract:

Podcasting has been expanding rapidly as a popular cultural phenomenon, connecting listeners to audio content created by professionals, radio stations, and amateur hobbyists. Encouraged by this growth, entrepreneurs and legacy media companies with commercial interests in broadcasting have rapidly expanded their interests in podcasting, bringing professional standards and the logics of capital with them. The increased visibility of podcasting in the past 10 years is due in no small measure to the market power of Apple's Podcasts directory. Other major tech companies such as Google and Spotify have also recently integrated podcasting into their own existing music services, further expanding the potential reach of the medium. However, the post Covid world has seen a decline in new podcasts and Facebook has just announced it is pulling out of podcasting. Are we now witnessing the peak of the curve? My research will explore the role of commercial radio in podcasting and their impacts on the emergent podcast industry structure as well as its content and form. In the case of podcasting, the market imperative for audience consumption data is creating commercial opportunities. However, these pressures and the desire of market players to minimise cost may begin to take a more active role in shaping the trajectory of the medium's current development.

Bio:

Dr Brendan Reilly ([id 0000-0001-7373-3174](https://orcid.org/0000-0001-7373-3174)) (brendan.reilly@ara.ac.nz) is the second year radio tutor at the New Zealand Broadcasting School and part time announcer on local radio station The Breeze. His research interests include the Political Economy of commercial music radio broadcasting, sports news broadcasts and cultural implications and podcasting in New Zealand.

Mark Aldridge is the first year radio tutor at the New Zealand Broadcasting School in Christchurch. He has an extensive history in commercial radio broadcasting with a specialisation in creative copywriting and announcing. His research interests include client integration and the power of audio to impact buying decisions.

Keywords:

Podcasting, radio, commercialism

Claiming a space to stop, think, converse, and share in academia using deck chairs: A one-act ethnodrama

Johanna Rhodes

Abstract:

Background: The wellbeing of academic staff has become topical in recent years. In response to increasing demands on academics Alvesson and Spicer (2016) proposed the concept that increasing demands allow institutions to function but can have negative consequences resulting in wellbeing being compromised. Alvesson and Spicer (2016) proposed an experiment that used deck chairs to offer a space for academics to stop, sit, think, converse, and share.


Research Aim: This research aimed to investigate the value and potential influence on academics' well-being by creating space and time to reconnect by stopping, sitting, thinking, conversing, and sharing as colleagues using deck chairs on campus.

Research Design: The research design for this study was an experiment in pop-up philosophy, that offered academics an opportunity to stop, sit, think, and converse using deck chairs on campus. The outcomes of this experiment were reflected on by the researcher (an academic) using a one-act ethnodrama method. An ethnodrama is the practice of dramatizing the data (in this case reflections) by creating a script of significant sections and performing it as a play.

Ethical Approval: Ethical approval was not required for this study.

Research Findings & Implications: Creating a space to stop, sit, think, converse, and share has the potential to generate innovation beyond what is possible currently in academic environments that arguably encroach upon valued thinking opportunities and innovation resulting from this. This experiment did not seek to solve academia wellbeing, but rather offered an opportunity for academics to stop, think, converse, and share by creating a space that fostered the possibility of collective discussions, potentially beginning a new culture of wellbeing for staff.

Bio:

Johanna Rhodes ( [0000-0003-1410-6503](https://orcid.org/0000-0003-1410-6503)) (johanna.rhodes@sit.ac.nz) is the Acting Head of Faculty and Head of School of Nursing at the Southern Institute of Technology, and a PhD candidate at Central Queensland University. She believes that in this tempestuous period of change, embracing education reflective of the 'real world' is critical to progressing graduates who are equipped to work in the electrifying, intricate, and fluctuating area of healthcare. The use of simulation modalities in education offers a willingness to advance the aesthetic narrative of healthcare, while embracing realism. Simulation in education is Johanna's research focus alongside being inventive with her management, leadership, and teaching, offering continued innovation in nursing education.

Keywords:

Educator wellbeing, Academic demands, Ethnodrama, Space and Time

Using the Boardgame The Floor© to describe the Gameful Experience of Nursing Students

Aica Rivero, Malinda Spencer and Analise Wilson

Abstract:

Aim: This qualitative descriptive paper aspired to examine the gaming experience of nursing students being exposed to the board game The Floor©, a game-base simulation of the day-to-day workings of an Emergency Department.

Background: Educators are constantly challenged in capturing and retaining the interest of today's learners. Innovative and active teaching strategies such as gaming bring about a positive change in the learning process, both in the classroom and the clinical setting.

Methods: This qualitative descriptive paper involved thirty-two (n=32) conveniently selected third year nursing students taking up Nursing in Acute Setting. Students were asked to answer a questionnaire with three parts: 1) Demographic Profile; 2) Gameful Experience (GAMEX) Questionnaire; and 3) three open-ended questions. Ethics approval was given by the institution's Ethics Review Committee. SPSS version 24 was used for analysing quantitative data while thematic analysis was utilised for the narrative responses.

Results: Mean scores for four of the six dimensions of the GAMEX questionnaire are above three, with absence of negative affect as the highest (mean=3.85; SD=0.29). Analysis of the qualitative responses give rise to three interesting themes being that playing the game was 'fun', 'fast-paced' and 'favourable'.

Conclusions: There was no evidence that the nursing students' demographic profile has an impact on their gameful experience. Descriptive analysis of the narrative responses highlights the diversity of learning preferences of students where majority enjoyed and wanted to play the game again (87.5%) with some verbalising that they prefer traditional approaches of teaching and learning. Further researches on gamification is warranted to fully support its claims of enhancing acquisition of professional competencies of future nurses.

Conflicts of Interest: Authors declare no conflict of interest

Bios:

Aica Rivero ( [0000-0002-2944-6933](https://orcid.org/0000-0002-2944-6933)) (aica.rivero@sit.ac.nz) is a nurse educator at the Southern Institute of Technology. Her research focuses on technology in nursing and gamification in nursing education.

Malinda Spencer is a nurse educator at the Southern Institute of Technology. Her research focuses on acute care nursing and gamification in nursing education.

Analise Wilson is a nurse educator at the Southern Institute of Technology. Her research interests involves gamification in nursing education. Her expertise is on primary care nursing.

Keywords:

gamification, nursing education, gameful experience, nursing

Out of Field Teaching in the Polytech Sector - Learner Benefits

Phillip Roxborough

Abstract:

One of the enduring strengths of the polytechnic system is that kaiako are often experienced industry practitioners in their field - they come into the polytechnic system to help deliver work ready graduates for their industry using the experience (capital) they have accumulated in the 'real world'. The polytechnic commits to upskilling these industry practitioners in their craft as educators to ensure our ākonga get the best of both high quality education and industry practice. It begs the question however whether it is possible, or more to the point is it realistic to expect that these experienced industry practitioners (and emerging education practitioners) could teach ākonga in other programmes not related to their industry experience. Would our ākonga get the same high quality education, and be prepared for industry. Zaid et al (2021) suggest that teaching outside one's expertise (or field) is an opportunity for professional development kaiako centric), whereas Weldon (2016) in his report of out of field teaching in Australian secondary schools list concerns about the quality of education being delivered (ākonga centric). This case study will draw on my journey as a 30+ year experienced information technology practitioner who has been teaching in the ICT programme for 6+ years, and in 2022 is also delivering papers in the teacher education certificate and diploma programmes.

Bio:

Phillip Roxborough (phillip.roxborough@ara.ac.nz) is a senior ICT lecturer in the Business and Digital Technologies Department ICT programme. Phillip has a Masters in how mature students can achieve success in tertiary studies. In 2021 Phillip completed his graduate diploma in teaching, and in 2022 is also teaching in that programme.

Keywords:

out-of-field-teaching, field, capital, polytech

The Vinyl Record as Gesamtkunstwerk of the Twentieth Century

Bruce Russell

Abstract:

This presentation describes a collaboration with Luke Wood, design lecturer at Canterbury University, with whom I am editing a book-length publication tentatively entitled 'A Record Could be Your Whole World'. This is the current project in an ongoing multi-disciplinary research programme focused on exploring the lingering cultural significance of an obsolete audio-reproduction format, the vinyl record. This programme has previously included recording and releasing records through an independent record label (Ilam Press Records) which will be responsible for the publication.

This book will involve the participation of a range of academics and artists in response to a written brief, and no ethics approvals are required. The kaupapa is to form a mosaic image of both the way the vinyl record functioned as a cultural product in its heyday, as well as the many and diverse personal ways in which the medium acted as a kind of totem or talisman for creativity and imagination. As well as personal reflections on individual records (chosen by the writers) we have commissioned a number of thematic essays concerning topics such as the primacy and eclipse of the mono 45, the impact of the stereo album, and the development of the music video. A primary focus is on the mutually supportive aspects of the 'thingness' of the medium, including their graphic design, audio recording and physical embodiment.

Fundamental to our argument is the contention that the record (as opposed to the film) was what we are calling a twentieth-century gesamtkunstwerk (in the Wagnerian sense) because of its interpenetration into every aspect of our lives. This was achieved both through associations with other media such as film, radio and television, as well as its ubiquitous presence within the domestic and public spheres. Its role today is circumscribed through nostalgia as well as its demotion from the position of 'apex audio format'.

Bio:

Bruce Russell (bruce.russell@ara.ac.nz) is an established artist at the intersection of music and noise. He writes essays and criticism as well as performing internationally both solo and with the Dead C., and has released over seventy albums in the last 35 years. He co-ordinates creative research and post-graduate study at Ara Institute.

Keywords:

gesamtkunstwerk, LP record, 45rpm record, media, music


The Peculiar Case of the Visual Arts within the Context of Vocational Education Reform

Leoni Schmidt

Abstract:

We are amidst reform of the vocational education sector. Te Pūkenga is coming fully into being by 1st January 2023. Standardisation of programmes are underway and employment outcomes are likely to determine the future funding and viability of programmes. Within this context, visual arts programmes occupy a peculiar position. On the one hand, their longitudinal resilience is known and one only has to read the history of the Dunedin School of Art to understand how they survived many governmental changes and even two world wars. On the other hand, movement towards standardisation and employment performance indicators always present a challenge to visual arts education, and yet again, this challenge seems to loom ahead. This paper explores the complexities at play through reference to the history of the Dunedin School of Art (1870-2020), as thoroughly documented by Jim Tomlin, and to Hans Abbing's 2002 book titled "Why are Artists Poor?: The Exceptional Economy of the Arts". The central research question is: why is it problematic for the visual arts to conform to standardisation and economic imperatives and can this be mitigated? Qualitative research lies at the heart of this enquiry with historical analysis as the key method. The paper aims to contribute to an informed understanding of the visual arts in the context of vocational education reform. Without such an understanding the very existence of visual arts education and its benefits for iwi, industry, professions, and communities, and -- crucially -- for students and artists, are at high risk.

Bio:

Dr Leoni Schmidt ( [0000-0001-7185-7800](https://orcid.org/0000-0001-7185-7800)) (leoni.schmidt@op.ac.nz) is the Director: Research & Postgraduate Studies at Otago Polytechnic and the DCE: Academic at the Otago Polytechnic Auckland International Campus. She is a professor in the Dunedin School of Art at Otago Polytechnic, where she was Head of School from 2009-2017. Her research is focused on the politics of contemporary visual arts practices and their broader educational contexts.

Keywords:

RoVE, Visual Arts, Problematics

A wicked reality: who will look after you when you are over 65

Fiona Soper and Michelle Eleno

Abstract:

Background: The quality of clinical experiences in pre-registration nursing education should not be underestimated. In aged care perceptions formed by students during clinical placements can resonate throughout an entire nursing career (Algozo, 2015, Dahlke, et al. 2019). As a specialty that has professional myth and often seen as an experience to endure, nursing in aged care has historically appeared less attractive to nursing students.

Research Aim: This research aims to survey Aotearoa polytechnics on the provision of, and preparation for, aged care clinical experiences in nursing curricula.

Methodology and methods: Nursing education leaders across Aotearoa polytechnics are invited to participate. The survey is being conducted online during May-July 2022. Descriptive and inferential statistics will be utilised to analyse the data. Open questions will be analysed thematically using Braun and Clarke's (2006) general inductive approach.

Ethics approval: Ethical approval was granted by Unitec Institute of Technology.

Findings: Data collection is occurring.

What this presentation offers: Attendees will come on a journey of aged care that is predicted to increase 25.8% by 2031, a 64,590 increase (Te Pou, 2021). It will leave you wondering, who will look after you when you are over 65 years. A wicked reality.

Implications for our teaching, industry, and communities: Implications from this study include: The potential to offer direction and collaboration opportunities in education, alongside the healthcare industry and communities to ensure that Aotearoa's' future nursing workforce is adequately prepared and wanting to seek employment in the aged care sector. Hence removing the current wicked reality.

Bios:

Fiona Soper (fiona.soper@sit.ac.nz) is the paper coordinator for Enrolled Nursing papers at the Southern Institute of Technology. Her background includes management within the Aged Residential Care sector with which she has a passion for students gaining a positive and productive experience during their training. Her approach to training of her students is to utilize their experience to form themselves into positive practitioners, using clinical experiences to enhance skills and maintain an approach which enhances the health consumers quality of life.

Michelle is a nurse educator at the Southern Institute of Technology. Her approach to the education of students is to share her experiences and knowledge to offer positive learning environments. Michelle has a passion for aged care and shares this with students to enhance the visibility of this vulnerable sector.

Keywords:

Aged Care; Nursing education; Nursing curricula

Student nurse perspectives of working in older people's health

Peta Taylor and Janice Groube

Abstract:

Background:

The number of people living in the South Island who are 65 years and older is predicted to increase 25.8% by 2031, a 64,590 increase (Te Pou, 2021). Within this nine-year timeframe, health services to older people will escalate and nursing roles trend towards age-related care. However, new graduate nurses prefer acute clinical settings (Wilkinson et al, 2016). Demonstrating that working with older people is rewarding and career-savvy starts with an understanding of nursing student's views of aged care. Understanding the nursing student's perspective will help nurse educators develop curricula which prepares (Cooke et al. 2021) and inspires the future nursing workforce.

Aim:

To firstly ascertain the views of student nurses in South Island polytechnics towards working with older people; and secondly to identify issues which influenced these opinions.

Methodology and Methods:

Polytechnic institutes supply 75% of the nursing graduands in Aotearoa. All student nurses from South Island polytechnics were invited to participate. This study replicated an Australian study (Neville, 2016) and comprised an online survey collected February-June 2022. The study is part of an Aotearoa-wide research project. The Unitec Ethics Committee have approved the research. Application 2020-1045


Results:

Data, currently being collected, will be analysed using descriptive and inferential statistics. Open questions will be analysed thematically using Braun and Clarke's (2006) general inductive approach.

Conclusions:

Findings could influence programmes to optimally prepare future nurses who will be working with an increasingly aging population in the South Island and beyond.

Bios:

Peta Taylor PhD (medicine), BSc (biochem), RN, RM, PG Cert (Nursing), Dip Tch (tert) ( [0000-0002-9182-8254](https://orcid.org/0000-0002-9182-8254)) (peta.taylor@ara.ac.nz) is currently employed as postgraduate senior nurse lecturer, Ara Institute of Canterbury, Ltd. Research interests include HDL-cholesterol, diabetes, pressure injury prevention, nursing preceptorship, clinical assessment, Parkinson's disease.

Janice Groube RN, BA (Soci), MHLthSc, PG CITchg, is currently employed by the Ara Institute of Canterbury Ltd., Department of Health Practice as a Nursing Lecturer. Her research interests include Older Person's Health, and Clinical Reasoning. Janice's clinical background is perioperative nursing (OT and PACU), acute surgical and medical nursing.

Keywords:

aged care, student nurse, future nursing workforce, nurse education, older people's health

Visualising Thinking: Exploring Visual Literacy in Foundation Learning

Ana Terry, Michelle Ashbury and Ruth Myers

Abstract:

This collaborative project originates in Foundation Lecturers at Otago Polytechnic reflecting on the challenges of a core communication course and raising the following questions:

1. How can we assist our learners who struggle with literacy skills and engagement?
2. Are our assessments fit for purpose and inclusive for neurodiverse learners?

The project draws upon practice-led methodology and incorporates reflective practice, development and critique of resources and practice, and will be informed by student feedback.

Phase one (2021 - 2022): We identified that learners were struggling with researching, reading, and writing components. Concurrently, we attended workshops on neurodiversity and recognised a need to review our emphasis on written skills. Many of our learners are dyslexic, however, it is widely acknowledged that many neurodiverse learners have strong visuospatial skills. So how could we leverage this strength to enhance their learning, engagement, retention, and outcomes? We responded by developing and implementing a two-pronged approach in the course redesign:


- 1) building visual literacy (VL) skills, and
- 2) designing visually-led content and assessments.

Phase two (2022- 2023): The project will focus on collecting data to analyse the effectiveness of our redesign and provide guidance for further developments. Ethical approval will be sought for gathering learner feedback, and findings will be reported on.

We propose this project's outcomes will provide guidance for other programmes to incorporate VL and visually-led learning approaches and assessments for the benefit of all learners.

In this 15-minute presentation authors will reflect on their progress, share the redesign, their observations, and discuss the next steps.

Bios:

Ana Terry ( [0000-0001-9437-9522](https://orcid.org/0000-0001-9437-9522)) (ana.terry@op.ac.nz) is a learning and teaching specialist at Otago Polytechnic. She has over 25 years' experience teaching in a variety of contexts, including university and polytechnic programmes in New Zealand, the US, Malaysia and China. Through interdisciplinary teaching and working in the visual communications field she has developed a passionate interest in visual literacy as it applies to learning and teaching. She advocates visual literacy (as with numeracy and literacy) rather than an add-on, be a recognised and common practice within teaching in higher education.

Michelle Ashbury is a lecturer at Otago Polytechnic on Foundation and Bridging level 3 and 4 programmes. She has a teaching background in adult literacy and ESOL, and has worked with children and adults in New Zealand, Japan, and Korea. She recognises the academic challenges that many foundation-level learners face in tertiary education and is committed to exploring ways to teach and support neurodiverse learners. Michelle is interested in incorporating visual literacy into her teaching and exploring alternatives to written assessment.

Ruth Myers recently lectured in Foundation Learning at Otago Polytechnic and now is a Learning Facilitator with Work Based Learning. She has a background practicing, teaching, and researching in visual arts and wider creative disciplines, as well as supporting learners core literacy and research skills. Her teaching spans a wide range of subjects and levels from Foundation Certificate to Post Graduate Supervision. As an educator Ruth is deeply interested in assisting students in finding ways that work for them so that knowledge can be 'got to', built and shared. Ruth is interested in how embracing neurodiversity, and more specifically, how visual literacy can sharpen our responsiveness in empowering all learners.

Keywords:

neurodiversity, visual literacy, communication skills, learner engagement, visually-led learning

Transitions from Professional Practice to Academia during Covid 19

Yvonne Thomas, Anna Collier, Claire Squires,
Lindsey Coup and Heidi Cathcart

Abstract:

The transition to academic roles for health professionals is stressful and involves the reconstruction of professional identity from expert practitioner to health professional lecturers. This participatory action research project explored the impact of COVID19 lockdowns on six new lecturers in Occupational Therapy. The findings discuss transition during turbulent time.

Bios:

Yvonne Thomas ([ORCID ID 0000-0002-9403-0280](#)) (yvonne.thomas@op.ac.nz) is an Occupational Therapist, Professor and Research Coordinator within the School of Occupational Therapy. Previously Yvonne was employed at James Cook University, Australia where she completed her PhD exploring wellbeing during homelessness, and at University of Worcester as Principle lecturer - Allied Health. her research interest relates to the concept of wellbeing and flourishing and an interest in marginalised populations.

Anna Collier graduated from Otago Polytechnic School of Occupational Therapy in 2011 and has practised in a range of mental health settings. Anna is currently a lecturer at the Otago Polytechnic School of Occupational Therapy teaching on the Bachelors programme. Anna is completing her Graduate Certificate in Tertiary Learning and Teaching (Level 7).

Claire Squires graduated from Otago Polytechnic School of Occupational Therapy in 2001 and practised in a range of settings including DHB community, ACC and medicolegal work. Claire has post-graduate qualifications in health informatics, public health, occupational health and tertiary teaching (GDTE). Claire has been teaching on the bachelors programme since 2020.

Lindsey Coup ([ORCID ID 0000-0003-1687-3423](#)) started her lecturing role in 2020 and currently teaches across all years with a special interest in therapeutic skills and simulation. Lindsey has a clinical occupational therapy background in mental health and neurological settings. She has recently completed her Graduate Diploma in Tertiary Education (Level 7) and is currently working towards completing her master's in occupational therapy.

Heidi Cathcart ([ORCID ID 0000-0001-9037-0299](#)) joined the School of Occupational Therapy, based in Hamilton in 2020.

Keywords:

Identity, qualitative, resilience, reflection

'Mā te huruhuru, Ka rere te Manu' - A Self Help Guide to Teaching during a Natural Disaster

Charmaine Tukua and Niki Hannan

Abstract:


Māori Pedagogies are paramount to teaching and learning for the Indigenous peoples of Aotearoa. This presentation will share a Self-Help Guide for Teaching during a Natural Disaster. It was developed as a result of research on how Māori pedagogies were used and the impact these had on Māori kaiako and ākonga during the recovery phase of the 2011 Christchurch Earthquake.

The key question for the development of the Self-Help Guide was how to help new emerging teachers with their teaching during a Natural Disaster?

The research the self-help guide is based on is related to a qualitative study framed by a constructivist - interpretivist approach in terms of the collection and analysis of the data. Semi-structured interviews were used to gather perspectives from six Māori kaiako re-telling their stories. This was published into the SCOPE Journal (2021); <https://www.thescope.org/journal/kaupapa-kai-tahu>

The main conclusion of the research was that Māori pedagogies provided strategies and skills to cope with the changing circumstances in a time of crisis. It was evident that creating a self-help guide for new staff was important.

Bios:

Charmaine Tukua - Tainui / Ngai Tahu ( [0000-0001-9619-4871](https://orcid.org/0000-0001-9619-4871)) (charmaine.tukua@ara.ac.nz) is a Kaiako at ARA in Te Puna Wānaka in the Department of Humanities. Teaching Te Reo Māori language & culture. I have been teaching at ARA for over 20 years.

Niki Hannan - Tāngata Tiriti ia a Kaiako at ARA in Teacher Education in the Department of Humanities. A Staff Trainer in Adult Education. I have been teaching at ARA for over 20 years. Charmaine & I have taught Te Tiriti o Waitangi workshops for over 10years.

Keywords:

Māori pedagogies; Self-help Guide, Teaching in Natural disasters

Breaking A Historical Legacy of Solar Concentrator Shape using Artificial Intelligence

Naveed ur Rehman

Abstract:

For more than a century, "Parabolic" solar concentrators have remained the center of many types of research and development relating to high concentration solar energy engineering applications. However, recent studies are arguing about their deployment in concentrating photovoltaic (CPV) systems. The main reason is the unhomogenized flux distribution that is obtained due to the parabolic shape's inherent optical properties. Such a flux has been found to be extremely harmful to PV materials. Therefore, this work develops a method for curating new and better performing solar concentrator shapes. The method uses the Newton Interpolation Polynomial to create a default shape that resembles a parabola. Then, it is modified using guide points until a satisfactorily performing shape is obtained. The Particle Swarm Optimization method, which is an Artificial Intelligence technique, is used for optimization purposes. The forward ray tracing technique is used to obtain the concentration ratio (C) and solar flux distribution uniformity factor (U) for every new setting of the shape. The simulation results show that, for a $9\times$ concentration, a shape having ~ 10 times better value of U is achievable. Such a breakthrough would drastically improve the operating efficiency and the life expectancy of CPV systems. A web-based online computer tool was also developed and has been made available to use for free. A future development of this project would involve mechanical engineering students pursuing research on renewable thermal energy streams.

Bio:

Naveed ur Rehman ( [0000-0001-8511-1479](https://orcid.org/0000-0001-8511-1479)) (naveed.urrehman@sit.ac.nz) is a mechanical engineering lecturer at SIT. He is actively researching in the field of solar energy engineering, particularly potential assessments, systems analysis, and optics, and has published several articles in prestigious journals and international conferences.

Keywords:

Concentrating Photovoltaic, Solar Flux, Newton Interpolation Polynomial, Particle Swarm Optimization, Online Tool



A systematic qualitative review to explore what is known and published about the experiences of virtual reality (VR) as a teaching and learning tool for midwifery educators and students

Melanie Welfare, Susan Crowther, Andrea Gilkison and Jane Frost

Abstract:

The research design/methodology:

As part of my PhD at AUT focussing on the use of virtual reality in midwifery education, a systematic qualitative review was undertaken. The purpose of this review was to analyse the existing data available regarding the experiences of lecturers and students who have used VR as a teaching and learning tool. The research design followed Noblit and Hare's (2011) seven-step process on how to conduct a systematic review. The holistic evaluation framework Raura Whakarere (Feekery & Jeffrey, 2019) was applied to the material retrieved to assess the quality.

Ethics approval for the research:

Ethic approval AUTEK February 2022 (21/341)

The findings or results:

The results showed that there was a scarcity of literature available which explored the experiences of midwifery participants who use VR for educational purposes.

The implications for our teaching, iwi, industry, professions, or communities:

In a Covid-19 pandemic, world technology is used to enhance a learner's experiences. VR is emerging as a simulation tool for midwifery education, there is little evaluation of how that teaching and learning is experienced by participants or how this technological approach influences midwifery pedagogy. Having a deeper understanding of how VR influences teaching and learning will enable educators not only to understand what supports and guides this process but also what impedes its use.

Bios:

Melanie Welfare (melanie.welfare@ara.ac.nz) is a senior academic staff member and the Associate Head of Midwifery at Ara Institute of Canterbury. Research interests include simulation as a tool for midwifery education, IPE, and sustainability within midwifery. Currently, she is a PhD candidate at AUT conducting research into the use of Virtual Reality.

Susan Crowther is professor of midwifery at AUT University, Auckland, Aotearoa New Zealand. She has been in health since the early 80s and a midwife for 26 years working in a variety of practice, leadership, educational and research roles across several global regions.

Andrea Gilkison is an Associate professor of midwifery at Auckland University of Technology in New Zealand. Andrea's contribution to midwifery has been focussed towards developing high quality midwifery undergraduate and postgraduate education programmes and research which ultimately enhance the quality of care provided to women, babies, and their families. Jane Frost is the Associate Dean of Work Integrated Learning, and an Associate Professor in Nursing at the University of Canberra. She is a Senior fellow of the Higher Education Academy and certified Lego® Serious Play® facilitator. She is an experienced educator, clinician, and academic, Tedx Speaker and AAUT Citation recipient.

Keywords:

Virtual Reality, Midwifery, Education

Mauī te Pukenga Teaching the Mauī Learner

Faye Wilson-Hill, Hemi Hoskins, Heperi Harris
and Niki Hannan


Abstract:

The aim of this project is to better understand how Māori culture enhances the experiences of kaiako at Ara Institute of Canterbury Ltd., leading to whakapono, māia and self-efficacy to enact the principle of partnership in Te Tiriti o Waitangi in their teaching practice. The research focuses on exploring kaiako experiences with te ao Māori and how these have enabled a capacity to learn leading to changes in practice to support the development of the Mauī learner.

The concept of the Mauī learner draws on the Joseph Campbell (1993) The Heroes Journey. This narrative frames learning as a life journey with both challenges and celebrations that are shaped by our attitude and capacity to reposition our mindset regardless of the circumstances. The concept of narrative also frames the research method used by Russell Bishop drawing on the Kaupapa Māori approach of collaborative narrative inquiry.

It is this method that will form the main basis of this presentation as the research is in process. The concept of collaborative narrative inquiry has been adapted by the researchers for this project. The concept of wānanga sits at the heart of the method with the outcome being the development of agreed vignette narratives between the participant and the researchers. The vignettes are then analysed by the research team for intricacies as well as themes that become evident based on Bishop's (1996) view that the aim of the approach is to reveal truth within the cultural context and frame of the participants life. Initial findings will be discussed.

Bios:

Faye Wilson-Hill M.Env. Ed ( [0000-0002-3151-6187](https://orcid.org/0000-0002-3151-6187)) (faye.wilson-hill@ara.ac.nz) is a Principal Academic Staff Member (PASM) at Ara and is Kaiako for the Masters of Sustainable Practice and Teacher Education (Tertiary Teaching Qualifications). Faye has worked at Ara for six years in these roles and is currently Programme Leader for the NZCATT and Graduate Diploma in Tertiary Teaching. She has a background in Education for Sustainability that she brings to both of the programmes she is currently working in.

Hemi Hoskins is the Director of Māori Achievement to support Ara in achieving strategic priorities particularly related to the focus on equity for Māori learners and enacting the Framework for Māori Achievement.

Heperi Harris is currently on secondment from Manager of Te Puna Wānaka to the role of Kaiārahi - Ako - Academic - Kaupapa Māori Lead to support outcomes in the 2022 Ara strategy which has a relentless focus on equity.

Niki Hannan (PASM) is Kaiako on the Graduate Diploma in Tertiary Teaching, Niki and colleague Charmaine Tukua facilitate te Tiriti Workshops in the Teacher Education qualifications. Niki has over 20 years experience as a teacher educator in community and tertiary settings.

Keywords:

partnership with Māori, collaborative narrative inquiry, culturally responsive practice

Solar Power: Vegetarian or Vegan?


Max Yap and Naveed ur Rehman

Abstract:

With the rising public awareness of climate change, many local governments (municipalities, councils, cities) are looking at adopting green renewable-energy powered solutions to providing services. For example, city lighting, such as street lamps, can be solar-powered. However, there are two types of hidden costs associated with the adoption of these green solutions. Firstly, solar panels, if used as a source of renewable power, need to be physically kept clean in order for normal functionality. Because solar panels need to be installed in an elevated spot for maximum efficiency, the physical process of keeping them clean typically will necessitate the use of non-renewable fuels, such as diesel, to power cherry-pickers or other crane solutions. This reduces the net "green" energy contribution. Secondly, if local governments decide to "maximise the greenness" of their infrastructure by overhauling with more energy efficient loads, instead of merely retrofitting solar panels into the existing infrastructure, then this overhaul comes with very high embedded energy costs. As an example, the energy needed to manufacture an energy efficient LED lamp is approximately 100 to 1,000 times that of an older, less efficient incandescent lamp. Despite the energy savings over its lifetime, there are situations in which the incandescent lamp has a lower lifetime non-renewable energy cost as compared to the LED lamp. Hence, we advocate that feasibility studies should take into consideration these hidden costs, and supply a decision support matrix to aid decision-makers when planning these green projects.

Bios:

Max Yap (max.yap@sit.ac.nz) currently teaches accounting at the Southern Institute of Technology. His research interests include the fundamental philosophies of accounting, computational modelling, and statistical analysis. He enjoys inter-disciplinary projects, particularly those which have real-world relevance and applications. Please email him at max.yap@sit.ac.nz if you have any interesting projects to share.

Naveed ur Rehman ( [0000-0001-8511-1479](https://orcid.org/0000-0001-8511-1479)) is a mechanical engineering lecturer at SIT. He is actively researching in the field of solar energy engineering, particularly potential assessments, systems analysis, and optics, and has published several articles in prestigious journals and international conferences.

Keywords:

Renewables, Local Government, Solar Power, Hidden Costs, Sustainability



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