2021 UTD Grant Projects Snapshots

2021 Project Titles (Snapshots Below)

- **Developing supplementary workshops for Pacific Island DBA students to support transitioning to doctoral studies.** Dr Sarah Carr
- **Developing an e-learning unit pilot for 5th year medical students to increase confidence in consulting with patients of diverse sexual orientation, gender identity and expression and sexual characteristics (SOGIESC).** Dr Rona Carroll
- **Exam Support for University of Otago Students: Quantitative Analysis of How Medium Affects Our Students' Exam Performance.** Dr Michael Cop
- **Integrating MOOC platform xOtago into the teaching of Zoology papers for future flexibility and resilience.** Mr Scott Forrest
- **Design of interactive computer simulations to enhance understanding of nanoscience at first-year university and high school levels.** Dr Anna Garden
- **Analytics-informed design: using learning management system recorded data to enhance course development.** Dr Qian Liu
- **Motivation to learn, and to attend, during a pandemic and later.** Professor Kerry Shephard
- **Gathering Contextual Knowledge on Pacific Life Journeys and Talanoa Pedagogy.** Professor David Tombs
- **Being ready: Developing best practice for teaching and learning in a 'hybrid' class.** Professor Hazel Tucker
- **Exploring the merits of legitimate peripheral participation to promote applied learning.** Dr Deborah Wright

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Title	**Developing supplementary workshops for Pacific Island DBA students to support transitioning to doctoral studies**
Project Team	Dr. Sarah Carr, Otago Business School
Snapshot	The aim of the project was to develop a suite of workshops and auxiliary support to help Pacific Island student to successfully transition to doctoral level studies at Otago, specifically in the DBA programme. These workshops were designed to complement existing support from the Graduate Research School and Student Learning Development but adapted to focus on the learning needs and strengths of Pacific students. Students found the workshops very helpful. Using the Pacific Island Centre to run the workshops gave them a space, which was familiar and culturally safe, to explore the challenges of being a Pasifika doctoral student. The workshops were also scheduled to fit around their various commitment beyond their studies. As a result of the workshops more students felt comfortable presenting their research at the annual Pacific Voices symposium at the end of October.
Title	**Developing an e-learning unit pilot for 5th year medical students to increase confidence in consulting with patients of diverse sexual orientation, gender identity and expression and sexual characteristics (SOGIESC)**
Project Team	Dr. Rona Carroll, Dept. Primary Health Care & General Practice
Snapshot	We invited all 5th year medical students at the Wellington campus to complete a survey to identify their learning needs in relation to LGBTQIA+ healthcare. We found that students lacked confidence in consulting with LGBTQIA+ patients and wanted more teaching on aspects of intersex and transgender healthcare. With the input of an advisory group we created an eLearning unit which was piloted by 5th year medical students. The unit contained a mixture of text, MCQ, drag and drop quizzes, images and video. Student feedback was positive, and the unit is being introduced into the 5th year PHC&GP module.

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Title	**Exam Support for University of Otago Students: Quantitative Analysis of How Medium Affects Our Students' Exam Performance**
Project Team	Dr. Michael Cop, Department of English and Linguistics
Snapshot	Because of COVID disruptions in 2020, 321 Otago Health Science First Year (HSFY) students took a very similar test twice—firstly on paper in St David's Lecture Theatre and then subsequently on computer using ExamSoft software. We used this dataset to discover trends that occur when Otago students switch from in-person to online assessments: 1. 72% of these students wrote fewer words per minute for their essays for the online test. 2. Students' essay length for the online test varied far more widely than it did for the written version. 3. Students produced less novel work online as measured by unique words relative to total words. We presented these findings in an English and Linguistics Departmental seminar and at the Digital Humanities Association 2021 Conference hosted by Canterbury University. We also sent a summary report to the Assistant Dean Academic ahead of Semester 2 exams in 2021.
Title	**Integrating MOOC platform xOtago into the teaching of Zoology papers for future flexibility and resilience**
Project Team	Dr. Scott Forrest, Dept. of Zoology
Snapshot	The aims of this project were to create resilience and flexibility into the teaching in the Zoology Department. To achieve this, we used the University of Otago-developed system with Massive Open Online Course (MOOC) architecture, xOtago, to host user-friendly and accessible teaching resources. The teaching resources employ a mixed-media approach comprised of walk-through videos for statistics tutorials, with code, datasets and self-check questions, as well as online video-recorded lab content for biology and other zoology papers. Our resources enable a blended learning approach to improve flexibility of teaching, but also increase the resilience of delivering the teaching material. This is particularly important for demonstrator-reliant tutorials that involve challenging statistical concepts, where we provided walkthrough videos that provide students with an experience that is more similar to face-to-face teaching, if they are not able to attend physical classes.

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Title	**Design of interactive computer simulations to enhance understanding of nanoscience at first-year university and high school levels.**
Research Team	Dr Anna Garden, Dept. of Chemistry
Snapshot	The field of nanoscience is rapidly advancing and is becoming a key component of chemistry teaching. However, students often struggle to conceptualise the structures of nanomaterials and how these are related to their function. In this project we designed a set of computational simulations to address the following: Understanding general structure and properties of nanomaterials; How the size and type of metal relate to the structure of nanomaterials; Understanding how unique shapes of nanomaterials can arise. Our initial assessment of using these simulations with high school students show they greatly enhance student understanding of nanoscience. We will include the simulations as a laboratory exercise in CHEM111 in S2 2022. The simulations are packaged as a publicly available "Online Computational Nanochemistry Notebook": (https://github.com/GardenGroupUO/Computational_Silver_Nanoparticle_Exercise). It uses free software, for maximum accessibility. It also includes additional background information, plus current research tools for students that want an extra challenge.
Title	**Analytics-informed design: using learning management system recorded data to enhance course development**
Research Team	Dr Qian Liu, Higher Education Development Centre
Snapshot	The project aimed to design and pilot a pedagogically relevant and easy-to-use data visualisation solution to support evidence-based learning design in learning management systems (LMSs). As a proof-of-concept project, we designed and piloted the solution within the MB ChB programme, where Moodle was used as the main LMS to manage units of study, called "modules". Following educational design research, we undertook consultations with experts, conducted a needs analysis through interviews with staff teaching and coordinating the programme, piloted the data-visualisation solution in three modules and obtained staff feedback. Results show that the solution could be used to support evidence-based learning design. For future implementation at scale, staff professional development will be needed to raise awareness of using analytics for learning design rather than monitoring student progress; local expertise in learning design is also needed to facilitate conversations regarding designing with pedagogical intent and understanding patterns of learner behavioural data.

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Title	Motivation to learn, and to attend, during a pandemic and later
Project Team	Professor Kerry Shephard, Higher Education Development Unit
Snapshot	Nineteen academics explored student motivation to learn, and to attend formal teaching sessions, based on perceptions that university attendance at lectures had been declining over several years, and increasingly since covid. Collectively and variously we: shared our own experiences; explored the literature on attendance, on student motivation, and on learning and teaching; kept abreast of covid-related developments internationally; explored the application of metacognitive awareness and critical thinking in the context of motivating learning; and researched university teachers' perspectives on their students' decreasing attendance. Our analysis suggested that teaching colleagues might be experiencing a form of identity crisis relating to the roles and responsibilities of higher education teachers. Emergent and reoccurring themes in the data questioned the links between higher education inputs and outcomes, noted feelings of personal responsibility inadequately supported by collective responsibility, and expressed concerns about what teachers can and cannot control, and about who does have control.
Title	**Gathering Contextual Knowledge on Pacific Life Journeys and Talanoa Pedagogy**
Project Team	Professor David Tombs, Dept. of Theology, School of Arts
Snapshot	Using a *Talanoa* (open dialogue) approach the project explores *Malaga* (journeys) as an example of what Paulo Freire calls a 'generative theme' for Moana Pasifika students. We investigate how a *Talanoa* approach to *Malaga* (hence *Talanoa i Malaga* or 'Talanoa on/about Malaga') might promote student learning in the Humanities at tertiary level. For this project the particular focus has been on the use of *Talanoa* to make connections between student experiences and student learning through discussion of personal journeys and journeys in biblical texts. To this end, the project has involved workshops and discussions with students plus a series of public lectures exploring topics in Moana Pasifika Theology and a day-conference. We intend to draw on learnings from the project for a new 200-300 level paper on 'Moana Pasifika Theology' to take this forward in our BTh and BA curriculum.
Title	**Being ready: Developing best practice for teaching and learning in a 'hybrid' class**
Project Team	Professor Hazel Tucker, Dept. of Tourism
Snapshot	Using the Master of Tourism as a case study, the purpose of this research was to develop best practices for synchronous 'hybrid' teaching and learning. As part of this, a key goal was to implement and evaluate specific pedagogical practices designed to nurture and maintain a 'community of learners' (CoL) among a geographically dispersed cohort. The pedagogical practices were designed around the use of different technologies (e.g. Zoom, mobile technologies etc.) to support in-class and field-based (e.g. fieldtrips) experiences. Semi structured interviews and focus groups conducted with students, along with ongoing reflective discussions amongst the project team, were used to evaluate the extent to which pedagogical interventions had been successful in nurturing an maintaining a CoL. The findings demonstrate that, within a synchronous 'hybrid' teaching and learning context, the use of

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	technologies can go some way in enabling a CoL among a geographically dispersed cohort. However, several ongoing challenges were highlighted, including inequities between face-to-face and online learners regarding quality of experience.
Title	**Exploring the merits of legitimate peripheral participation to promote applied learning**
Project Team	Dr. Deborah Wright, Dept. Surgical Sciences
Snapshot	The aim of this project is to increase how much 4th year medical students learn during their surgical placement. We have developed an innovative learner-centred educational model encouraging students to "practice" being doctors in a safe parallel educational environment. Our model combines: 1. An online digital learning environment and portfolio mimicking clinical health records, allowing students to create and maintain medical records for their patients. 2. Secure, real-time video and audio streaming that allows students to observe the surgical team in the operating theatre, and to learn about professional skills such as teamwork and leadership. 3. Dedicated facilitators who will provide timely feedback for learning and improvement and guide students through streamed operations offering learning opportunities. We will assess the impact of the intervention by: 1. Reviewing user data to assess interaction with our educational platform. 2. Monitoring student stress and engagement levels through wearable biometric devices. 3. Exploring student and staff experiences