A Simple Pledge.

Towards sustainable practice.

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Doing the right thing.

Otago Polytechnic is an institute of learning determined to provide life-long learning opportunities relevant to our community. We are not only becoming an important provider of core and specialised education and research in New Zealand, but also one of the largest employers, service providers and consumers in the Otago region.

We understand that what we teach, how we behave as an organisation and how we extend our influence into the community has an impact socially, environmentally and economically. We seek to address our responsibility to our stakeholders both through the education that we offer and our business operations.

In respect of this understanding, Otago Polytechnic has adopted a commitment to 'doing the right thing' as one of our key organisational values. We are determined to provide our students with learning opportunities that hold sustainable practice amongst their key values and to become sustainable practitioners in our own right.

In this book we celebrate what we have been able to achieve so far, and look forward to the long path that is still ahead of us.

A simple pledge.

"…amongst the core values we readily agreed to was 'doing the right thing'. We wanted that element of social responsibility to be a distinguishing feature of what we teach here, and sustainability was an obvious area that needed to be embraced if that core value was to have any meaning."

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The Chinese philosopher Lao-Tzu wrote that the journey of a thousand miles begins with a single step. Otago Polytechnic has made a commitment to becoming a leader in the field of education for sustainability and sustainable business practice, and Lao-Tzu's insight highlights both the importance of taking action and the scale of the challenge.

Otago Polytechnic CEO Phil Ker traces the origins of the Polytechnic's journey towards sustainable practice back to a staff exercise in which the organisation sought to identify a set of core values that should underpin their operations.

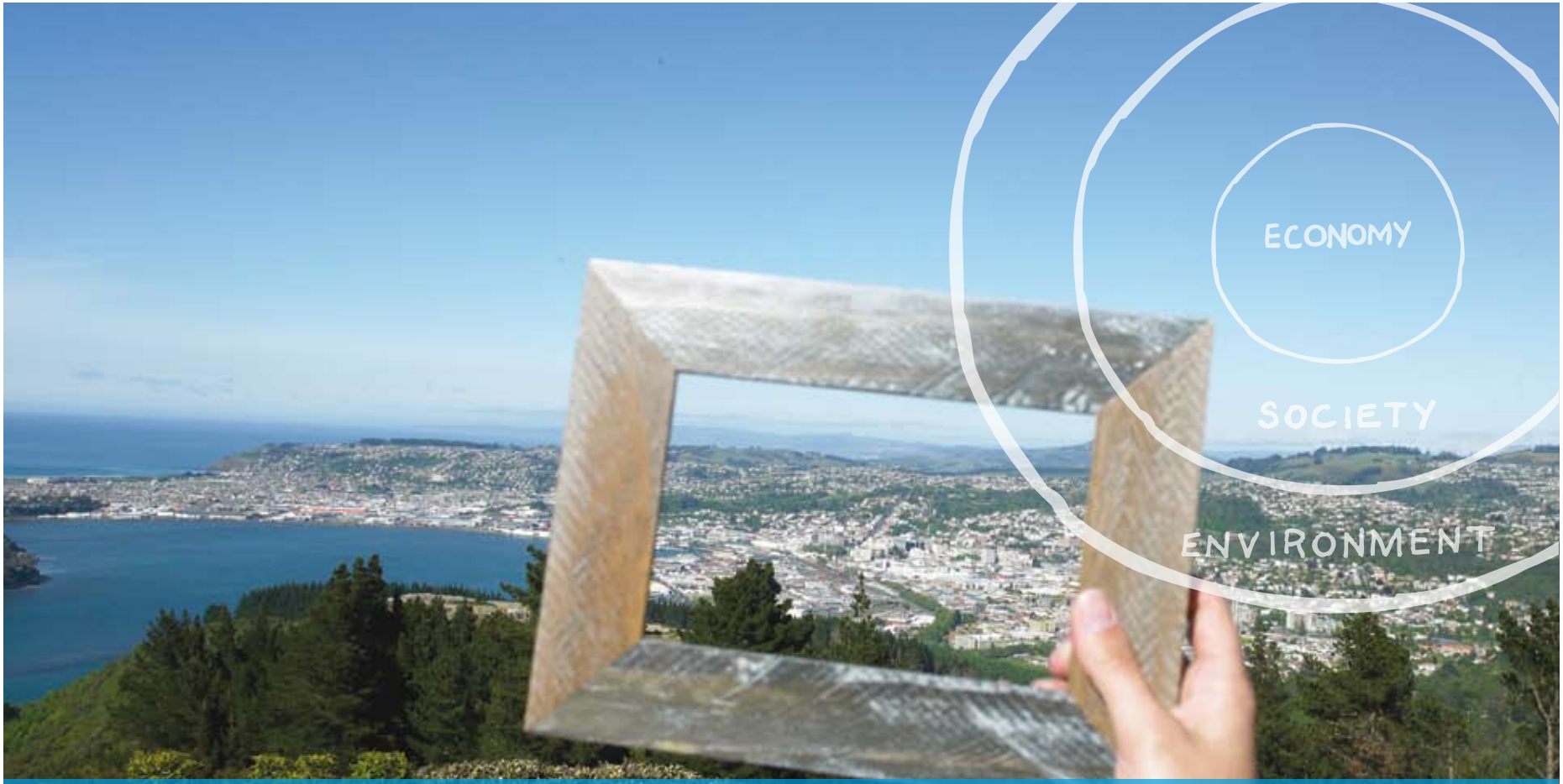
"We were asking questions like 'what is important to people in this institution? What do they want to be known for?' Amongst the core values we readily agreed to was 'doing the right thing'. We wanted that element of social responsibility to be a distinguishing feature of what we teach here, and sustainability was an obvious area that needed to be embraced if that core value was to have any meaning."

In order to ensure that it was practicing what it preached, the Polytechnic commissioned a major audit to examine ways that it could improve its own use of energy and resources, the results of which are now being implemented. It also resolved to incorporate the notion of sustainable practice into all programmes and to develop education and training programmes for local industry and the wider community.

Why spend money on such a challenging goal at a time when funding in the education sector was particularly tight? Phil says that the challenges associated with this goal are in fact accompanied by significant opportunities.

"I believe that people will be increasingly more discerning about doing business with organisations that take sustainability seriously" he says. "There is evidence of this happening now. Organisations, and we are one of them, are already saying to our suppliers 'If you're not doing things in a sustainable way, we don't want to do business with you'. Equally, prospective employees are quizzing their potential employers about how seriously they are taking the sustainability challenge."

"The long term vision", Phil says, "is that people will come here because of our reputation for having a curriculum that engages them and prepares them to play leadership roles in whatever they're doing to advance sustainable practice. And if that happens, that will be fantastic."



The simple pledge – doing the right thing – obliges us to consider the social impact of the decisions we make across the board; be it in curriculum development, purchasing, charitable giving, providing student support services or developing community partnerships.

Developing a framework.

"Maintaining our quality of life in the decades ahead requires that all graduates have a deeper understanding of our dependence on our natural capital; our waters, atmosphere, soils, forests, seas and other species, than any previous generation. Otago Polytechnic is truly a 21st Century tertiary education leader, embracing sustainability teaching and learning like no other New Zealand institution."

Dr Morgan Williams NZ Parliamentary Commissioner for the Environment 1997-2007, Chair The Natural Step Foundation Aotearoa New Zealand

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In 2006, more than 50 staff from Otago Polytechnic attended a strategic issues day focused on how best to approach the teaching of sustainability. It concluded with the question 'why should we not go down the path to educate for sustainable practice?' The room was silent.

"A group of staff and students worked for two years on articulating the challenge for the organisation and formulating a response" says Steve Henry, Director of the Centre for Sustainable Practice at Otago Polytechnic. "Not only did we want to embed sustainable practice into the content and process of curriculum delivery, but we needed to address our own operations, and take a leadership role in enabling our communities and the industries into which we feed to see the benefit of such an approach."

The Polytechnic Leadership Team had already done some homework. In late 2005 an independent commissioned research report had recommended that a sustainable approach be embedded in all areas rather than offered as a specialist course. A Swedish-developed framework called The Natural Step was selected in order to manage the process.

Instead of attempting to forecast, the natural step methodology backcasts from a desired state for future of the organisation that adheres to 'rules' for sustainable practice, then moves step by step towards such a vision. We realised the ideal future would see every graduate acting and thinking as a sustainable practitioner.

"In many cases the industries we work with had not yet articulated what a sustainable practitioner looks like" says Steve of beginning the process. "Rather than prescribe what this might be, we have resolved to work with each sector to define 'a sustainable practitioner' in context because the characteristics will be different in each field. Some sectors understand this already, while others are just beginning. Some schools have been able to work superbly with their sector whereas others are struggling to have the conversation. We have made a start."

"Let's not forget the enormity of the task we've set ourselves. The availability and health of natural resources is in decline, while there is increasing demand for these resources for economic, social and environmental reasons. Our response is to design our programmes so our graduates understand this and are inspired to continuously improve their capability to respond."

We have developed a framework which ensures that corporate social responsibility targets are set into our planning and review and make it our business to assess our impact on the society and environment in which we operate.

A sustainable practitioner.

"Sustainability is a journey rather than a destination. We will probably never get there – there will always be something we can do better. That hasn't stopped us looking for tangible measures of success. The real measure of our success will be when graduates are empowered to do the right thing in the workplace."

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What exactly does it mean for every graduate to be a sustainable practitioner? In an organisation with 17 schools and more than 100 programmes, there was never likely to be one single answer. And with such a diversity of industries to think about, where do you even begin?

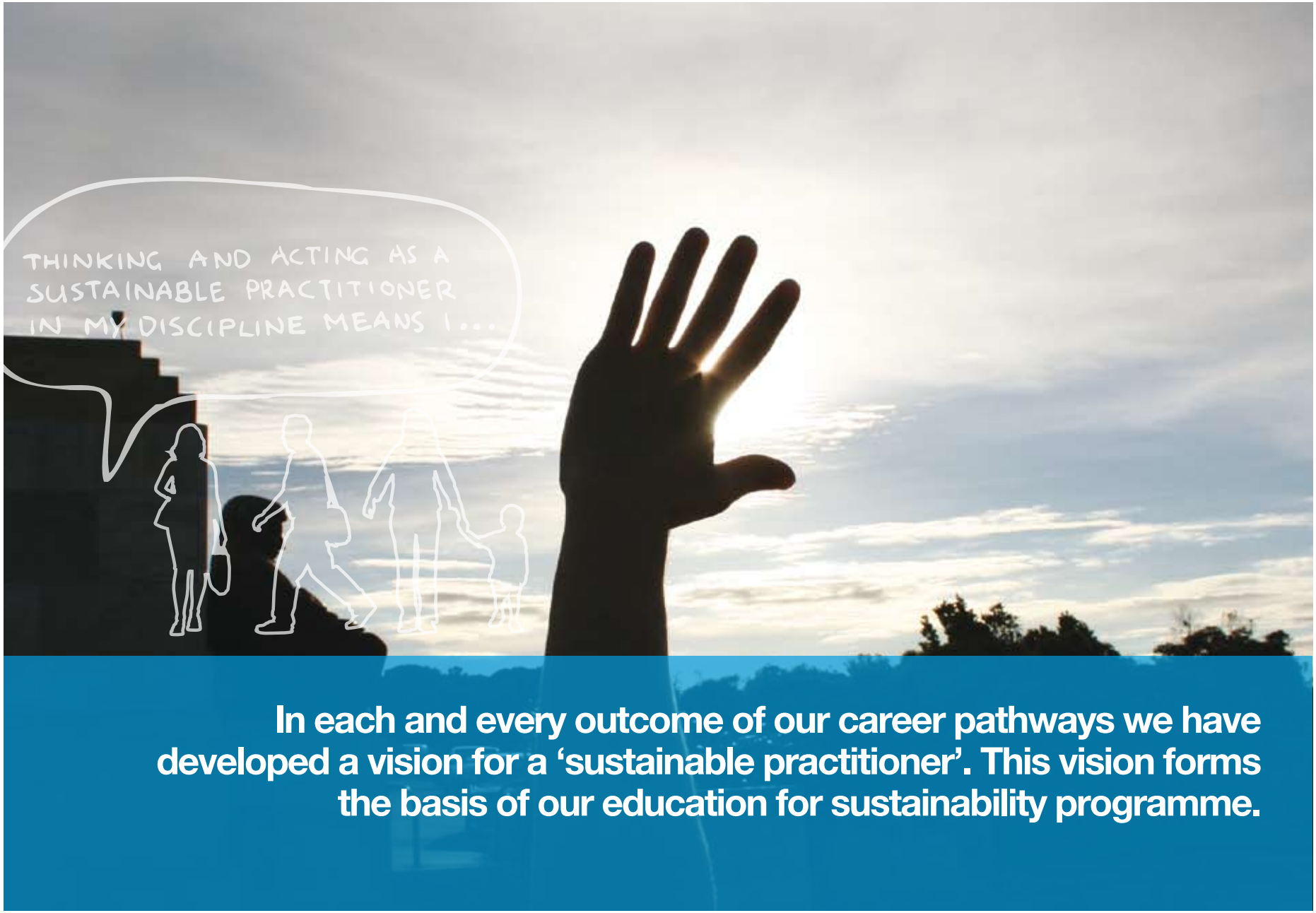
"What was important in the first instance was the understanding that 'every graduate' meant just that," says Dr. Samuel Mann, leader of Otago Polytechnic's Education for Sustainability programme. "We are not talking about sustainability as an optional extra or something for a few 'experts', it has to be integrated into every programme. Our goal is to ensure it becomes a normal part of everyday business, even if 'normal business' is very different for each graduate."

The notion of sustainable practitioner has been the key to the Polytechnic's approach. Staff from each discipline were asked to consider what their trade or profession could contribute to a sustainable future and they quickly began to look beyond operational matters to the core of the profession.

"When you ask people from any industry why they do what they do, the answers invariably include 'to make a difference'. From that point, there is only a short path to describing the characteristics of a graduate who is engaged with the notion of 'doing the right thing'."

The organisation is working hard to ensure that their commitment to sustainability is integrated into the curriculum as opposed to being jammed into it. While a course dubbed 'Education for Sustainability 101' is under development, it will be the choice of schools whether to include it in their programmes. Instead, elements of sustainability may be woven into learning outcomes, assessments and engaging learning experiences. Multi-disciplinary experiential learning opportunities such as the Sustainable Habitat Challenge and the Living Campus offer another level of engagement for students.

"Sustainability is a journey rather than a destination. We will probably never get there – there will always be something we can do better. That hasn't stopped us looking for tangible measures of success. We've carried out a baseline survey of all incoming students and we plan to repeat this survey when they graduate. We already know industry is taking note. The real measure of our success will be when graduates are empowered to do the right thing in the workplace."



In each and every outcome of our career pathways we have developed a vision for a 'sustainable practitioner'. This vision forms the basis of our education for sustainability programme.

Exploring the challenges.

"Art is about values, and artists are always negotiating with what is changing and what is important for society. The issue of sustainability is about resilience and optimism in the face of an appalling threat to human culture and to life as we know it."

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Throughout history, when major social issues have needed to be addressed, artists have often been the earliest and most influential voices for change. And the global environmental crisis has been no exception to this rule.

Bridie Lonie, Head of the Otago Polytechnic School of Art, says that sustainability is an important issue for artists on a number of different levels. On the one hand she says, "Art is about values, and artists are always negotiating with what is changing and what is important for society. The issue of sustainability is about resilience and optimism in the face of an appalling threat to human culture and to life as we know it."

On the other hand, artists have traditionally used a range of materials with potentially harmful effects on the natural environment. Christine Keller, Academic Leader of the Textiles department, points out that in the past, many textiles artists have actually died from overexposure to chemicals in the studio.

So what does it mean for an artist to choose 'sustainability', and how can the School enable students to make their decisions wisely?

Bridie says that moving towards sustainability is an ongoing process. Ten years ago the School of Art began reforming a number of its processes, including a decision to move from toxic to non-toxic materials wherever viable alternatives existed.

Is there a risk that in pursuing environmental objectives, we might limit the creative choices available to artists? "Artists will never behave!" Bridie responds. "We're teaching students who will be free to do what they like when they leave. What we need to do is to be attentive, to enable them to understand the implications of the decisions that they will make."

And these implications are not always obvious. Christine, who is currently working on developing a garden on the Polytechnic grounds for producing plant-based dyes, says that in some circumstances synthetic substances may actually be more sustainable than 'natural' ones, for example if they require significantly less water expenditure.

Awareness is key, says Bridie. "The sorts of skills we are likely to need in the future are the sort of skills that an arts education provides people with; a resilient resourcefulness, the ability to think outside the square and an attentiveness to history."

This process has not been without challenge. In many areas we have taken the lead in developing a vision for not only our own graduates, but explored the challenges faced by entire industries in New Zealand.

Turning vision into practice.

The priority for Otago Polytechnic was clear and ‘doing the right thing’ for hospitality was going to mean not only teaching sustainable best practice, but setting a good example of sustainability in action.

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Implementing sustainable practice both operationally and in the curriculum undoubtedly poses challenges for any school or department within the Polytechnic. The School of Hospitality staff is addressing their particular set of challenges head-on, and can boast significant progress in many areas.

Hands-on hospitality training, be it cookery lessons in the kitchens or service experience, may appear on the surface to lend itself easily to the kind of sustainability initiatives that have been in place in our own homes for some time. However, in the commercial sector, things can often take much longer.

While kerbside recycling has been in place in Dunedin for domestic residences for some time, when the School first addressed the concept the solution proved far too expensive. Composting food waste in an urban environment presented challenges. The increased cost of purchasing ecologically-sound cleaning products and detergents could have proven prohibitive.

Yet, the priority for Otago Polytechnic was clear – ‘doing the right thing’ for hospitality was going to mean not only teaching sustainable best practice, but setting a good example of sustainability in action.

Purchasing Officer/Technician Chrystal Armstrong, has been wrangling with such issues on behalf of the School of Hospitality. Among her challenges has been to implement kerbside recycling, Bokashi composting systems in the kitchens and to undertake a careful evaluation of where produce can be sourced from. The School currently uses an organic grower from the Otago Farmer’s Market for some specific produce such as garlic and herbs. They have also been able to reduce laundry consumption considerably.

Tutors both teach the ‘three Rs’ (reduce, reuse and recycle) in their programmes and have made a commitment to use these principals in their day to day work so that it becomes normal practice for their students.

“Students do not react to their learning material or environment any differently because it’s embedded within the standard programme and part of their everyday activity” says Programme Manager for Hospitality Management Dion Hyde. “We hope that when they go out into industry they will take these skills and information with them.”

We have had to ensure that our staff is operating with a shared vision of sustainability for their discipline and what it means to their own teaching practice…

Design and delivery.

"We are taking midwifery education to the students instead of requiring them to come to us and this has required a fundamental change in thinking so that students are grouped geographically across the South Island in 'satellites' or localised learning groups."

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When considering the challenges of implementing the principles of sustainable practice across Otago Polytechnic programmes, the trail-blazing Bachelor of Midwifery seemed like one of the easy marks. After all, New Zealand's unique system of midwifery is inherently 'sustainable', and the Polytechnic's research-active midwifery lecturers are proactive in the development of midwifery education nationwide.

However, the challenge for the School of Midwifery was one of distance and scope. While sustainability, encompassing not only environmental but also social, cultural, economic and emotional sustainability, was already firmly established in the Bachelor of Midwifery programme, the real challenge was ensuring midwifery education was availably outside of the main centres.

New Zealand is currently recording a dearth of qualified midwives, with shortages heavily skewed towards rural and provincial areas where training and mentorship is all but inaccessible. And, while it is considered unacceptable to expect pregnant women to leave their communities to access midwifery care, it is equally unrealistic to expect potential midwives, many of whom have their own families, to relocate to Dunedin for three years of training.

With sustainable practice and the Polytechnic's commitment to flexible delivery resolutely in mind Otago Polytechnic and Christchurch Polytechnic Institute of Technology (CPIT) collaborated in the development of a new jointly owned Bachelor of Midwifery programme. Delivered using a blend of online, face to face and practical learning opportunities, the programme is considered to be a world-first for midwifery.

"We are taking midwifery education to the students instead of requiring them to come to us, explains Dr. Sally Pairman, Head of the School of Midwifery. This has required a fundamental change in thinking so that students are grouped geographically across the South Island in 'satellites' or localised learning groups. Collaboration with CPIT is also a sustainable way to run the programme as sharing resources is already having a positive impact on workload and efficiency".

"Our student numbers have increased in 2009 as this new programme is attracting women who otherwise could not access midwifery education. More students means more graduates and this will help New Zealand's workforce shortage".

The programme now mixes practical learning with local midwives with online teaching resources including tutorials via an audio conferencing 'virtual classroom' on the Internet. Students are teamed geographically in 'satellite groups'. Online learning resources remain available to students and weekly group tutorials are run in various locations close to their homes. Four times a year, practical block courses are run in Dunedin.

…and are enabled to design and deliver the programmes that will benefit our students in the long-run.

Student engagement.

Bachelor of Occupational Therapy students are immersed in sustainable practice methodologies and applications from day one and throughout the degree…they soon realise that if they don't take on these sustainable considerations of looking after resources, spaces and people that things won't last very long.

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In the gloom of today's global economic crisis it's reassuring to know that practitioners are entering the workforce with sustainability at the forefront of their minds.

Bachelor of Occupational Therapy students are immersed in sustainable practice methodologies and applications during the 'Adaptive Living Occupation' course from day one and throughout the degree.

"Sustainability has been the foundation of occupational therapy," says Occupational Therapy lecturer, James Sunderland. The programme examines key social areas of food, craft and games and looks at how these have evolved over time.

"We look at history and how communities were sustained. People depended on each other to make things happen and cared for each other's materials and sources of food. I think that's missing in today's society. We're disconnected from a lot of these things and from each other and don't see where our food comes from, or who's made our pottery and this disconnectedness impacts on sustainability."

In the 'Adaptive Living Occupation' course students are given opportunities to "grow, bake and make things from scratch." They work within community groups to understand what it means to work in a community that may not have much money.

"Students soon realise that if they don't take on the sustainable considerations of looking after resources, spaces and people that things won't last very long. There's some real 'art of practice' stuff here because there's no easy answers if everyone's out there struggling with money. It's about trying to find solutions and trialling them." James believes knowledge of social sustainability helps graduates be better practitioners.

"It's about getting back to that true community because I don't think isolation and all that consumer driven stuff is that sustainable especially during this economic crisis. We need to make, grow and eat together, and play games together rather than have play stations. Today's sustainable practitioner needs to advocate, fight for and foster communities and look at what sustains a person and how they fit into that community."

The age-old saying 'One man's rubbish is another man's treasure' resonates with these sustainable practitioners as they help people find meaning through their occupation in a way that sustains itself into the future.

Now we are charged with ensuring our students understand and support our vision…

Goals for the future.

With sustainability a consideration at the forefront of many government and commercial activities, solutions that harness the power of technology are likely to be in considerable demand well into the future.

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Implementation of sustainability goals into the curriculum is likely to yield mainly long-term benefits for industry, however a handful of resourceful students are using community and industry-based projects as a way to fast-track their developing skills into the commercial sector.

Otago Polytechnic's Bachelor of Information Technology has always claimed industry partnerships and experiential learning as a point of difference. In their senior year, students are required to work in collaboration with a client to present innovative solutions to real-life problems.

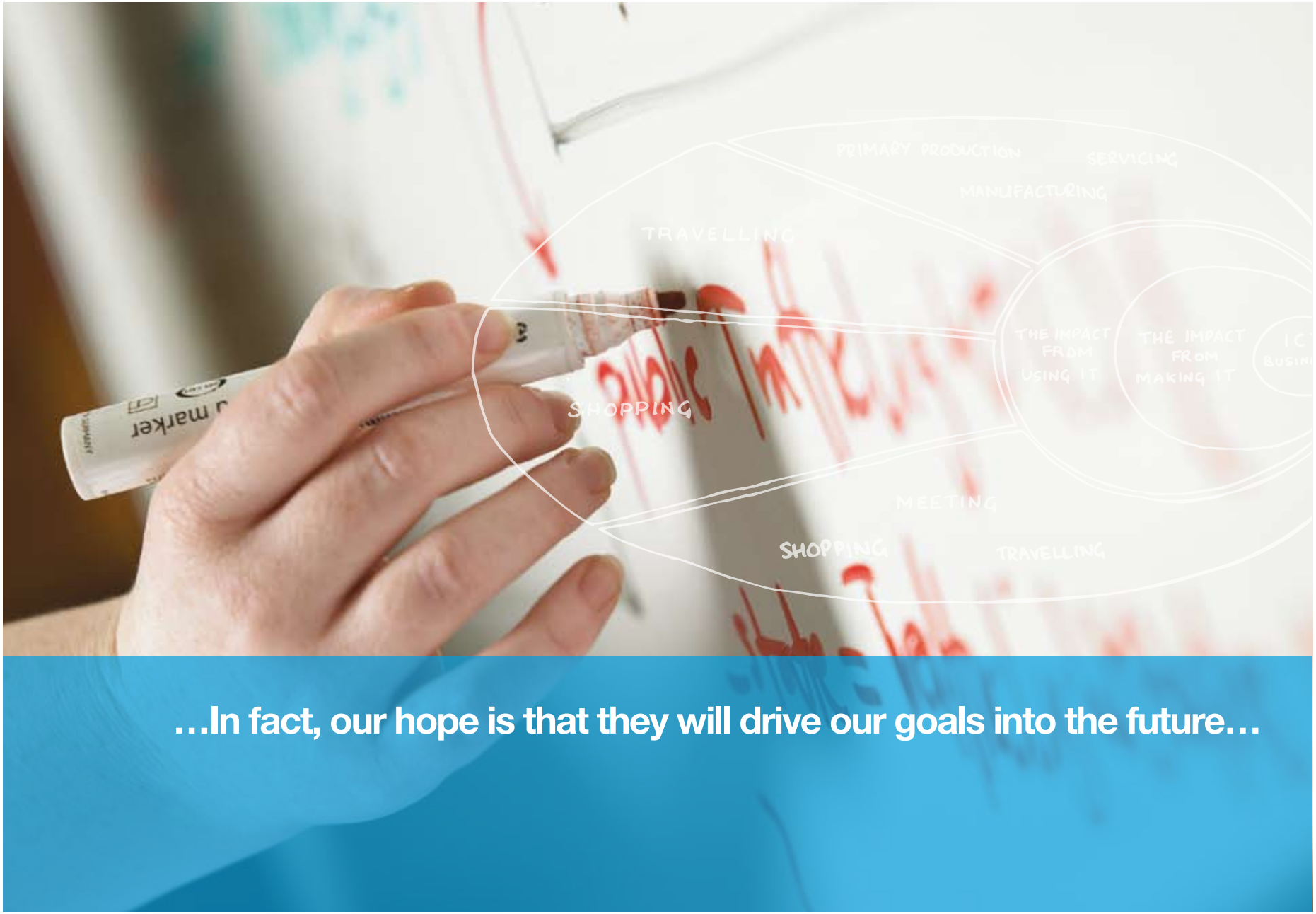
With sustainability a consideration at the forefront of many government and commercial activities, solutions that harness the power of technology are likely to be in considerable demand well into the future.

Previously, projects have included work with a community-based stream restoration group, the development of science heritage and interactive sustainability exhibits for museums and community groups. A major, externally funded research project SimPa, also has a strong sustainability theme.

In 2009, a project team worked with scientific and business consultancy AbacusBio to develop a software package that allows farmers to measure carbon emissions as part of integrated farm management. Students Hadley Fraser and Lavell Muller collaborated closely with client Mark Oliver, an Otago Polytechnic Bachelor of Information Technology graduate currently trialling the finished system on a number of test farms.

"AbacusBio works with farmers to make sure they are in a winning position, economically and environmentally" says Mark. "This project shows that computing can help facilitate a much bigger change. We are pleased to be collaborating with people who are in the right space - its win-win all around".

"This project showcases how computing can enable sustainable practice in other industries and the impact fresh-thinking students can have on today's issues" says Lesley Smith, Head of Information Technology at Otago Polytechnic "The team is truly paving the way for sustainable practitioners in computing".



…In fact, our hope is that they will drive our goals into the future…

A long-term outlook.

"…'sustainability' has become more prevalent around us. It's such a buzz word at the moment. Previously I had never associated it with design, or at least not consciously. I think during the programme we were made aware of how designers can make a difference. It played quite a big part."

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Physiotherapist Jackie Ryder and university researcher Kate Marshall returned to study Otago Polytechnic's Bachelor of Design (Interiors) when it launched in 2006. Admittedly 'non-greenie' the pair found unexpected inspiration in the possibilities of sustainable practice in an industry that, at first glance, appeared to lack any social conscience at all.

"I think during the three-year programme 'sustainability' has become more prevalent around us" says Jackie. "It's such a buzz word at the moment. Previously I had never associated it with design, or at least not consciously. I think during the programme we were made aware of how designers can make a difference. It played quite a big part."

In 2008, the women embarked upon final year project designing a residential hall that incorporated environmentally friendly processes and practice into both the build and the finished product. A requirement of the brief was to educate future residents about treading lightly on earth.

"We had to design the entire building right from the beginning" explains Kate. "This included the exterior and interior using sustainable products and building processes. The elements that we've incorporated into the design are intended to change the way people actually live.

"It was a huge learning curve actually. You're making choices between what's available and what's sustainable. There are some products overseas that are probably more sustainable in terms of how they are produced or what they are made of, but by the time you calculate in the carbon footprint and how much it costs to transport that material here it actually loses some of its sustainable value."

Now graduated, the pair is turning their skills to the interior design of Otago Polytechnic Dunedin's entry into the Sustainable Habitat Challenge (SHaC09). They will focus on re-using, recycling, durability and creating healthy environments with minimal emissions when considering the design, however the end result will look 'pretty normal'.

"There are lots of beautiful examples out there of some incredibly contemporary and slick-looking sustainable designs!" explains Jackie. "It's not all about trees and knitted pants."

…demanding the skills that are set to become so crucial in their long-term careers.

From vision to action.

"In a publicly accessible garden, 'sustainability' can be seen, explored, tasted and celebrated…We are demonstrating something that is achievable in almost every Dunedin person's backyard. If all the lettuces disappear, that's a positive outcome."

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It may seem ironic that, having packed for a long journey towards sustainable practice, Otago Polytechnic has found itself kicking around in its own backyard. But, when seeking to transform the way your community engages with its environment, what better place to start than the piece of earth right under your feet.

'LivingCampus' is Otago Polytechnic's grand scheme to transform its outdoor environment into a sustainable model of urban agriculture. The plan incorporates the development of three aspects simultaneously: a community garden, an interactive open air experience, and the enhancement of campus sustainability. It is envisaged that the Living Campus will become the hub for sustainability-oriented community education services.

"The majority of the population is divorced from the places and processes that produce the food they eat and medicines they take and clothes they wear" points out Dr. Samuel Mann, Leader of the Polytechnic's Education for Sustainability programme. "Awareness of sustainability issues is difficult when the centre of production is, for many, the supermarket".

Living Campus intends to remedy this by planting permaculture gardens and plots featuring kai moana and European heritage plants in a plan developed by a local organic design expert. Members of the public will be able to access this living, interactive museum any time of the day or night and in all seasons. They are invited not only to browse through the campus environment, but also, if they choose, to pull a few weeds or even sample the goods.

"In a publicly accessible garden, 'sustainability' can be seen, explored, tasted and celebrated" explains Dr. Mann. "We are demonstrating something that is achievable in almost every Dunedin person's backyard. If all the lettuces disappear, then for me, that's a positive outcome."

The gardens are intended to provide a stimulating hands-on education experience for students and staff of the Polytechnic as well as the wider community. While cookery and horticulture students can expect to benefit from LivingCampus in expected ways, there will also be patches in which medicinal herbs will be planted and plants selected to produce dyes for the art school. In addition, there will be significant opportunities for schools such as Occupational Therapy to explore the therapeutic nature of gardening and being in the natural world.

While the incorporation of sustainable principles into our curriculum is crucial, so too is the need to carry through our vision into our own actions and the behaviour of our institution as a whole.

Core business.

"Staff members are welcome to take the free compost from small bins - this has led to some re-establishing their own home gardens, and that must be a positive outcome".

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With multiple hospitality facilities and a full programme of cookery training, it's fair to say that Otago Polytechnic generates a significant volume of food waste. When it came to recycling and re-using that waste, the organisation was not necessarily looking for anything new, merely a composting system suitable for the purpose that everyone could use.

"Initially worm bins were suggested as a solution" explains Mark Jackson, Sustainability Coordinator. "This was not impossible, but it posed enormous problems. We really needed a system that could be stored near the kitchens and required little in the way of labour. Bokashi was ideal for the Polytechnic's needs, and after some minor hurdles, has been fully embraced by staff."

The Bokashi system features sealed containers, so is suitable to be stored indoors. Excepting large quantities of bones or liquid, it processes all waste into the kind of wonder-compost perfect for breaking marginal soils to develop garden beds. Its liquid is a fantastic fertiliser, but can also clear drains and minimise the smell of septic tanks.

After a successful introduction of the regular Bokashi bins it was recognised that some areas required a higher-volume solution, but larger bins simply didn't exist. In addition, flexibility was required - students may produce large quantities of waste one week, but virtually none the next.

A resourceful Campus Services and Hospitality team took a good look at the volume of waste, did a little homework and decided a re-design was in order. Staff fitted 120lt wheelie bins with seals and taps and tweaked the process of applying Bokashi 'compost-zing'. One of only two large-scale Bokashi trials in the country was successfully under way.

"Although it took work to get up, running and self-sustaining, I think we can now call this experiment a great success" says Mark. "Compost from these larger bins is used to benefit local farms and help establish community gardens. Staff members are welcome to take the free compost from small bins - this has led to some re-establishing their own home gardens, and that must be a positive outcome".

This means striving to go about our core business in a way that does not impact detrimentally on our environment or society.

Into the real world.

For those who have taken up the Sustainable Habitat Challenge (SHaC09), practicality and economic sustainability is proving to be as much of a consideration as environmental elements.

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Around the world, initiatives including the Solar Decathlon (USA) have inspired student-driven building projects that are both innovative and experimental. When it came to challenging New Zealand tertiary institutions to design and build a sustainable home however, the outcomes had to be not only ground-breaking, but also realistic solutions for the wider community.

For those who have taken up the Otago Polytechnic-driven Sustainable Habitat Challenge (SHaC09), practicality and economic sustainability is proving to be as much of a consideration as environmental elements.

At the outset the vision for SHAC09, conceived by Alistair Regan and D'Arcy Dalzell of the Otago Institute of Design at Otago Polytechnic and funded in part by the Ministry for the Environment, was of a project that raised the profile of sustainable design and building, but held values including education and collaboration above all else. Teams were therefore charged with developing partnerships across the tertiary education, commercial and local government sectors within their region in order to construct sustainable housing solutions suitable for their own community.

The ten teams that have taken up the challenge are approaching this problem in vastly different ways. The University of Auckland's Team 'Whareuku' engineers for example are creating a building system, which will allow remote communities will design and build their own earthen buildings. Team 'Housewise' are retro-fitting a standard 1950s state house. Otago Polytechnic's Central Otago team are working closely with a private client while the organisation's Dunedin team prepares a relocatable home that will be auctioned for charity.

SHaC09 National Coordinator Tim Bishop has been leading the national project on behalf of Otago Polytechnic. He believes the best outcome of the challenge is likely to be the showcase of the many ways New Zealanders can live well while being free from reliance on scarce resources. That means houses which are better insulated, cost less to heat, use the most efficient building methods possible, and are not too expensive to construct.

"This challenge will demonstrate the substantial knowledge that exists and is being developed in New Zealand around sustainable housing. The ability to effectively share this information amongst our communities will mark the true success of this project."

It also means selecting and implementing practical initiatives that explore and test sustainable practice in the real world, for the benefit of our colleagues and community.

Sharing the knowledge.

In 2007 and 2008, Otago Polytechnic hosted a showcase entitled 'What's Best?' in support of local businesses whose product and service were increasingly delivering sustainable practice. This expo sought to clearly describe the performance of each product or service.

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There is increasing demand for product and service that demonstrates sustainable practice. In fact, recent research has estimated the current New Zealand domestic market for goods and services that enable a lifestyle of health and sustainability to be at least two billion dollars That figure is reasonably expected to double by 2010. (www.moxie.co.nz/_download/GLOHAS.pdf).

Rating these commodities however is extremely problematic – currently there are more than 400 'eco-labels' in use internationally. With numerous businesses pitching for the 'green dollar', consumers are seeking leadership and innovation so they can better choose what's best for them.

In late 2007 in Cromwell and 2008 in Dunedin, Otago Polytechnic hosted a showcase entitled 'What's Best?' in support of local businesses whose product and service were increasingly delivering sustainable practice. Participation by stall-holders was by application only and the organisation undertook the compilation of a handbook to outline how the product or service met sustainable practice guidelines.

"This expo sought to clearly describe the performance of each product or service explains Steve Henry, Director of the Centre for Sustainable Practice at Otago Polytechnic. "Each product and service was evaluated against the ideal standards of being cyclic, safe, efficient, solar and social."

The Cromwell event had 30 business displays and more than 1500 people took the opportunity to browse the exhibits on the day long event. "We were thrilled with the level of interest in our product- this was enhanced by the way the public were educated through the event handbook" said Darrin Hall from SolarPeak Otago in Alexandra.

"There was clear evidence that people are becoming more discerning in their purchasing" said Mark Jackson organiser of the event.

The Polytechnic has an ongoing research programme in this area in partnership with Auckland based online procurement company Unimarket and Blekinge Institute of Technology in Karlskrona, Sweden.

As we draw on the outcomes of our exploration into exactly what 'sustainable practice' means for Otago Polytechnic we are becoming more qualified and more driven to share our knowledge with the wider world.

Expertise in the field.

Otago Polytechnic has taken a leadership role in advocating and delivering on the need for the provinces industry sectors to operate on best practise sustainability standards. The Polytechnic has coordinated a number of projects which aim to shift the business thinking towards a fully sustainable standard with end benefit for the business owner, the industry sector and the province as a whole. This is education delivery at its best. Clive Geddes Mayor Queenstown Lakes District

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The ski industry lies right at the heart of Queenstown's vibrant tourist economy. It is however, an industry with demanding energy requirements. It is also one of the industries with the most to lose in the event of drastic climate change.

So when the Otago Polytechnic Centre for Sustainable Practice teamed up with four other organisations to develop the Queenstown Sustainable Business programme, aimed at supporting organisations to become more environmentally, socially and economically sustainable, NZ Ski was one of the first companies to volunteer for the challenge.

Nick Edwards, the Assistant Ski Area Manager at Coronet Peak, says that the programme has offered his business real opportunities not only in terms of lessening its environmental impact but also in improving its economic efficiency.

"Because we're in an isolated environment, everything is more expensive for us, particularly in terms of energy," Nick says. "Reducing those costs and improving our profile and the way we do business was obviously very important to us, and the Centre for Sustainable Practice gave us a lot of really good, practical advice."

The outcomes of this process can already been seen on the slopes. Coronet Peak's new tower-mounted snow guns increase productivity by 35%, using the same amount of water as any other gun types, the NZ Ski Management and Board has mandated that no new development be built unless they adhere to a five-star energy rating and Coronet Peak is on its way to becoming the first New Zealand resort to make snow from 95% recycled water.

NZ Ski is by no means the only business to benefit from the services of the Centre for Sustainable Practice. There has been an overwhelming response from Queenstown businesses to the Sustainable Business programme there, and Steve Henry, who heads the centre and co-leads the Queenstown project, estimates that over 100 businesses in the Central Otago area have worked with the centre since its development in 2007.

Steve believes that sustainable practice is increasingly becoming vital for local businesses that wish to remain viable in the long term.

"Businesses will be at risk if they don't head down the track of sustainable practice" Steve says. "The expectation of meeting the needs of the more discerning, environmentally aware visitor is increasing around the world."

Our staff is collectively becoming more expert in sustainable practice and we have sought to assemble teams of professionals whose expertise in the field is proven and respected internationally.

Our goals.

Our goal is that every graduate may think and act as a “sustainable practitioner”.

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The skills and values of Otago Polytechnic graduates contribute to every sector of society. Our curriculum, teaching and learning therefore is pervasive and influential with global impact.

The Otago Polytechnic sustainability vision is that our graduates, our practitioners and our academics understand the concepts of social, environmental and economic sustainability in order for them to evaluate, question and discuss their role in the world and to enable them to make changes where and when appropriate. Our goal is that every graduate may think and act as a “sustainable practitioner”.

Moreover, educators must take a lead in sustainability so that our graduates can be encouraged and supported to promote sustainable practices in their chosen career. This can primarily be achieved by fostering education for sustainability in all our qualifications and by re-visioning and changing our approach to teaching and learning to model a transformative context for all learners.

As a consequence sustainable practice becomes a context and a process for learning and recognised as a core capability within each discipline.

Creating a philosophy of Education for Sustainability will be enhanced if undertaken within a context of institutional operational practice. We will then be seen to be modelling good practice.

Our goals are applied to the world of education delivery, but they are not unique to it. Our lessons learned are lessons we choose to share in order to make our contribution to our community both worthy and worthwhile.

A sustainable practitioner in...

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A sustainable practitioner will be successful when they support people and nature in their actions by;

- enabling people to meet their own and future generation's needs in an equitable way
- causing no harm to nature
- consuming resources at a rate nature replaces them
- ensuring nature is not subject to materials it cannot process.

All graduates, from foundation to masters level must be aware that their choices, decisions, and actions have an impact on sustainability. Both drivers and impacts cross spatial, temporal, social and ecological scales and ethical boundaries. In addition to the technical skills relating to sustainability within their specific disciplines, all graduates are equipped with wider skills: visioning, influencing change, managing information, creativity, innovation…

Otago Polytechnic are developing sustainable practitioner statements for their generic career pathways. The discussion surrounding these statements is ongoing.

Health and Community Careers

A career in the provision of health and community services now requires a holistic approach to working with individuals, groups and communities; a focus on well-being within a wider context of strengths, connections and resilience of community, systems and environment. Working effectively with others is underpinned by self-awareness and skills in critical thinking. Nursing expresses this as multidimensional care; midwifery as an ethos of childbirth as a normal life process and minimisation of unnecessary intervention; human services as "social justice and healthy community and individual relationships (including effects of exploitation on local and global economies, peoples, resources and environments); occupational therapists have a core belief that humans need to be involved in meaningful activity and that we gain connection to the world we live in via activity.

Creative Careers

Creative experimentation is how the mind learns, so our students are encouraged to be resourceful and innovative no matter what field of art, design and computing they explore. The creative practitioner has a potential impact much bigger than their own footprint. They must be able to evaluate the relative value of their work with an understanding of their role in terms of social and cultural impact as well as the pragmatic elements of the creation such as the use and disposal of materials . New paradigms are emerging and practitioners are taking responsibility for engaging clients and customers in a conversation about the social and environmental impact of their choices and how to integrate sustainable alternatives in their work. Creativity also enables resilience, offering courage and optimism in the face of difficult odds.

Business Careers

The diversity of industries in which practitioners of business operate means that graduates with these skills are likely to be the key drivers of changes towards a sustainable future. To enable businesses to move from 'unsustainable'

to 'sustainable' professionals must take a holistic view of their operations and successfully implement strategies that address social, environmental and cultural issues without damaging their ability to be successful and profitable. This requires specific skills across the spectrum of project management, change management, marketing and problem-solving.

Hospitality Careers

A hospitality practitioner must explore sustainability from both manufacturing and service perspectives, considering what they purchase, where they purchase from, the processes by which they work with produce and the disposal of waste products. A sustainable practitioner will take a systems view, addressing behaviour-change opportunities for themselves, their customers and their partners recognising that sustainability is a result of everyone's actions, no matter where they are in the business. Self-awareness and personal responsibility is key.

Sport and Adventure Careers

A sustainable practitioner in the sport and adventure industries is engaged in providing quality participative experiences within a sustainable framework of positive outcomes. An active, outdoors ethos, team work, risk management, high levels of planning and a systems approach give rise to holistic understanding of the interplay of social, environmental and cultural factors. Challenges or threats to resources are seen as opportunities to develop new approaches and partnerships that allow people to engage with healthy lifestyles through sport and adventure without adversely affecting their environment or culture. Practitioners drive change through conscious decisions around purchasing and event management locally, nationally and internationally.

Trades and Technical Careers

A sustainable practitioner in the trades and technical fields uses their skills to maintain the integrity of local and global biophysical systems to meet the needs of human societies. The tangible nature of their work in managing changes in the environment (primarily physical, but recognising social and economic contexts) in ways that persist for the long term means that these practitioners are at the fore-front of a sustainable future. To achieve these goals they need to solve problems in holistic ways so that solving one problem does not create another. New challenges require new approaches.

Life Sciences Careers

A sustainable practitioner in the life sciences uses best practice within the biophysical domain to create quality services and products over the long term. They take a systems approach to enhance outcomes making use of natural biological cycles, implementing integrated practices that reduce reliance on artificial inputs and responding to new challenges. Responsible stewardship is encouraged to generate economically viable, socially and ecologically sound systems of practice.

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Otago Polytechnic has produced this book to share stories about its work with its community.
When you have finished reading, please pass this book to someone who will enjoy it, or return it in any condition to Otago Polytechnic.