

Nomination for Marie McEntee

School of Environment
Faculty of Science
The University of Auckland

2015

**Tertiary Teaching
Excellence
Awards**



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The act of reaching beyond the self to relate to others in dialogue is a profound human yearning. If it were less commonplace, we would realize what a miracle it is.

Daniel Yankelovich, *The Magic of Dialogue* (1999)

FROM SMALL BEGINNINGS

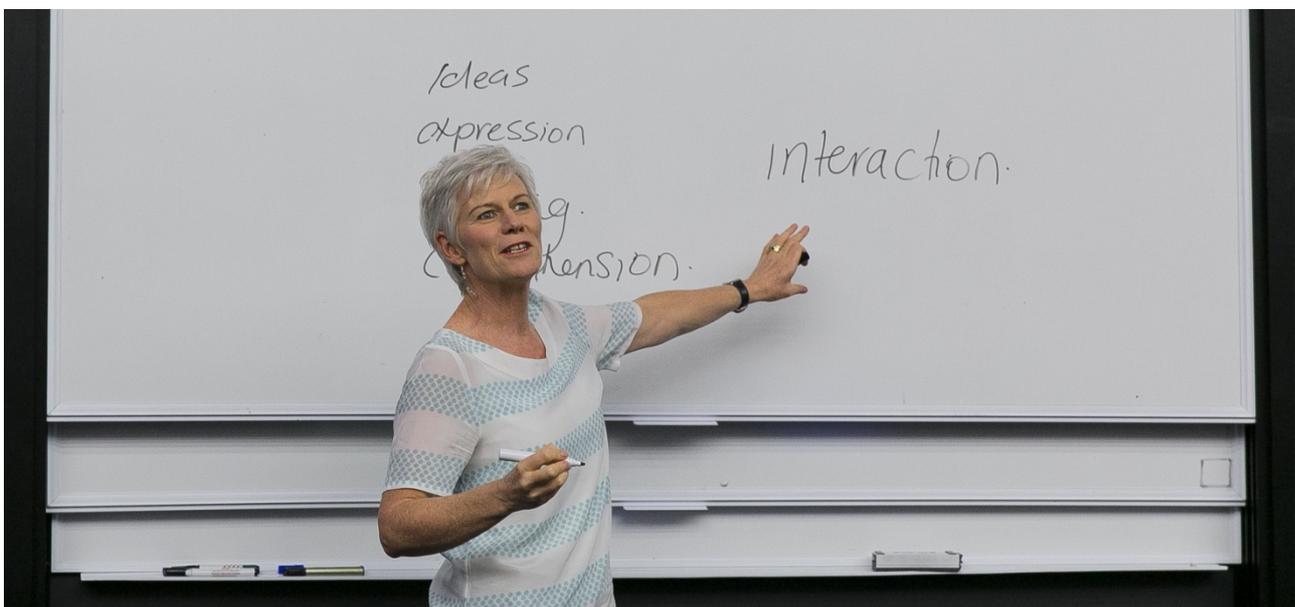
I have had the pleasure of teaching 'science communication' at the University of Auckland for 22 years. Science needs communication; they are the perfect marriage because they combine two insightful ways of engaging with the world. Science gives us a method to investigate and understand our world; communication connects us with others to enrich our understanding.

My tertiary teaching began in 1993. As a speech teacher with extensive experience communicating science in the private sector, I was invited to lecture the 'art of oral presentations' in the University's new cross-disciplinary communication course run jointly by Geography and Mathematics. This initial contribution substantially increased over the next five years and in 1998 I accepted a part-time senior tutor position in the Department of Geography, becoming the Science Communication course coordinator in 1999.

In 2003 my position expanded to include a unique role coordinating the communication outreach programme for the merged School of Geography and Environmental Science. Over the past 13 years I have managed our engagement with secondary students and teachers to support their national curriculum and to inspire school-leavers to consider 'environmental' tertiary studies. I also manage the development of the School's website, newsletter, promotional publications and video productions.

In 2013, my teaching further expanded when I began coordinating SCIGEN 201 *Managing Science and Technology*, a cross-disciplinary course with the Faculty of Business and Economics which totalled 83 EFTS in 2014. My dual teaching and outreach roles mean I both teach and practise science communication, which strengthens my teaching.

Working in a research community is infectious. In 2002 I embarked on an MA investigating the communication of scientific risk. I graduated with First Class Honours in 2006 and was offered a FRST scholarship to undertake doctoral research. My research, to be completed in early 2015, examines rural sector partnerships advancing agricultural sustainability. This work enriches my teaching and enhances my students' theoretical and practical learning in communication and innovation systems research. It also enables me to contribute to undergraduate teaching in GEOG 205 where I draw on my research to lecture community engagement to students studying environmental management.



MY PEDAGOGICAL PRINCIPLES

Learning should be transformative

My teaching, as with my research, follows a constructivist approach. I do not see knowledge as a body of facts to be learnt, but instead actively constructed and co-produced by sharing understandings, ideas, values and interpretations. Learning is a two-way process as we expose our existing ways of knowing to new ways of knowing to transform our view of the world.

Marie is the best lecturer I have had so far at Auckland. Her ability to interact with students promoted my learning. Her way of talking to students wasn't one way, she didn't speak to us. I personally believe Marie you are an amazing lecturer.

Lecturing Evaluation, SCIGEN 101, 2013

This course was a valuable asset to my education and I took away many valuable skills that I know will benefit me in future life.

Course Evaluation, SCIGEN 101, 2008

Learning should be participative

Students learn best when they are active participants, not passive observers. Interactive activities encourage students to inquire, be curious, engage, and to think independently and critically.

Students want answers. I encourage them to pose questions so *they* can explore ways to find answers and understand different perspectives when there are no defined answers.

Marie was a great lecturer by involving us, engaging us and providing many resources to assist with learning. I have really enjoyed every lecture

Lecturing Evaluation, SCIGEN 101, 2008

Learning should be reflexive

When students graduate they will engage with people inside and outside their specialist field. Some will think the same as them, many will not. I draw on my research and real world case studies to show students that as knowledge experts we may need to defend or adjust our way of thinking. Almost certainly we will need to collaborate to co-produce knowledge that leads to new ways of thinking. I want my students to be reflexive learners; to question, reinterpret, and confidently reassess ways of knowing and doing.

Marie's approach to teaching is strongly imbued with the research ethic as she aims to stimulate students to ask, address and communicate research questions. In this regard Marie should also be congratulated for being able to build her research experiences into her teaching materials

.....Head, School of Environment

While lecturing I am reflexive about my teaching by looking for cues from students to gauge how they are learning and adjusting lectures to students' needs as they arise. Afterwards I record what went well and what did not. This strategy enhances future lectures so my teaching is constantly evolving.

I believe reflexivity is critical on the path to wisdom, which I visualise as:

Data + **Analysis** = Information + **Interpretation** = Knowledge + **Reflexivity** = Wisdom

This path is incomplete without the critical actions of analysis, interpretation and especially reflexivity. Reflexivity gives us humility. It allows us to acknowledge what we do know and it confronts us with what we do not know.

I've really enjoyed your open style and how you interacted with us as students. I've learnt some really useful skills in this paper. It has provided me with much food for thought and helps me keep in mind whether my communication style is effective and how my message is getting across. The case studies were interesting and thought provoking.

Lecturing Evaluation, SCIGEN 101, 2008

SCIENCE GENERAL: EMPOWERING STUDENTS TO DEVELOP LIFE SKILLS

Sir Paul Callaghan said New Zealand requires science graduates who are excellent, entrepreneurial, communicative and socially aware. Science General (SCIGEN) courses are cross-disciplinary and innovative and were introduced with a vision to develop undergraduates' communication skills and understanding of science as innovation.

SCIGEN courses develop students' personal qualities, skills and attributes beyond the mastery of a body of disciplinary knowledge. I placed the University's Graduate Profile at their core so students can see themselves and their learning holistically and having both immediate and lifelong relevance. These courses are aspirational and equip students with knowledge, skills and understandings that mould them as global citizens.

Science Communication is increasingly seen as a critical skill required of our graduating students. Marie understands the importance of such skills and it is clear she had devoted considerable effort in designing and building meaningful curricula in 'Science Communication' that are both engaging and which build meaningful knowledge and skills for students.

.....Head, School of Environment

The significance of SCIGEN is the transferable skills it develops in response to a growing demand for science communicators across industry. As a Career Development Consultant, I have come to respect Marie personally and professionally. Marie is always willing to discuss teaching and also has collaborated with our department on several occasions to facilitate careers events. She is a pleasure to work with and always has so much energy whilst giving everything she does her utmost attention and care.

University of Auckland, CDES Career Development Consultant

Thank you for giving me such an amazing experience through SCIGEN 101. It was you who gave me the confidence to take the Honours program, which I would otherwise have felt intimidating to do so.

Spontaneously emailed by a Stage 3 commerce student in 2014

I have significantly shaped the direction of SCIGEN 101 over my 22 years of involvement and particularly the 16 years I have been coordinator. Additionally, I have assisted with the development of the SCIGEN 201 curriculum during the six years I have been a lecturer, and especially since becoming course coordinator in 2013.

As SCIGEN is cross-disciplinary, I ensure curricula development is undertaken collaboratively with teaching staff from the Department of Mathematics and the Faculty of Business and Economics. I also foster ongoing relationships with staff in the University's support services: DELNA, the academic English language skills assessment; the School of Environment's Tuākana team, a mentoring programme for Māori and Pacific students; Libraries and Learning Services; and CDES, the Career, Development and Employment Service. These staff contribute to lectures, workshops, web resources and provide student advice. Engaging with staff from around the University prevents me from being siloed and moves me beyond my comfort zone.

I have had nothing but praise for SCIGEN 101 - 'amazing', 'brilliant', 'it's about life!' 'I run to class, I just love it', 'Marie is amazing!' I have spent the week advising students and telling them about SCIGEN 101 - one grabbed the paper that gives the outline, clutched it to her breast saying, "this is for me!" Another said, "Were there more SCIGEN courses!"

Spontaneous 2014 email from the DELNA manager recalling prospective and current SCIGEN 101 student comments and feedback

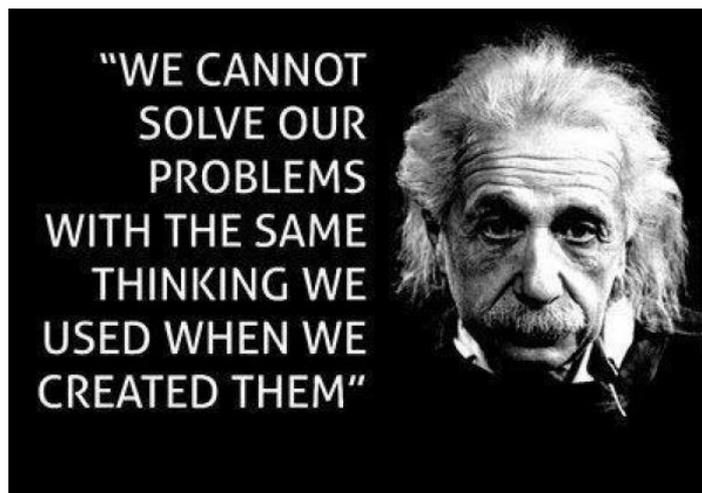


INNOVATIONS IN COURSE CURRICULA AND TEACHING PRACTICE

Connecting theory and practice

The SCIGEN curricula have a strong skills focus. My research has increasingly shown that communication and innovation practice must be underpinned by robust theory. At the SCIGEN 101 curricula review in 2006 and SCIGEN 201 review in 2013, I enriched the courses' skills focus by giving students more critical understanding about engaging in today's complex world. Learning was enhanced by introducing students to social science concepts, particularly communication, critical theory and innovation systems research.

In my GEOG 205 lecture, the inclusion of social theory is a natural extension for students familiar with social science. However SCIGEN draws students largely from the physical and technical sciences of computer science, engineering, physics, mathematics, food science and biotechnology, who are often unfamiliar with social theory. As SCIGEN seeks to build global citizens able and willing to tackle complex issues, it is appropriate for students to engage with different paradigms.



I have found that the most successful way to breakdown students' unease about engaging with unfamiliar concepts, is to support theory with real world examples. I draw examples from my research in communication and innovation systems. I find it especially useful to offer local examples to enable students to draw from their own experiences to build understanding, and they are often willing to share these in class. I also use national and international issues such as animal welfare in the European Union, mad cow disease in Britain and genetic engineering. These provocative cases allow students to experience, through group activities, multiple perspectives around issues, assisting them to understand social complexity, so important when studying communication and innovation.

'SCIGEN Speaks'

I have learnt that 'social complexity' is best experienced through interactive activities rather than taught through traditional PowerPoint lectures. However teaching up to 300 students presents enormous challenges for interactive endeavours. In 2009, in collaboration with a colleague, I designed an interactive week of three, one-hour sessions for students to engage with a topical and potentially controversial issue. The success of this was evident in students' active participation, their clear enjoyment and the richness of exam answers. This gave me confidence to make this a fixture in the 101 programme and to include an advanced interactive week in 201's programme when I became the course coordinator. These components are titled *SCIGEN Speaks*, mimicking international endeavours such as *America Speaks* where communities collectively engage in dialogue.



Students engaging in a group dialogue on the living wage

During *SCIGEN Speaks 2014*, students explored the *Living Wage* in SCIGEN 101, and *Folic Acid Fortification in Bread* in SCIGEN 201. In 101, groups were asked to formulate a unanimously agreed resolution using selected texts as preparatory reading. Students' learn by engaging in dialogue and building a negotiated consensus to formulate their group resolution. In the final session they reflect on their practice, how they reached their resolution, the difficulties they faced, how they overcame these and factors that shaped participants' perceptions. In 201, groups were given one of five perspectives and supporting literature to prepare a five-minute presentation to deliver and discuss in class. Here learning addresses more advanced theoretical concepts such as multiple realities, politics and science, and technology reception.

Evaluations repeatedly indicate the value and enjoyment students experience from engaging with case studies.

I found Marie's section great because there was lots of practical application of theory which made it much easier to understand and it was clear what would be assessed.

Lecturing Evaluation, SCIGEN 201, 2013

Examples and case studies were clearly explained. Debates, discussions, interactive activities - very powerful. Marie was clear in explaining concepts – in this sense an incredibly effective lecturer.

Lecturing Evaluation, SCIGEN 201, 2013

Information given was very intriguing and interesting to know. Helped open my perspectives on the world. Case studies were wonderful.

Student, GEOG 205, 2015

The effectiveness of using case studies in my teaching inspired me to co-author a paper with a colleague to compare and critique two science communication cases that we teach. In class I use this publication to illustrate how theory can be used to critique and challenge current practice and inform future practice.

McEntee, M. & Mortimer, C. (2013). Challenging the one-way paradigm for more effective science communication: A critical review of two public campaigns addressing contentious environmental issues. *Applied Environmental Education & Communication*, 12:2, 68-76

I challenge the misconception that all we need do is speak or write more clearly to gain public support for our actions or innovations. Through the case studies and *SCIGEN Speaks*, students learn that effective communication and innovation requires both communicating *to* and connecting *with* audiences.

Teaching the language of university: building academic literacy

Academic literacy has always been central to SCIGEN 101 and was made an explicit intent in the 2006 curricula review in preparation for the course's inclusion in the University's General Education programme, a required component of all undergraduate degrees which exposes students to disciplines outside their major. Since 2006, in collaboration with staff from Mathematics and Libraries and Learning Services, I have explicitly developed the SCIGEN 101 curriculum to enhance students' abilities to access, interpret, and analyse academic material, and to communicate this in written, oral, visual and numerical forms.

In a recent review of communication courses in the University all major Faculties nominated SCIGEN 101 Communicating for a Knowledge Society as the most effective course in the University at improving students' communication skills and understanding of how to define and package academic messages. This is high praise and a clear indication of the extent of Marie's influence and effectiveness.

Faculty of Science, Associate Dean (Academic), 2014

While some students love to write, present seminars or access literature, for many these are no more enticing than a plate of vegetables is to a small child. To successfully teach literacy, I must turn the mundane into the extra-ordinary. Vegetables must become appealing.

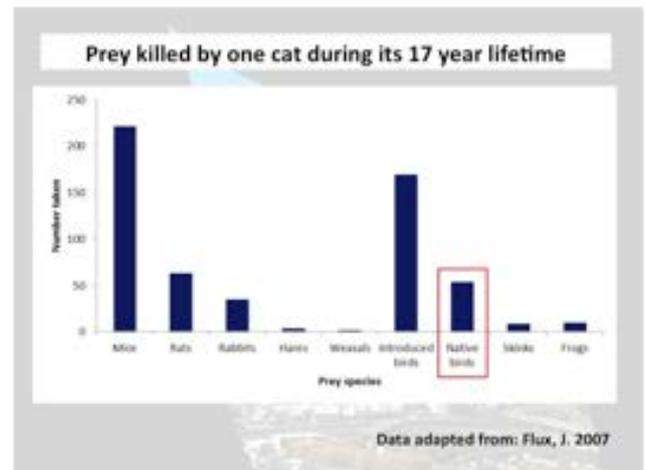
In SCIGEN 101 course assessment becomes the tasty carrot. Students choose a topic inspired by their intended major, develop a research question and present evidence to an informed general audience using three communication channels; a written research summary, an oral seminar and a visual poster. Topic selection and question development, which are challenging endeavours for many students, become learned skills.



A student presentation on whether listening to Mozart's music improves student learning.

To be accessible students' presentations must be well structured, appealing, relevant, and clear. To be defensible they must be evidence-based and referenced. The slides below are from a 2014 first-year student who was inspired to critically examine the impact of urban cats on domestic bird populations after media controversy on the topic. They illustrate the depth of critical academic literacy skills students achieve in SCIGEN 101. Students learn to access literature, interpret it, extract meaning and present this in an accessible way.

This student has learnt to pose a question and present a defensible argument and has critically examined information based on sound published evidence, rather than unquestionably consuming information through the popular media



Limitations of using prey catch data

High variability with:

- Cat Age (Flux, 2007)
- Proximity to bush remnants (Gillies and Clout, 2003)
- Urban density (Gillies and Clout, 2003)

Management Implications

“Even if exterminating cats were possible, it would be most unwise to do so until the relationships between cats, rats and birds are more fully understood” Bull, 1953

Cat Ownership Implications

Cats kept indoors at night

- Caught fewer rats
- No difference in birds caught

Keeping cats in at night is counterproductive as this is when rats and mice are caught

Woods, M., McDonald, R. and Harris, S. (2003)

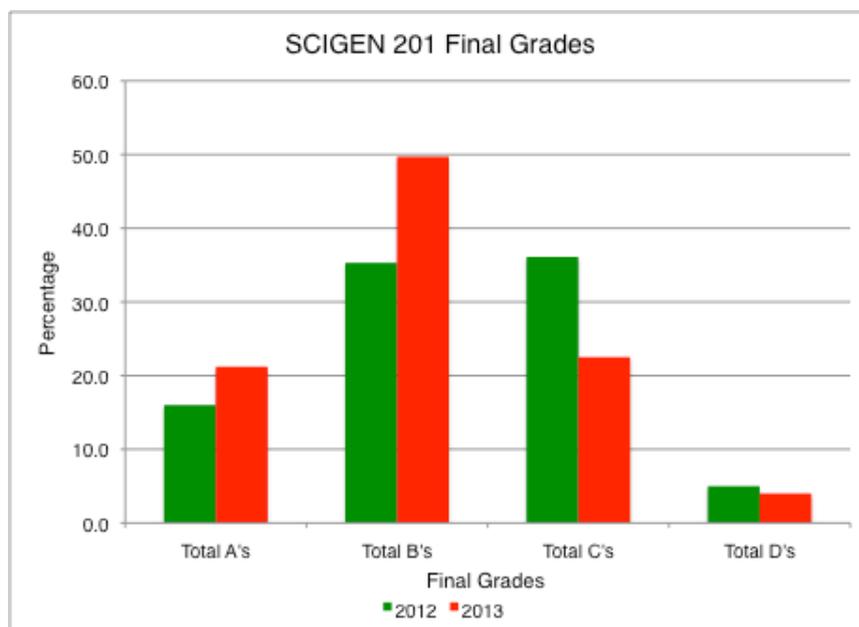
Conclusions

- Cats directly impact urban native bird populations through predation
- High variability in catch rates between individual cats
- True impacts on native bird populations is not possible to determine from prey catch data
- Cats benefit birds by predateding rats
- Eradication of cats cannot be considered without also factoring in rat eradication
- Let your cat out at night

My focus on academic literacy and integrity in SCIGEN 101 lectures, workshops and web-based resources has a positive effect on literacy levels in assignments and the exam. Of note is the low incidence of academic integrity concerns.

Academic literacy was made an implicit intent of SCIGEN 201 after the 2012 annual course review revealed evidence of poor literacy in assignments and the exam, low levels of engagement with quality literature and inadequate referencing. When I became the course coordinator in 2013, I applied the learning from SCIGEN 101 to address the academic literacy concerns in this 200-level course.

In collaboration with the course tutor, we designed a comprehensive tutorial programme to support the course assessment, as many students had low English literacy and were anxious about writing their assignments and exam. Students' increased confidence writing in the narrative form is evident in a comparison of final grades between 2012 (*green*) and 2013 (*red*), with a marked rise in the percentage of A and B grades and reduction in C and D grades.



Marie understands students' unique qualities and English level, so things like academic writing do not present too much difficulty, especially to someone like me who has never really enjoyed writing.

SCIGEN 101/201 student (2010, 2013, 2014)

BUILDING BLOCKS FOR LEARNING

Relationships matter

My teaching follows a simple philosophy – relationships matter. University is an invigorating environment, but for many students, particularly those in their first year, it can be overwhelming. I remember beginning university and finding it full of dichotomies: strange but familiar, overwhelming but enlightening, frightening but exciting. University made the world seem a very big place. Many students openly say they do not realise how big a step they must take when making the transition from school to university.

As a teacher I believe building relationships through dialogue enhances students' enjoyment and engagement in learning. Dialogue, is 'magical' as it has unique transformative qualities that other forms of 'talk' simply do not possess¹. Dialogue breaks down student / lecturer, disciplinary and social barriers. I arrive early for lectures to converse with students, so we get to know each other as individuals. I make a point of addressing students by their name, in emails, lectures, and my office hour. My office is not managed by a clock, so students have time to share their thoughts or concerns. If more time is needed to work through issues, we arrange time.

Engaging students in dialogue in a lecture transforms the teaching space into a learning space. It humanises the student / lecturer relationship. As a social scientist I am conscious of the power differential in relationships. I believe students' learning is best achieved when they feel comfortable to ask questions, to seek help, to challenge, and to engage in conversation.

Marie went out of her way to help people. The best lecturer at the town campus. Very knowledgeable, approachable, GENUINE.

Lecturing Evaluation, SCIGEN 101 2012

Your enthusiasm, approachability, experience, friendliness, kindness and overall personality. You cannot improve what is already perfect.

Lecturing Evaluation, SCIGEN 101 2009

¹ Yankelovich, D. (1999). *The Magic of Dialogue. Transforming Conflict into Cooperation*. New York: Simon & Schuster.

Students connecting with students

Students love learning from other students. Anonymised exemplars from past students are particularly useful for teaching in lectures and tutorials. Exemplars enable students to critique work against the marking rubrics.

I encourage SCIGEN 101 students to attend other students' presentations to support their classmates and to learn. Students experience the diverse range of topics studied by others. As 'experts' of their topics, the student presenter becomes the teacher. It is inspiring to watch a Stage 3 finance student captivate a Stage 1 physics student with a seminar on how ratio analysis can be used as a predictor of corporate bankruptcy. I recognise the experience of presenting to an audience extends many students out of their comfort zone. I provide a supportive environment to enable even those with significant personal anxiety to present. Their sense of accomplishment is very visible. I observe students openly sharing their techniques for resolving issues they confronted when constructing and presenting their talks.

I was surprised how much I enjoyed this course. This was a general education paper for me. I was a bit anxious about having to give a presentation. Marie provided techniques to help overcome the issues I had. I feel that I have gained a new understanding of how to communicate effectively. This had done wonders for my self-esteem. Thank you for being so understanding and a motivational lecturer.

SCIGEN 101, Lecturing Evaluation, 2008

A group assignment in SCIGEN 201 encourages team-building and collaboration towards a shared goal, a critical skill for successful innovation. Tutorials provide a learning space for students to negotiate, share and collaborate. Although students feel uneasy about group assignments, fearing individual marks may be reduced by poor performers, we observe students developing a strong sense of collegiality which enhances their learning. A self-reflection was introduced in 2014 so students could critique the effectiveness of their group. This led students to take greater individual ownership of the shared learning objectives and only one group required mediation to resolve personal differences compared to six in 2013.

We engage 'students' as lecturers. The student organisation *Chiasma*, which creates links between the University science community and high-tech industries, lectures on networking. This exposes students to a progressive and connected group encouraging them to attend and network with industry and prospective employers at *Chiasma* functions. *Chiasma* is an exemplar of students who are engaged with industry. Past students are also invited to join industry leaders and contribute to an inspirational SCIGEN 201 session so students hear from leading and new science entrepreneurs.

I attended a conference last week and I used the methods you taught us for my presentation and also networking. The result was amazing. I'm really happy that I took this course and have learnt a lot from you.

SCIGEN 101 2013 PhD student emailed two months after completing the course

A stepped approach to assessment

The SCIGEN 101 assessment provides students opportunities to take an active role in their learning development as they progress through internal assignments. As students present their research topic through three different communication channels they reflect on assessment comments from their first assignment combined with their own self-reflection to aid the development of subsequent assignments. Learning leads to personal growth as students see their course achievement beyond the attainment of a mark.

Self-assessment sheets assist students to reflect on their work before submitting it. Students critique and adjust their work and actively engage with the assessment rubrics.

Integrating what we learnt and applying it practically helped the information to stick and be remembered, it also helped develop my skills progressively through feedback from each assignment.

SCIGEN 101, Course evaluation, 2013

Exposing the creative

Society stereotypically views scholars as earnest individuals who only a select few can understand. I break down this stereotype by exposing students' creativity. To do this I must overcome ingrained myths that inhibit creativity such as, expert knowledge is dry, inaccessible and complicated.

Having students choose their own topic of investigation for SCIGEN internal assessment allows students to be creative and apply their learning within a context that is relevant to them. Written English skills, essential to tertiary students and often their weakest skill, become less onerous when students are creative.

I use creative ways to assess student learning. Learning academic writing does not need to be writing intensive. The 300-word research summary SCIGEN 101 students submit as their first assessment requires the same skills as a 2,000 word essay. It encourages students to think about the words they write.

Academic posters allow students to express their work visually. Students learn to think creatively about complexity to make knowledge accessible. Below are examples of the breathtaking array of students' topics from the Arts, Law, Science, Engineering and Commerce that have been creatively communicated through an academic poster.



SCIGEN 101 posters from students majoring in biology, accounting and psychology.



SCIGEN 101 posters from students majoring in politics, law and engineering.

My experience and enjoyment teaching academic poster communication has seen me invited, since 2009, to run postgraduate workshops across the University. These support postgraduate students preparing posters for disciplinary conferences and the University's *Exposure* competition, which showcases student research, and where I am regularly one of the judges.

THE CHALLENGE OF CROSS-DISCIPLINARY COURSE COORDINATION

Cross-disciplinary courses create opportunities that lie in the breadth and richness of their teaching. They also present challenges, particularly around course coordination. While effective coordination is a requirement for all courses, it is a particular demand of cross-disciplinary courses, which may quickly become fragmented if not carefully planned and managed to maintain coherency between different course components. Students' learning is enhanced when they understand how each of the lecture components contributes to the course's overall objectives. This requires the transition between course components to be seamless so content, while different, builds on previous learning. To achieve this I spend considerable time collaborating with colleagues from different departments to develop course content and mentor new staff.

Evaluations clearly show that students feel secure in courses that are well structured and coherent.

Marie is brilliant. Pay rise for her. Make her in charge of everything

Lecturing Evaluation, SCIGEN 101, 2009

I would just like to say a big thank you!! I have enjoyed this paper so much. Thank you for your help when I asked all the silly questions and for being understanding when I asked for an extension. I loved your lectures and the way you presented them, you made going to class very enjoyable.

Spontaneous email from a BSc student, SCIGEN 101, 2009

When I began coordinating SCIGEN 201 in 2013, the 2012 course evaluation indicated overall student satisfaction was low, despite individual lecturing evaluations being positive. Students found the course fragmented.

Based on my experience with SCIGEN 101, I worked with my Business School colleague to improve its coherence and relevance. We rearranged the lecture schedule to improve flow; produced a detailed student course manual; developed, with the course tutor, a tutorial programme to support lecture content, enhance connection between the different teaching components, and provide a learning space for the group assessment, which students did not enjoy. Additionally, I grounded my lectures covering the social implications of technology in social science theory to more cohesively connect and bridge between lectures presented by the Faculty of Business and Economics.

A comparison of the surveys from 2012 (*below left*) and 2013 (*below right*) show a positive student response to these changes. The improved evaluation indicates the course is moving in the right direction, but remains a work in progress, to continuously improve coherence and relevance.

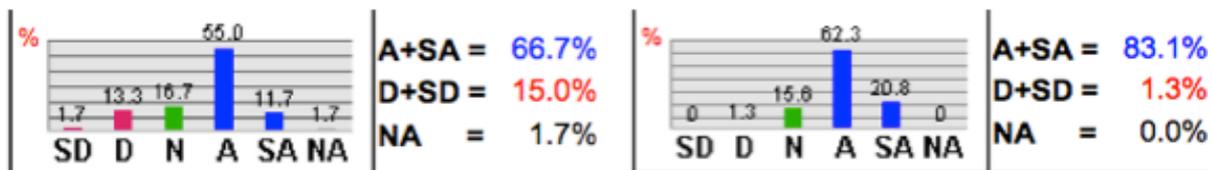
SCIGEN 201 - 2012

Fragmented course structure affected student satisfaction

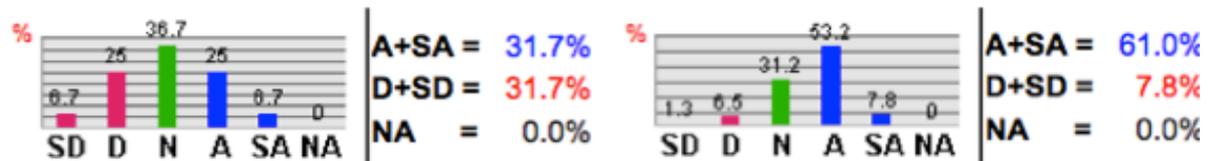
SCIGEN 201 - 2013

I was appointed course coordinator & implemented significant change to course structure, content, delivery, & learning support

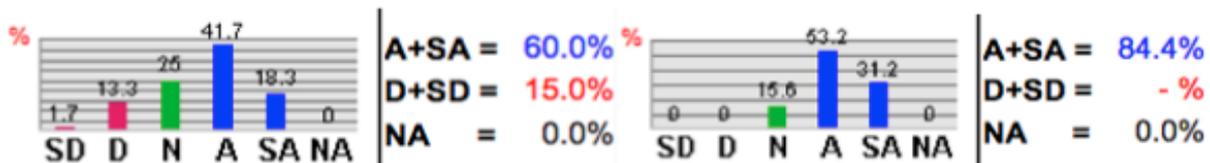
The course content was structured in a clear and logical manner



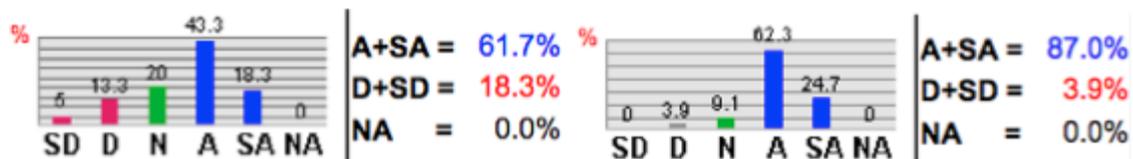
I had a clear idea what was expected of me in this course



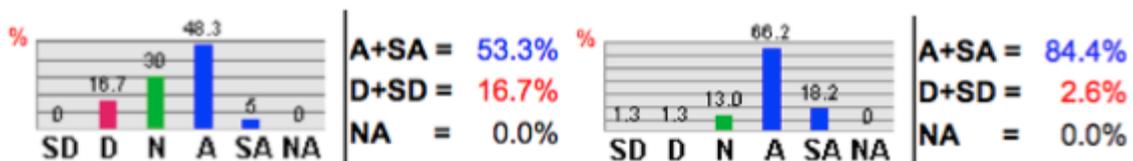
The course resources and materials helped me to learn



I was clearly informed of how my learning would be assessed



Overall, I was satisfied with the quality of this course



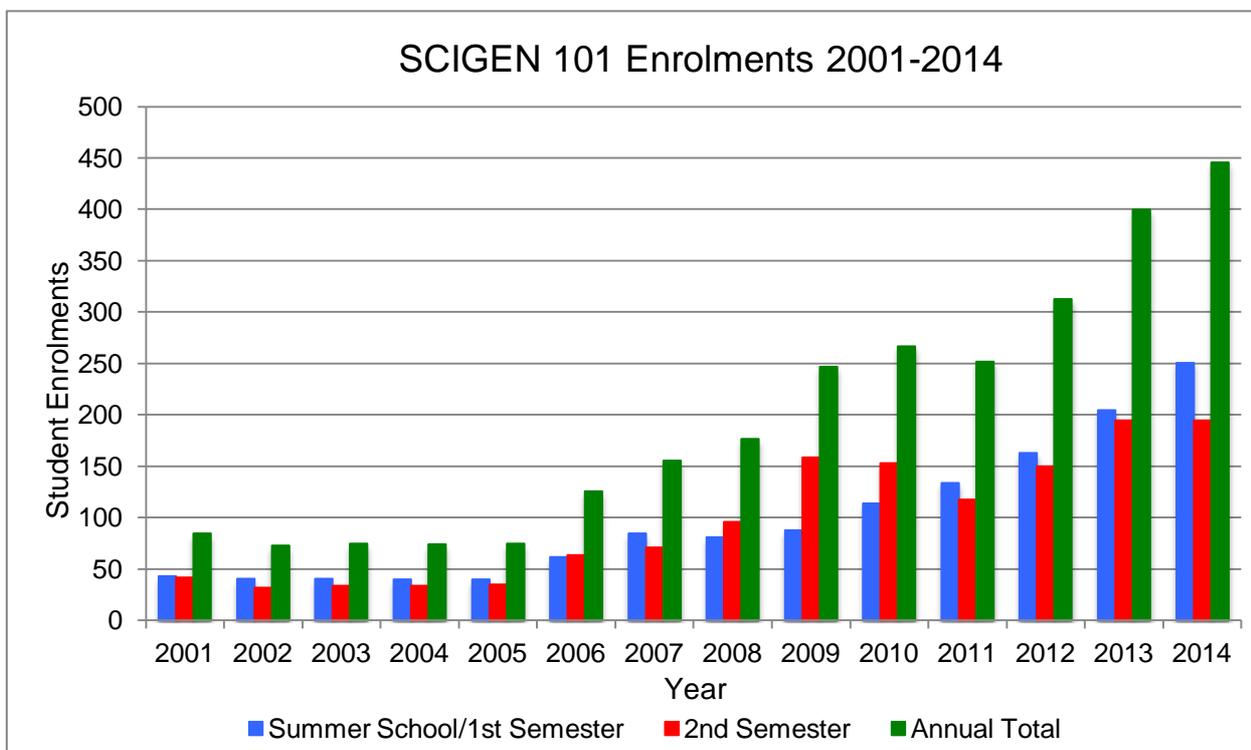
EVIDENCE OF TEACHING EFFECTIVENESS

Lecturing and course evaluations provide valuable feedback for assessing how a course and my teaching are received. These are always used during annual course and teaching reviews to make improvements.

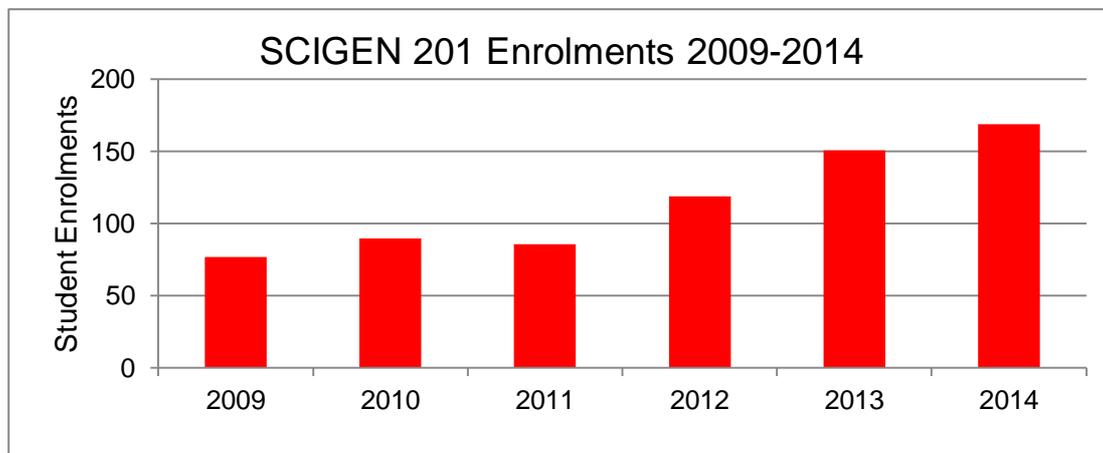
A particular achievement is that SCIGEN 101 course evaluations have shown sustained student satisfaction, despite a 20% compounding annual increase in enrolments that has seen annual enrolments increase from 95 in 2006 to 445 in 2014.

SCIGEN 101: Overall, I was satisfied with the quality of this course							
<i>(Mean of evaluation responses - out of 5)</i>							
2006 S2	2007 S1	2008 S1	2008 S2	2009 S1	2009 S2	2010 S1	2010 S2
4.29	4.40	4.40	4.30	4.26	4.27	4.39	4.35
2011 S1	2011 S2	2012 S1	2012 S2	2013 S1	2013 S2	2014 S1	2014 S2
4.29	4.37	4.10	4.48	4.37	4.37	4.22	4.38

From a niche course taught to around 40 science students in 1999, SCIGEN 101 has grown into a significant undergraduate course, offered in both the science schedule and General Education programme. It is now taught in semesters one and two to 450 students annually, with enrolments anticipated to rise to 600 in 2016.



SCIGEN 201 has experienced a 17% compounding annual increase since 2009. The growth of SCIGEN reflects the increasing reputation of these courses within the student community and shows that students value communication and innovation for their learning at university and beyond.



Unlike GEOG 205, where I lecture to second-year geography students, SCIGEN attracts a wide cross-section of students from science disciplines and other faculties, with a strong cohort from Business and Economics. Students in both SCIGEN courses come from all year levels including a small cohort of PhD candidates in SCIGEN 101 who enrol as part of their provisional year requirements. I never underestimate the challenge of teaching this diversity of students, which is further complicated by students with variable levels of English competency.

SCIGEN attracts a large number of international students, who are well represented in the top grades of both courses. With an increasing cohort of Māori and Pacific students in SCIGEN 101, I sought support from my School's Tuākana support team with whom I have a long-standing relationship through my management of their website. The course now has a Tuākana tutor who runs workshops to assist students choose their assignment topic and provides individual support to students whose first assignment indicates they need learning assistance.

The enrolments and student diversity present significant challenges in managing large class sizes while engaging students in the learning process and meeting their pastoral needs, both central to my teaching philosophy. Successfully finding innovative ways to inspire my teaching and stimulate my students to meet their challenges makes teaching personally rewarding.

Marie's courses are increasingly attracting a particularly wide student body from multiple faculties. This student diversity also underscores the excellence of her teaching and the importance of the curriculum she had developed for our students.

..... Head, School of Environment

Mrs Marie is an excellent teacher. I like her that's very important. If I don't like a lecturer there is no way to study. Overall I think she is great, if I have chance to study some other course from her I will do it.

Lecturing Evaluation, SCIGEN 101, 2011

Peer observation

To further my professional development, this year I requested staff from the Centre for Learning and Research in Higher Education (CLear), to observe a lecture for SCIGEN 101. Given the rapid increase in student numbers I sought input to my practice of engaging students in a large lecture format. The feedback has enabled me to reflect on my teaching practice by highlighting my current strengths and offering valuable input on ways to enhance student engagement.

Marie is an experienced and expert teacher driven by a desire to enhance the learning of her students. She communicates and structures her teaching clearly, and thinks carefully about how best to “pitch” her class and content to match the learning needs of her students and to fit with the “narrative” of the course as a whole. In addition, her teaching is informed by a keen interest in continually improving her teaching through reflection and peer review.

...Students’ ideas were woven into the lecture in such a way that it was apparent that she and the students were constructing meaning together. And it was clear that for her, as she reflected, “relationships matter”: she was approachable before and after the lecture, and during the group discussion and debrief.

CLear feedback, 2014, from observation of SCIGEN 101 lecture



Engaging with a student following a lecture

BEYOND THE CLASSROOM: EVIDENCE OF LEADERSHIP AND SCHOLARSHIP

To teach communication effectively I must be an effective communicator. Practising what I teach keeps my teaching honest. For 12 years I have coordinated and developed the School of Environment's outreach to our communities of interest, particularly school teachers and their senior students. Outreach demands innovative teaching techniques and platforms to connect to our diverse audiences. Effective knowledge communication must not only connect with people's minds, it must also connect with their hearts.

Connecting with our future

For 10 years I have coordinated geography curriculum events for Year 12 and 13 students from Auckland's secondary schools. These attract up to 400 students each year. The inter-school quiz, the final event in our 'Experience Geography' day for Year 12 students, fosters a fun competitive rivalry between participating schools.



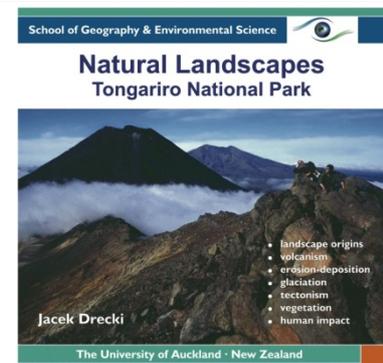
Teaching the teachers

Secondary teachers value connecting with tertiary sector specialists from their fields. I coordinate seminars and fieldtrips that develop secondary teachers' understanding and teaching of geography, geology, environmental science and management.



Reaching out across New Zealand

I collaborate with a variety of academic staff to coordinate the production of teaching resources for secondary teachers across New Zealand, to meet specific curriculum needs that enhance teaching practice in our secondary schools.



Story-telling

CD: Cook's First & Second Voyages to New Zealand

Engaging the very young is a real challenge. To connect primary and intermediate school children with concepts taught in geography and environmental science, I developed two interactive computer programmes for our *Incredible Science Day* activities that take children around New Zealand with James Cook. Children travel from England on *HMS Endeavour* and *HMS Resolution*. On their way the children answer fun multi-choice questions to win stars. Story-telling is one of the most effective ways to connect with people.



So where are they now?

DVD: Make Your Mark on the World: Careers in Geography, Geology & Environmental Science

To showcase the diverse range of careers available in the environmental field, I developed a DVD with fellow senior tutor, Joe Fagan. This popular 28-minute film for prospective students, takes viewers on a journey to visit 12 of Joe's friends who studied with him at the University of Auckland to see where they are now.



Casting a lens on Earth Science

DVD: Study Earth Sciences at The University of Auckland

To introduce our new Earth Sciences programme to prospective students, I coordinated the development of a short six-minute film clip to capture the wide diversity in the programme's teaching.

<http://www.env.auckland.ac.nz/earth-sciences>



Inside the University

- 2009 – 2013: Poster workshops, Student Learning Centre
- 2009 – 2013: PGSA Exposure Competition, annual poster workshop for students entering the 'Exposure' Postgraduate Competition
- 2005 – 2014: Exposure Poster Competition Judge
- 2013 – 2014: Three-Minute Thesis Judge (preliminary rounds)

I've been meaning to thank you for the very useful Exposure poster workshop you've given. I've changed nearly 90% of my original poster after what you've shared and pointed out during the session. As a result, my poster has won third place for Exposure; as well as first place for both the Faculty of Science poster competition and the Department of Computer Science poster competition. I attribute its success largely to having attended the workshop so...THANK YOU VERY MUCH!

Postgraduate Student spontaneous feedback, 2012

Faculty and Departmental Committee Memberships

Faculty of Science E-Learning Committee

Faculty of Science Web Advisory Committee

School of Environment Communications Committee

School of Environment Student Development Committee
(explores innovative approaches to enhance teaching practice)

Awards

Excellence in Equity Award 2012: School of Environment Tuākana Programme, Sustained Achievement (Faculty of Science) – team member managing Tuākana webpage.

Outside the University

- 2010 – Present: Member of the Joint Agencies Kauri Dieback Technical Advisory Group where I advise on communicating biosecurity.
- 2009 – 2012: MAF Biosecurity Science Advisory Group – advising MAF on improving science uptake around biosecurity.

FINAL REFLECTIONS

My teaching is not a solo endeavour. It is enriched by the relationships I build with my colleagues, and my students who keep me searching for innovative ways to interest and engage them and who teach me about their understanding of the world. It is further enriched by knowledge I gain from my research that shapes and informs my understanding, and by the wide range of experiences and people I encounter in my work outside the University.

Sustained teaching excellence requires sustained energy and passion. This can only be achieved if my teaching evolves. As a social scientist, reflexivity is central to my research practice. As a teacher it is equally important. Reflexivity keeps me searching.

Over 22 years I have been able to teach, research and practise communication and innovation – subjects I am passionate about. As a teacher my greatest enjoyment is watching my students develop their skills and build confidence as articulate communicators. To play a part in this development is a constant privilege.

When I started my first year of university it was definitely stressful getting used to the way lectures and lecturers worked. Marie was very welcoming and helped me greatly in not only understanding the course better but also the university. Her style of lecturing was humour-filled, good-natured and entertaining whilst being incredibly informative. As a science conjoint student, she greatly helped me to understand the way science at university worked. I am yet to get a lecturer who is as approachable as Marie.

SCIGEN 101 student, 2013



TEACHING EVALUATIONS 2009 – 2014

SCIGEN Teaching Evaluations									
Course	SCIGEN 101	SCIGEN 101	SCIGEN 101	SCIGEN 101	SCIGEN 201	SCIGEN 101	SCIGEN 201	SCIGEN 101	SCIGEN 101
Year Semester	2009 S2	2010 S2	2011 S2	2012 S2	2012 S1	2013 S2	2013 S1	2013 S2	2014 S1
Responses / Enrolments	94 / 159	79 / 153	60 / 118	73 / 150	50 / 119	92 / 195	64 / 151	92 / 195	115 / 249
Evaluation Questions	Percentage of responses that Agree / Strongly Agree								
<i>The lecturer was well prepared for the lectures</i>	98.9%	98.7%	100.0%	98.6%	100.0%	100.0%	100.0%	100.0%	97.4%
<i>The objectives of the lectures were clearly explained</i>	95.7%	92.4%	98.3%	89.0%	92.0%	98.9%	93.8%	98.9%	93.9%
<i>The lecturer stimulated my interest in the subject</i>	91.5%	84.8%	88.3%	83.6%	90.0%	91.3%	75.0%	91.3%	79.1%
<i>The way the lecturer presented material assisted my understanding of the subject</i>	98.9%	89.9%	93.3%	94.5%	94.0%	98.9%	92.2%	98.9%	87.0%
<i>The lecturer used educational technologies in ways that supported my learning</i>	95.7%	92.4%	90.0%	94.5%	86.0%	100.0%	87.5%	100.0%	88.7%
<i>I found the lecturer approachable</i>	94.7%	94.9%	90.0%	83.6%	88.0%	95.7%	89.1%	95.7%	87.8%
<i>The lecturer responded to students questions in a constructive way</i>	93.6%	93.7%	91.7%	86.3%	88.0%	95.7%	90.6%	95.7%	87.8%
<i>The lecturer stimulated my engagement in the learning process</i>	96.8%	82.3%	88.3%	80.8%	88.0%	88.0%	81.3%	88.0%	80.0%
<i>Overall, the lecturer was an effective teacher</i>	98.9%	94.9%	96.7%	94.5%	96.0%	100.0%	92.2%	100.0%	93.9%