Using podcasting and blogging to create and share open educational resources
Usando podcasting *e* blogs *para criar e compartilhar recursos educacionais abertos*

Mark McGuire
Design Studies, University of Otago
New Zealand
mark.mcguire@design.otago.ac.nz

Resumo: Este artigo analisa uma iniciativa de ensino que envolveu a utilização de *blogs* e *podcasts* para criar e compartilhar conhecimentos no *Open Educational Resources* (OER). Neste projeto, os alunos produziram esses recursos como parte integrante de seus cursos, e os esforços foram feitos para que pudessem ser utilizados pelos estudantes em outros cursos e pela comunidade em geral. Explica-se o processo, os resultados são descritos, e reflete-se sobre a eficácia desta abordagem. Algumas das barreiras que inibiam a colaboração efetiva são discutidas e destaca-se a necessidade de se permitir que os alunos se concentrem em assuntos de sua própria escolha. Concluiu-se que é melhor utilizar este tipo de recurso para promover a participação efetiva entre os "Open Students" e outros que possam criar e fazer uso dos *Open Educational Resources* do que focar a questão nos recursos atuais.

Palavras-chave: *open educational resources*, *podcasting*, envolvimento.

Abstract: This paper reviews a teaching initiative that involved the use of blogging and podcasting to create and share Open Educational Resources (OER). In this project, students produced these resources as an integral part of their coursework, and efforts were made to enable them to be used by students in other courses and by the community at large. I explain the process, describe the results, and reflect on the effectiveness of this approach. I discuss some of the barriers that inhibited effective collaboration and I highlight the need to allow students to focus on topics of their own choosing. I conclude that it is better to foster effective engagement between "Open Students" and others who can create and make use of Open Educational Resources than to focus on the actual resources.

Keywords: open educational resources, podcasting, engagement.

INTRODUCTION

The OECD defines Open Educational Resources as "accumulated digital assets that can be adjusted and which provide benefits without restricting the possibilities for others to enjoy them." These can include learning materials, software to assist in the development, distribution and use of these materials, and licenses. (GIVING KNOWLEDGE for FREE, 2007, p. 10). In a comprehensive overview of the development of the OER movement, Yuan *et al*. discusses three dominant models that have emerged in the higher education sector (2008, pp. 11-12). Each is associated with a specific institution and can be differentiated by their structure, goals, and cost. The MIT model is highly structured and requires centralized, dedicated staff for the creation of courseware. Their goal of producing open versions of 1,800 courses was launched in 2001, with an estimated cost of US$ 3,600,000 annually. The Utah State University model utilises a structure that is a mixture of centralized and decentralized approaches. Their aim is to create as many open courses as they can without a fixed target, and the annual cost of the project was estimated to be about US$ 110,000 per year. The Rice University model is highly decentralized, relies on volunteer labour, and has no fixed goal. The cost of their approach is very low, partly because they have entered into collaboration with

several other institutions around the world. Unlike the approach adapted by MIT and Utah, the open course resources produced by Rice University are not comprised of whole packaged courses, but of small, modules that can be assembled by the user to suit specific needs and contexts. Of the three approaches, the Rice University model is likely to be the most sustainable, because the costs are modest, expertise is shared between the participating institutions, and the modular nature of the resources means that they are more flexible and adaptable. It should not be surprising, then, to discover that by late 2009, MIT was finding it increasingly difficult to raise the funds required to continue creating open versions of its courses (at a cost of between US$ 10,000 and US$ 15,000 per course), and Utah State University was forced to suspend their OpenCourseWare initiative due to a lack of funding (SWAIN, 2009).

To a significant extent, all three of the models discussed above place the institution, rather than the learner, at the centre of the process. In an article that explores the potential usefulness of OER for informal adult learners, Paul Richardson comments that a more learner-centred approach is only found in organisations that recognize the value of learner control (2009). The project described in this paper attempts to enable significant learner control by placing students at the centre of the production of Open Educational Resources that can be used by informal learners in the community as well as by other students engaged in formal education. Instead of focussing exclusively on the open nature of educational resources, we should also emphasise the importance of openness in our roles as learners and teachers. In his Academic Evolution blog, Gideon Burton defines an "open scholar" as "someone who makes their intellectual projects and processes digitally visible and who invites and encourages ongoing criticism of their work and secondary uses of any or all parts of it – at any stage of its development" (BURTON, 2009). In a presentation delivered as a Webcast and archived as part of Athabasca University's activities to mark Open Access Week, Terry Anderson explains that Open Scholars archive and share their work, use and contribute to Open Educational resources, publish in open access journals, and lobby for copyright reform. He believes that Open Scholars should support Open Students, who can be engaged in meaningful work as co-creators of content (ANDERSON, 2009).

PROJECT OBJECTIVES

In an effort encourage Open Students, and to practice Open Scholarship myself, I incorporated the production and use of public blogging and podcasting into two courses that I coordinated in 2009. DESI436 (Design Collaboration) is a 400-level full year (26 week) course that I teach in conjunction with SCOM 407 (Digital Design for Factual Communication), which is part of the Master in Science Communication programme. There were 12 students in this combined course. DESI222 (Communication Design Project) is a 200-level second semester (13 week) course that had 48 enrolments. The DESI446/SCOM407 students worked in small groups to produce a blog and a set of podcasts on a topic relating to the overall theme of sustainability. The blog titles that they chose were Envirokids (sustainable education), Voting With Your Fork (sustainable food), Sustainable Sausage (sustainable students), Fair Trade in Dunedin (sustainable trade), and Water Ways (sustainable water) (Figures 1 & 2). The Sustainable Design Studies blog that I created to support the course included links to the five student blogs. I also maintained a Communication Design Project blog for the DESI222 students (Figure 3). As well as providing material directly related to the course (links to readings, audio interviews with guest experts, lecture slides) both of the course blogs included news, information, and resources relating to local efforts to encourage sustainable practices. The objective was to produce resources that were useful to anyone in the community who happened to find the site, while, at the same time and in the same place, providing course resources for the students. The public nature of all of the blogs and podcasts meant that they were open and accessible to students in other courses, to project clients, and to the community at large. Students were introduced to the Creative Commons Licenses and were encouraged to use the Creative Commons Attribution 3.0 New Zealand License whenever possible.
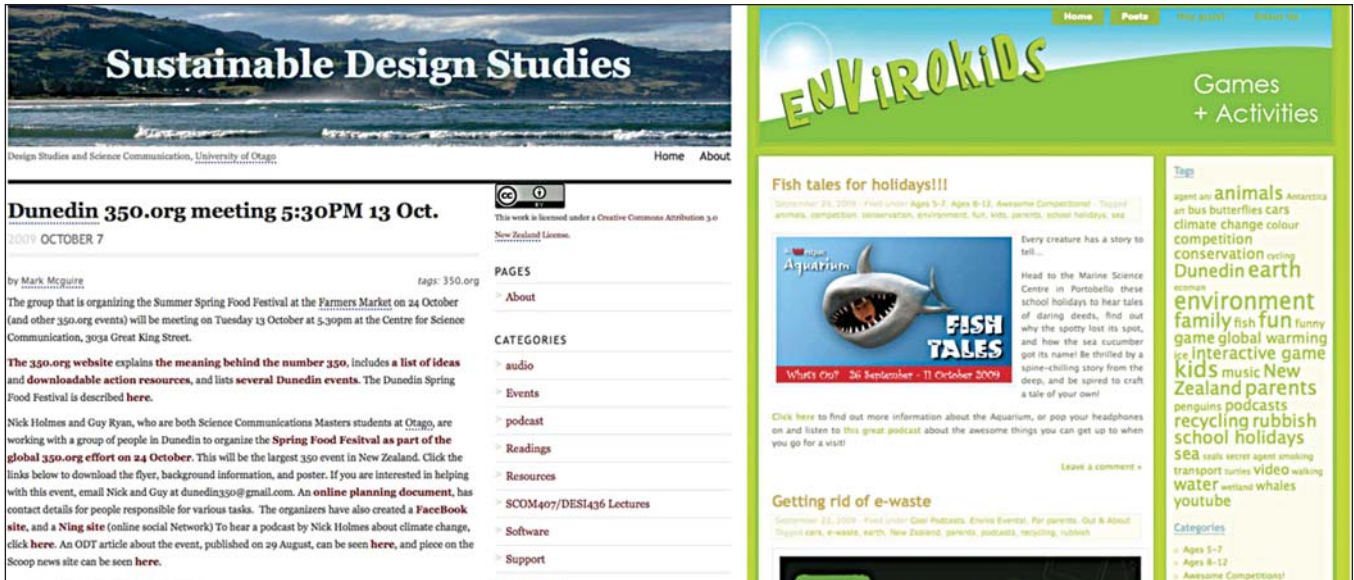
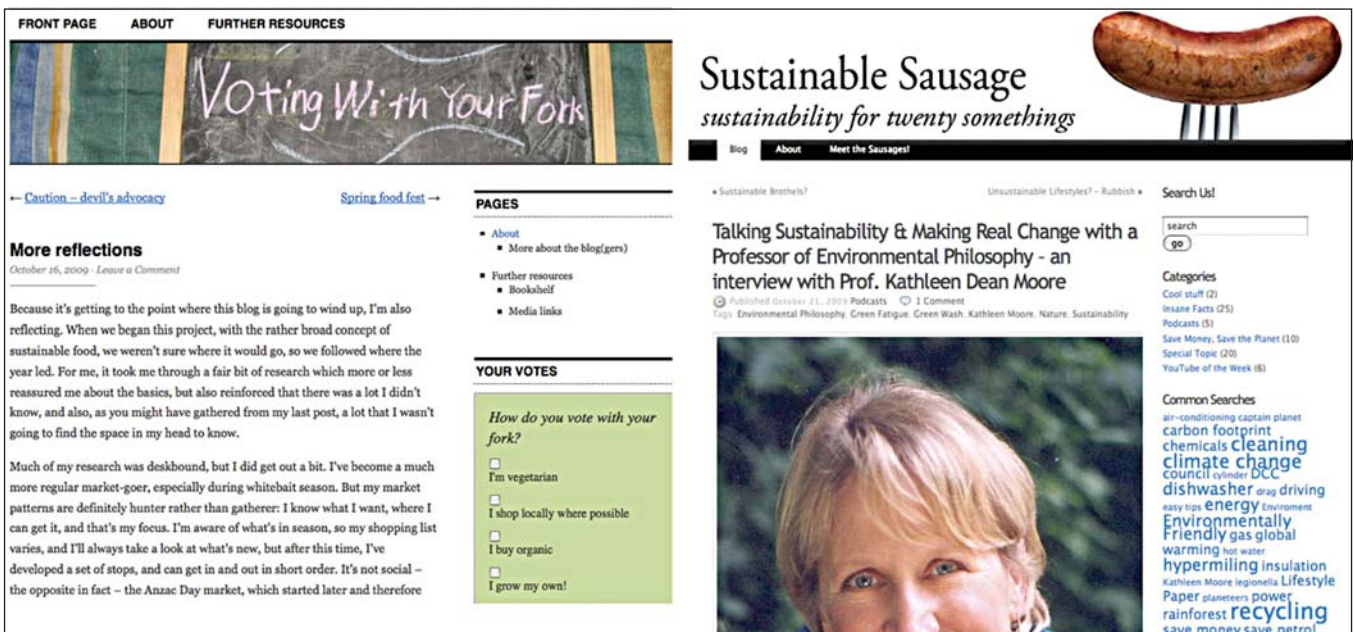**Figure 1**: Sustainability blogs: Course blog, Envirokids

Figure 2: Sustainability blogs: Voting with Your Fork, Sustainable Sausage

Granting permission to reuse the material in advance invites others to use and alter the work to suit their particular needs and context. The aim was to create a shared conversational space that blurred the boundaries that normally separate a classroom from other teaching spaces and from and the world beyond the university campus.

The sustainability of this approach is a central concern. I tried to choose tools and methods that could be used by others without the need for substantial funding or advanced technical assis-tance. As more courses are conducted in the an open manner, and as more of the supporting strategies, tools, case studies and outcomes are made freely available for others to use and modify, everyone's access to best practice teaching and up-to-date resources will increase. Hopefully, inefficiencies and duplication that results in current unsustainable practices can, therefore, be reduced. In order to support this project, the University of Otago awarded me with an ELearning Enhan-cement Grant, which enabled me to hire Tracey
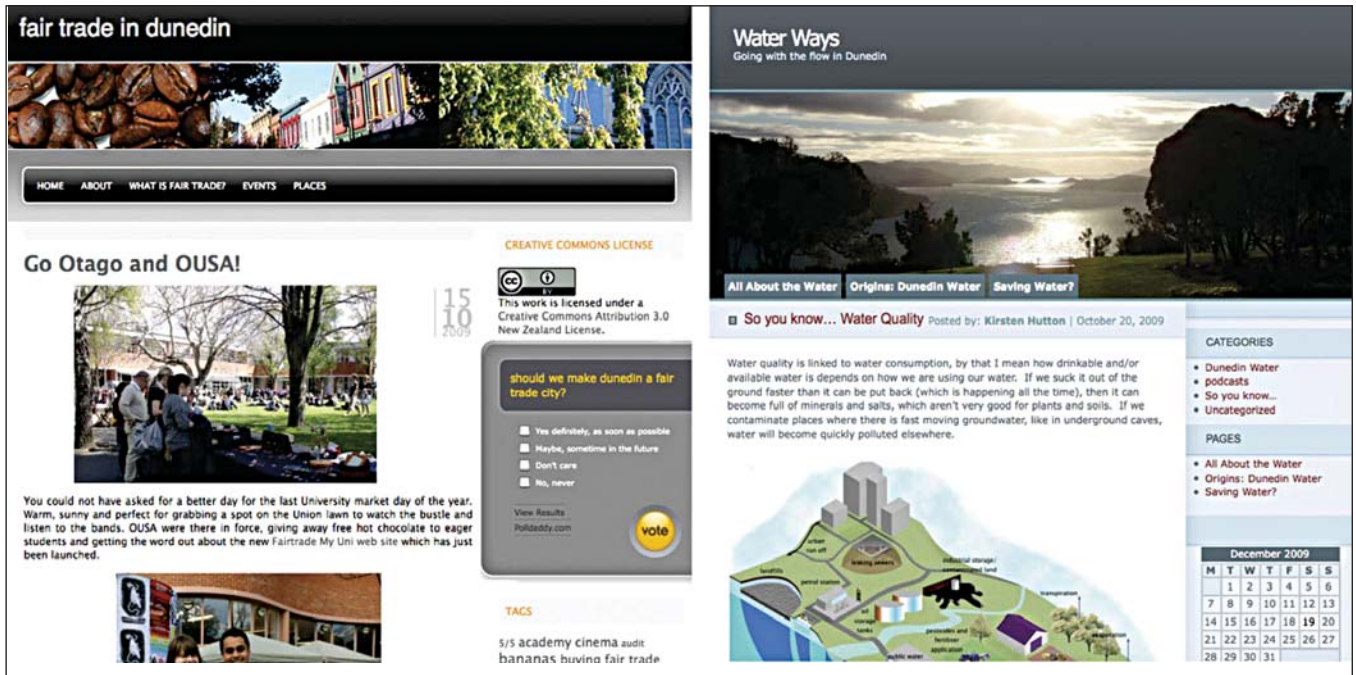
Figure 3: Sustainability blogs: Fair Trade in Dunedin, Water Ways

Gardner as a research assistant. Her role was to observe and document the process by following their blogs, conducting and transcribing interviews, and assisting in the preparation of a final report, which has informed this paper. Although funding for an assistant will not be available in 2010, this should not affect my ability to continue using these tools and methods in my teaching.

HARDWARE, SOFTWARE, AND HOSTING

Digital audio recording capabilities have become almost ubiquitous. Laptop computers, mobile phones, MP3 players, and other portable devices can often record sound (and sometimes images and/or video as well). However, the quality is often comparable to what can be captured by a Dictaphone and is unsuitable for voices and other sounds that are going to be published. Our audio interviews were recorded using flash memory-based Zoom H2 digital audio recorders. Although it is not particularly well constructed, this is one of the least expensive high quality recorders currently on the market (about US$ 200.). It has the added benefit of excellent built-in microphones. This avoids the need to purchase an external microphone, which can easily cost more than the recording device itself. It can also serve as a USB

microphone for better sound quality when recording narration directly onto a computer. I also used a Marantz PMD620, which, although about twice the price of the Zoom H2, is better built and provides excellent results when using an external microphone. Audio editing was done using Apple's GarageBand and Audacity, a free, cross-platform audio editor. Students had access to Apple Macintosh computers that were capable of running Windows as well as the Mac OS.

There are many free blogging services that allow users to create and maintain an online journal. I chose to use WordPress.com, a hosted version of the open source product that is available from WordPress.org, because it provides a good balance between ease-of-use, flexibility and expandability. As well as the expected linear blog function, it allows authors to add as many additional pages as they like. An increasing number of widgets are available to extend the capabilities of the package. The provision of a reasonable number of predesigned themes, or templates, makes it easy to get started quickly. It does not require advanced technical expertise or design skill, and the answers to the most common questions can be found on the support pages and in the active user forums. Students were encouraged to use UniTube (unitube.otago.ac.nz), the

University of Otago's digital repository (Figure 4), and to they were expected to explore external hosting services, such as the Wikimedia Commons (commons.wikimedia.org), the Internet Archive (www.archive.org), Flickr, YouTube, and others. WordPress includes widgets that enable the integration of some of the more popular services, such as Flickr, and videos from YouTube and other sites can be easily imbedded into blog posts. I highlighted the importance of external sites for locating media, uploading their own work, and for engaging with the community of users that each of these sites support. We also discussed how technical limitations and restrictive business models can limit the functionality and usefulness of these sites.

THE COURSES

DESI 436 (Collaborative Design) / SCOM407 (Digital Design for Factual Communication)

The collaborative course, DESI436/SCOM407, was identified as the most opportunity for the creation and sharing of Open Educational Resources by small mixed groups of students. A combination of blogging and podcasting was chosen as the most efficient and flexible way to produce and publish information in a variety of media. This paper seemed well suited to this approach to teaching, and the course objectives were written with this in mind. The teaching and learning objectives of the course are:

- to gain an understanding of the changing nature of the media that are used for the production and distribution of factual information, such as blogs, podcasts and

Figure 4: UniTube (Otago's digital archive) with Kathleen Moore interview by the sustainable students group

streaming video.

- to effectively apply sound design principles to the creation of digital media

- to investigate successful strategies for researching, synthesising, and sharing information

- to learn how to communicate complex concepts to a broad audience

- to gain experience in allocating tasks among group members to maximize different knowledge bases and skill sets

- to learn about sustainable practices through research and engagement with experts and members of the community

The course is project-based and has no final exam. There were three assessed components: An interim blog presentation (25%), an interim audio podcasts presentation (25%), and a final blog and podcasts presentations (50%). In semester one, the first two weeks of the course were spent discussing the aims and objectives, providing an overview of the hardware and software, and sorting out the topics and groups. As discussed earlier, the overall theme for the course, which I chose, was 'sustainability.' A class discussion led to the selection of the sub-topics: education, food, student lifestyle, trade, and water. The students then formed themselves into small mixed groups of DESI and SCOM students around these topics. Some expressed reluctance to the idea of focussing on sustainability for all 26 weeks of the course. The Design Studies students in particular felt that they had dealt with sustainability enough in other DESI papers over the years. However, when these students realised they had considerable room for movement with such broad topics, and that they were encouraged to develop and present their own narrative, their attitude became more positive.

The class met for two consecutive hours every week for the duration of the course. In the first semester, I delivered a lecture during the first hour on a topic that I though would provide a context for their work. These presentations dealt with a variety of topics, including the development of Podcasting, blogging, and social media, citizen journalism, Copyright and Creative Commons Licenses, online communities, acoustic ecology,

soundscape design, and videocasting. The second hour was allocated to group work. I provided assistance with the hardware and software as necessary and I discussed their plans and strategies with them. I published relevant resources, links, case studies, and answers to common problems on the course blog during and between these class meetings.

At week 3 some groups were already clear on what they intended to achieve and were beginning to map out a plan and structure for their blogs. They were generating good ideas and becoming more enthusiastic about their topics. This was demonstrated in the group brainstorming sessions that took place during production time. All groups considered the intended audience for their blogs and podcasts, and some were beginning to make connections with members from the local Dunedin community. We discussed who they might want to approach for interviews and the kind of questions that they might want to ask. I then went through the Ethical Approval process with University of Otago Human Ethics Committee. They approved our Information Sheet for Participants, which explained the project, and the Consent Form, which interviewees would be asked to sign to ensure that they understood that the material that the students gathered would be published and accessible to anyone.

The development and shaping of the blogs continued over weeks 4 and 5. The students were beginning to realise how much information was already available about their topic online, and they worked to refine and narrow the scope for their blog. They also tried to think of ways in which their blog might differ from others that already existed and that dealt with their topic. Most chose to tell their story in their own voice from a local perspective.

At week 5 students started to show signs of frustration over the lecture based delivery during the seminars. They were starting to question the relevance of engaging deeply with the concepts and theories discussed in the lectures, and they questioned how they related to the outcomes of the course. Some students were also questioning the integrity of blogs, and of sites like Flickr, You Tube, and Google images, and they wanted some

reassurance that the value and integrity of their work would not be compromised by the overlap of educational and informal contexts. However, some groups were starting to connect their blog to other online media such as Flickr and Facebook.

By week 6, communication with the class about administrative matters was been taking place mainly through emails, and few students were using the course blog. Interim blog presentations took place in week 7, and groups also provided Tracey and me with a written report with a clear statement about their goals and objectives for their blog. Their presentations were followed by questions, comments and feedback from us, and from their peers in the class. The groups were given formal feedback and a grade for this assessment, which was distributed by email to the groups. At week 8 students were given an overview of the Ethical Approval process and of the forms that had been approved. We discussed the importance of gaining informed consent from all interviewees.

During weeks 9-12 we concentrated on audio recording, interviewing, and editing. An overview of the audio recording equipment was followed by a discussion of interviewing techniques, in preparation for the recording and editing of their podcasts. The students were then asked to go outside and record a short interview and some interesting environmental sounds. The discussion of the results highlighted the amount of planning and acoustic awareness that is required in order to produce a well designed audio episode. I introduced the class to the concept of Acoustic Ecology and played the work of several sound-scape composers. I also took the students through the campus for a sound walk, which I recorded, and we discussed the recording after we returned to the class. Each group was asked to make a list of sounds based on three categories; sounds they liked, sounds they did not like, and notable sounds. Members from the groups were asked to jot these examples down on the whiteboard so that

Figure 5: Audio files streaming from the Envirokids and Sustainable Sausage blogs

these could be discussed, contrasted or debated with other groups. The overall impression and feedback from the students was that they enjoyed these exercises. Students were directed to the course blog to access equipment manuals and links to several sites that provided information about microphone types and placement, interviewing, the use of ambient sound and sound effects, and audio researchers, designers, and communities of practice.

Most of the class time in week 13, the last week of the first semester, was spent on a discussion of the course to date. Although their work was progressing well, the students were critical of the course structure and suggested that the whole two-hour class be devoted to working on their blogs and podcast. Rather than providing lectures and readings in advance of requiring the information, they suggested that it would be better to jump right into production, and to locate and discuss relevant literature and case studies as the need for them arose. There also seemed to be a problem with the collaborative model that led to the decision to have the students work in mixed groups. Although the group members got on well, the different levels of expertise between the Design Studies and Science Communication students meant that while some students were struggling with some aspect of the technology, others were not feeling that they were being sufficiently challenged. The students were encouraged to focus on the aspects of the project that interested them most, but it was clear that the balance of individual and group work would need to be reviewed, and the way in which the students collaborated and would have to be reconsidered.

By the beginning of semester two, the second half of the course, the groups were much more involved with the development of their blog. They were posting regularly and had developed a voice and a clear idea of who their audience was. Most found that the recording and editing of their first podcast was a difficult and very frustrating experience. However, they soon realised that others were having similar problems. They offered advice to one another, exchanged technical tips, and shared solutions. Instead of giving prepared presentations during the first hour, the time was devoted to

production. I worked with the students to solve problems as they arose. The second hour was used to present, discuss, and critique their work. As podcasts were nearing completion, the whole class listened to them and provided feedback. As they were completed, each audio file was uploaded to UniTube and placed in the appropriate folder so that it could be downloaded as a podcast. Students subscribed to the RSS feed and listened to them on their own time. However, linking the files to blog posts, where they could be streamed, seemed to be the preferred option. That way, the text and images could provide a context for the interview and sound recordings. I assessed the podcasts as they were published and provided detailed feedback by email. Work on the blogs continued. They had become substantial repositories of information, reviews, opinions, reports, and stories of local people, places, and events.

The groups gave their final presentations in week 10 and 11 of the 13-week second semester, and they received substantial feedback at that time. Weeks 12 and 13 were dedicated to completing the final podcasts, and to adding a few more posts to the blogs. Some groups used the last few posts to reflect on their work over the academic year that was ending. During week 12 most of the groups gathered and compared their blog statistics, which showed how many visits their blog had attracted over the preceding days, weeks, and months. Although most put little effort into attracting an audience to their blog, they were surprised at how many people managed to find them. Sustainable Sausage had over 1700 hits. Fair Trade in Dunedin had a total of 1902, and Envirokids attracted 1320. Over the course of the year, the students documented local events and interviewed a wide range of people, from school principals, experts on food production, Fair Trade activists, students outside a tavern, volunteer staff at a recycling depot, and each other.

DESI222 (Communication Design Project)

Although the combined 400-level DESI436/SCOM407 course was the main focus of this project, I thought it would be useful to test the effectiveness of using blogs and podcasts as a way of providing information to students (and others)

in a 200-level course that I teach. In DESI222, students completed three projects. The first was a group effort that involved the design of an identity and promotion package for a local organisation. The second was an individual project to design a piece of graphic communication for the Trade Aid shop in downtown Dunedin. The third project required them to work in groups to design an event to promote the 350.org day of climate action. I created the Communication Design Project blog (Figure 6) and used it to provide project briefs, readings, links to material shown during the lectures, audio interviews with clients, and related news and events.

Just before the course started, I discovered that Caroline, a colleague who teaches in the Design Department at the polytechnic next to the university, was also planning to give her 200-level communications students a branding project at the beginning of her course. Since her class schedule was still flexible, and the lecture theatre that was booked for my class could accommodate the students from both institutions, we arranged for everyone to meet in the same lecture theatre. We gave the lectures together for four weeks, dividing the time between us. Because the blog was public, students from both classes were able to access it, which meant that we didn't have to duplicate resources. The joint effort saved us time, and the students got the benefit of two voices. I was also able to make a connection between DESI222 and DESI436/SCOM407. Because the senior students were investigating sustainability, much of what they did was relevant for the 200-level class. Because the Fair Trade in Dunedin blog had the most comprehensive collection of local information and resources about Fair Trade, the DESI22 students used it as a primary resource for their second project.

The feedback that was collected at the end of the course about how well the course blog and

Figure 6: DESI222 (Design Communication Project) course blog

podcasts worked for the class was very positive. They found the course blog to be a convenient and an effective way to access information from on and off campus. "[I]t was real good", said one student, "heaps of examples, links to lots of material. It was just easy to scroll down and find what you were looking for. Real information rich, it was good, I thought". Students supported the idea of continuing with a course blog in the future as a way of providing information about the course as well as links to related sites and content. Most of the 48 students said that they looked at the blog at least once or twice every week. However, that still does not account for the number of visitors to the site, which reached 390 in one week and over 3,300 over the duration of the course (Figure 7). Although no effort was made to attract traffic from outside the class, most of the visitors must not have been students in the course. About 25 hits have continued to be registered every week since the course ended. However, students did not engage with the 6 interviews that were podcast and streamed from the blog. Only a few students actually downloaded and listened to these. "[O]ne. Fair Trade one" said one student. "[Y]eah I listened to the Fair Trade one," offered another. Most of the audio files were downloaded from UniTube 20-30 times.

CONCLUSIONS AND FURTHER WORK

Overall, the DESI436/SCOM407 students felt that the course was worthwhile and that they learned some new skills. However, based on their feedback and on our observations, I believe it would be better if each student worked independently on their own blog, and if the collaboration took place in a different, shared online space, such as a Ning or a Wiki. It may also make more sense for the students to choose their own topic, rather than limiting them to a particular theme. My plan for 2010 is to invite them to choose a topic that relates to their major research interest, and to assist them in engaging in their research using whatever online (and offline) tools are appropriate. The importance of making connections with people with shared interests and building a research network will be highlighted. Engaging in research as Open Students and Open Scholars, and contributing something of value to the community from which they draw, will be strongly encouraged and supported. Rather than collaborating in the production of content, students in the course could assist one another by developing and exchanging strategies and techniques for searching, archiving, referencing and sharing effectively. Since our experience has shown that blogs (and, to a lesser extent, audio podcasts) can be an effective way to provide resources to students

Figure 7: Weekly views of DESI222 (Communication Design Project) course blog

while, at the same time, offering something of value to the community, I will continue and extend their use.

Links

Sustainable Design Studies
http://sustainabledesignstudies.wordpress.com/
Envirokids (sustainable education)
http://educationforsustainability.wordpress.com/
Voting With Your Fork (sustainable food)
http://sustainablefoods.wordpress.com/
Sustainable Sausage (sustainable students)
http://sustainablescarfies.wordpress.com/
Fair Trade in Dunedin (sustainable trade)
http://fairtradeindunedin.wordpress.com/
Water Ways (sustainable water)
http://sustainablewaterdunedin.wordpress.com/
Communication Design Project
http://communicationdesignproject.wordpress.com/
UniTube Digital Archive (Otago)
http://unitube.otago.ac.nz

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