Case Study:

Online Lectures: A study to increase active learning in Political Studies

Department: Political Science

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Why did we pursue this project? What was the rationale for it, and the problem we were solving?

The aim of this project was to shift students from passively attending lectures and gaining only a rudimentary understanding of course content, to actively attending seminar sessions, and engaging with course material and resources. This project sought to achieve this by providing a series of online resources, centred around "online lectures", which were a fundamental and compulsory preparation for the face-to-face sessions that followed. Twelve "online lectures" were produced, which, with companion resources (including streaming video) encouraged deep learning behaviours, where the students make sense of the information for themselves and are able to participate meaningfully in the seminars. The online lectures were evaluated by the teaching team, production team, and students. The results of the evaluation process concluded that this new blended learning environment fulfilled its aims of increasing student engagement and enjoyment in this paper.

The target audience is second-year students at the University of Otago who are studying political studies. The second-year paper, "Special Topic: Political Communications in New Zealand ", is taken by 40 students. Students do not need to have previously taken Political Studies to take this paper and therefore have a disparate range of knowledge about political history, theory and practice. In addition, a minority of students taking the paper are international students, unfamiliar (for the most part) with New Zealand politics.

This project addresses these concerns by providing the students with a range of resource material, both of a theoretical and historical/illustrative nature, which builds a theoretical basis of understanding for students new to the topic, yet also provides more advanced material for students with a political studies background. Internet access to these materials ensured that students could access the material as many times as they wished and engage with visually stimulating material, including streaming video.

The provision of internet-based lecture materials has been tried at a large number of universities world-wide. A study conducted at Swinburne University of technology in 2003 concluded that mixed-mode delivery of a course – which included the provision of PowerPoint 'lectures" distributed online – resulted in no

significant difference in raw exam marks when compared with face-to-face deliver (Signor, 2003). However, this course – Political Communications in New Zealand – differs from that study in two key ways. First, the online lectures, while PowerPoint based, are delivered via a Flash interface which allows significantly more interaction than a PowerPoint file. Second, the course is completely internally assessed – the assessment activities are tightly coupled (both in terms of the relationship between the subject material in the lectures, seminars and assessment activities, and their temporal organisation) rather than being examined at the end of the semester.

What did we do to address the problem?

The online materials created comprise a mix of narrative (articles; images; streaming audio & video) and interactive (online lecture) resources, which, when combined with the face-to-face sessions, provide opportunities for the interactions described in Laurillard's (2002) "Conversational Framework". Specifically, the online components of the course are designed to allow the teacher to describe conceptions and set goals, and for the student to describe conceptions and achieve task goals (Laurillard, 2002).

The online lectures cater for both "sequential" and "global" learners (Sabry & Baldwin, 2003) by providing a user interface that allows the students to move through the material in a sequential fashion, or skip to points of interest and revisit sections that require more attention. In this way, the "online lectures" are a significant improvement over simply "putting PowerPoint files on the web", a method that only allows sequential viewing of material. In addition, the interface is designed to be unobtrusive and intuitive; a content-driven approach that allows the student to focus on the content, context, and activities.

Particular attention was given to the design of the online lecture interface and the arrangement/access to the companion materials. Laurillard's (2002) control features needed for ICT interface design were used as a basis for this:

Laurillard's (2002) "control feature"	Implementation in this project
Discursive	All aspects of the topic are accessible from the outset. A sequential "route" through the material is provided.
Adaptive	The student is provided with course and topic objectives, with clear guidance on how to achieve them.
Interactive	The student is provided with clear task goals.
Reflective	The amount of material in each section is clearly stated in

	the online lecture and downloadable outline.

What did the students and teachers think of the final product?

The online lecture and companion resources act as a preparation for a face-to-face session. This preparation is vital as it facilitates confident and considered involvement by the students during the seminar and thus has changed the focus from a didactic, transmission of "knowledge" from lecturer to student during a lecture session, to a small-group teaching environment where the students expect, and are expected to participate - an environment that encourages deep learning behaviours.

The questions that students are expected to consider during the on-line activities (and discuss during the seminar) are designed to allow the students to develop their own point of view by working out their own understanding and syntheses of the material (MacGregor, 1990, 23, in Mannison et al., 1994). For example, the on-line lecture in Week 2 of the course, students are guided through a series of resources related to political marketing. They are asked to formulate their own opinion on "whether or not the marketing of politics is just like marketing any other product", and to present and defend their position at the seminar session. These techniques have had a significant impact on the learning outcomes; students are demonstrating a high level of engagement with the material and are able to spontaneously link concepts and examples from previous sessions to the current topic of discussion. The "open access" to the online resources provides them with ample opportunity to re-visit and explore resources at will, to ensure they have a sound basis of understanding both before the seminar, and following the face-to-face session while they undertake assessment activities. The assessment activities are strongly linked to the proceeding seminar session and online component, ensuring continuous learner engagement throughout the activity cycle.

Members of the teaching team are seeing the benefits of moving from a transmission-based approach, which Ramsden (1992:155) describes as

> *a meaningless metaphor as far as teaching and learning are concerned. Students have to make sense of information for themselves if they are to learn anything.*

The shift from lecture-based to small group teaching has caused them to reflect on their teaching practice. The level of engagement of the students in the class with the online component is dramatically different than that in their 'traditional' lecture-based courses. Dr Chris Rudd comments:

> *when comparing the method of teaching POLS231 with the traditional lecturing approach two features in particular stand out. First, there is immediate feedback from POLS231 - you can tell whether students have read and understood the material simply from their seminar involvement.*

With an ordinary lecture, who knows? At most, you can ask for questions at the end of the lecture but either no one asks a question (does this mean they all understood the lecture material) or the same loquacious student(s) ask the questions (which those at the back of the lecture theatre can't hear and in any case, they want to just get out of the theatre as quickly as possible!).

Secondly, the seminar discussions are predicated upon nuts-and-bolts knowledge that students have accumulated prior to the seminar. This allows for analysis and argument to be focus of the seminar. It is a qualitative step-up from the traditional lecture which has to preoccupy itself with providing the basic information.

Dr Janine Hayward found that the new blended learning approach caused her to reflect on the impact of lecture-based teaching in her other papers:

The really interesting thing about this sort of teaching is that it changes the way you feel about traditional lecturing. Last week I struggled through snow to deliver a traditional lecture (in a different paper) to a class full of students who had also struggled through snow to listen to me talk. It was not a very inspiring performance, and it struck me as I left the lecture theatre that the students would have got much more out of the hour if they had stayed at home with their books and their computers, and done their own reading, thinking and activities with the guidance of an online lecture.

The technically innovative aspects of this project are centred in the flexibility of the tools used to create the resources. For the teachers, a familiar and straight-forward authoring environment (PowerPoint) allows them to concentrate on the collection, sequencing and presentation of resources and activities, rather than learning how to use an entirely new authoring tool. The use of Articulate software to generate Flash slides, which are then "dropped" into a custom-built interface, allows updates and modifications to be easily made without re-creating the entire presentation.

The benefits of the Flash interface are twofold. A Flash/HTML "package" behaves in a predictable and consistent manner when uploaded into a CMS. Unlike PowerPoint, which may open in a plugin, or in the PowerPoint application, or even save onto the clients computer without opening, the online lecture pops open in a new window, which ensures that the student is not taken away from the learning environment to view the presentation (or rendered unable to interact with other parts of the course by a full-screen PowerPoint presentation), and is able to continue exploring the companion resources while maintaining the online lecture presentation.

The second significant benefit of the Flash interface is that it provides multiple pathways through the material, as described in section 3 (above).

The educationally innovative aspects of this project focus on the use of blended learning techniques in an on-campus paper, an approach only just beginning to

be fully explored at the University of Otago. Students are freed from attending the traditional two lectures a week and are able to work through the material in their own time and at their own pace, even repeating the sessions a number of times. They are also able to structure their learning as they see fit; the online lecture can be viewed online via the Flash interface, and a Rich Text File version of the notes can be printed out by the students, providing them with a hard-copy roadmap of the material. The students, therefore, do not have to spend their time writing down the main points of the presentation; instead, they spend their time exploring the supplementary resources, answering key questions, and completing a variety of exercises and activities, in preparation for the face-to-face seminar session. These outcomes are expressed in the student evaluation of the on-line lectures:

- *You had your own time to go back and view the lecture, I ended up viewing Week 5 about 3 times. Going at my own pace has been easier.*

- *More time to think about questions. Can skim it once and then go back over it – do it at your own pace.*

The "online lecture" product was tested at three stages of the development process. An initial prototype, produced using Articulate software, was rejected by the development team due to interface and integration problems. A second prototype – based on a custom-built Flash interface – was evaluated by the Development and Teaching Teams and accepted with minor modifications. Following the interface and function modifications, the "online lecture" template was used to generate 12 lectures, and tested by a Research Assistant employed by the Teaching Team, who tested the Online Lectures according to a number of criteria (interface/usability; activity flow & workload; resource appropriateness). The product was made available to students at the start of the semester.

The teaching staff carried out a written reflective evaluation of each seminar session, recording their thoughts about the session, as well as any feedback provided by students. They comment on the progression from a "stunned" group in Week 1, to students arriving at seminars having done the required readings and activities, prepared to contribute to the session, and enjoying the activities and discussions. One of the most noticeable effects is that

> *students are building upon the knowledge gained from earlier seminars - they often make unsolicited comments linking material/discussion of earlier sessions when dealing with that day's seminar questions.*

In general, the teaching team feel that all students have at least attempted to engage with the course material, but some are still dealing with the novelty of a fully internally assessed course, the online component, and the need to regularly attend classes.

The students filled out a questionnaire about the online component of the course in Week 6 (a total of 32 out of 43 enrolled students responded). The questionnaire comprised eight open-ended questions, and was designed to

gather information about any technical problems with the material, their level of enjoyment, how well they felt the online sessions prepared them for the seminar sessions, and asked for any improvements or comments. The responses were overwhelmingly positive, barring some minor technical problems which were easily resolved, and a vocal request for more copies of required and recommended readings to be placed on closed reserve. On the whole, students reported that they enjoyed the online lectures (only one responded that they preferred a traditional lecture); with a large majority commenting the online lecture prepared them well or very well for the seminar session. A number of students commented that they particularly enjoyed the companion resources (videos, scanned graphical resources & websites):

- *Quite enjoyable having videos, visuals, websites.*

- *Most enjoyable was Week 3 lecture on campaigning with the video clips*

A key section of the questionnaire asked the students how well they understood the online activities and tasks, of critical importance as the online component was a predominantly independent learning exercise, although opportunities for collaboration via email and a discussion forum were present. The students responded:

- *[The online resources and activities] are clearly explained.*

- *Set out in clear, easy to follow manner*

- *Questions relate to readings really well. Excellent examples, pictures links etc makes it more interesting.*

Where to from here?

The combination of teacher and student evaluations suggests that the project has been successful in its objective to actively engage students in the course material and seminar sessions, although some additional modifications to the course will be made next year to address some specific issues raised in the student evaluation.

Each "online lecture" is a self-contained static HTML/Flash package and may be used in other contexts in a number of ways:

- uploaded into other learning management systems;

- integrated into an existing website;

- placed in a SCORM-compliant "wrapper", which would allow the creation of integrated assessment activates that could communicate with a CMS;

- associated with appropriate metadata and stored in a digital content repository;

- distributed via CD or DVD.

The streaming video clips are currently hosted on the University of Otago Streaming Media Server and may be used by other teaching departments at their

request. Alternatively, the clips may be distributed either individually or collectively on DVD. Since some of this material is New Zealand archival television footage (reproduced under the University of Otago's digital copyright agreement) it is easily transferable to other knowledge domains, such as History, Sociology, Marketing and Communications.

Development Tools

Macromedia Flash 6

Articulate Presenter 4.00

Microsoft Powerpoint 2000

Adobe Photoshop 7

Discreet Cleaner 5.1.2

References:

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