

## IMPROVING THE MAJOR FIRST YEAR COURSE IN INFORMATION SYSTEMS, DENISE TOLHURST

School of Information Systems, Technology and Management

### KEY ISSUES

A need for greater student interaction and independent learning

Need to embed the development of particular graduate attributes into the course

External educational consultants assisted with the major course revision

### WHAT'S IN THIS CASE STUDY FOR YOU?

This case study will be of interest to you if you would like to increase the level of active and independent learning that takes place in your course, and if you would like to find out what issues arise for students as a result of the transition from a more traditional lecture/tutorial structure to a less traditional one (e.g. where workshops make up a significant component of the course).

### ISSUES IN STUDENT LEARNING

Impetus for change:

- It was agreed in the School that there were opportunities to improve the experiences of both students and staff involved in the major first year course
- Large lectures resulted in insufficient active/small group learning experiences. It was recognised that smaller class sizes could also develop closer relationships between staff and students.
- Need for an integration of different aspects of the course (e.g. web-supported independent activities that could help to prepare students for workshops)
- Need for a course structure that encourages independent, active learning rather than passive 'reception' of course content
- Need to further develop students' information literacy, written communication, group-work and research skills
- Need to draw on and respond to student diversity
- Need to design assessment methods that support the more student-centred approach to learning proposed
- Desire to encourage student passion for the course domain

### STRATEGY

#### 1. A BRIEF INTRODUCTORY BACKGROUND

The course 'INFS1602 Computer Information Systems' is a compulsory course for students majoring in either Information Systems or Accounting. Students in numerous programs including Science, Psychology, and Arts can choose it as an elective. CIS is conducted in Session 1 and 2 in the School of Information Systems, Technology & Management. Approximately five hundred students undertook CIS in S1 2002, with about one third being first year students.

While the revised course was implemented in session 1, 2002, preparations for the revisions began in 2001. These included identifying the need for revision and research (into learning theory); establishing a working party; developing a proposal to be approved by the School and Faculty; part-time employment of two educational experts to assist in the revision of the course, including identification of on-line, video and printed resources,

### QUOTES

*Denise Tolhurst's quotes marked with initials (DT). All other quotes below are from students who took the course*

design of activities, and the writing of support materials for students and staff; and identifying resources within UNSW to support the project e.g. the Educational Development Unit (EDU) and The Learning Centre.

## 2. THE COURSE WAS REDESIGNED TO ADDRESS ISSUES IN THE FOLLOWING WAYS:

- The revised course structure acknowledges the rapidly changing nature of the discipline, focusing on the development of active learning and the development of independent and flexible learning skills. There are four main types of activities that make up the course:

### 1. Web-supported Independent Activities To Address Course Content and Develop Students Independent Learning Skills

Students are given compulsory weekly 'web-supported independent activities' (WSIA), which comprise 1.5 hours a week. These activities are linked to, and prepare students for, the lecture or workshop in the following week and upcoming assessment items.

The WSIA include tasks such as researching content (using the internet, library, newspapers etc); preparing answers to questions/case studies; preparing work to submit at workshops; reading a case study and preparing for workshop discussion; reading journal articles and other relevant materials that will have associated activities in the workshops; and meeting with a small group of workshop colleagues to prepare a presentation for the workshop.

### 2. Laboratory Access and Assistance To Support Students

To support students in completing their web-based activities, a laboratory is available exclusively for INFS1602 students for 9 hours a day from Monday to Thursday. A Laboratory Demonstrator is present for a specified three-hour period on these days to provide assistance with the software.

As a further means of support, some of the activities are structured to help students learn time management skills, and students have access to the EDU and the UNSW Learning Centre if they require further assistance with the tasks.

### 3. Workshops To Promote Active Learning In Smaller Groups

Compulsory workshops (1.5 hours per week) have replaced lectures in 8 weeks of the session and are held by an experienced staff member who facilitates *active learning*.

These workshops have a maximum of 24 students making it possible to carry out a range of activities not possible in larger classes. Some of these activities include small group or whole group discussions (including discussions about WSIA); debates; role plays; practical design activities; peer feedback and evaluation of activities; student presentations; news reviews; online demonstrations; and videos. Only a small amount of (if any) lecture material is presented.

*"independent activities are useful"*

*"too many independent activities"*

*"real case study in the text book helped me understand the issues"*

*"the course website was excellent and very well maintained and updated"*

*"workshops allow us to collaborate more on topics covered for the week"*

Independent learning to simulate 'real world' experience

Course website usability is critical and the following must be considered:

- Ease of use
- Response time
- Maintenance
- Updated regularly

Active learning engages students in the task

Small class sizes to increase interactive learning opportunities

#### 4. Lectures With Content Linked To Web-Supported Independent Activities and Workshops

Lectures are not held every week. Rather, one-hour lectures are held 5 times throughout the session. In addition to presenting course content, the lectures provide important information about the organization of the course, emphasising the relationship between course components and learning outcomes.

- **Assessment**

##### Developing students oral communication and teamwork skills

In a series of debates, in 3 weeks of the workshop sessions, students were required to coordinate the research and presentation of a topic in teams of 4. Four forms of support were provided for this activity. Firstly, the debate marking requirements were explained in the course website. Secondly, a section devoted to presentation skills was provided in the course outline. Thirdly, presentation skills brochures from the Learning Centre were made available. Finally, some workshop time was devoted to debate preparation.

At the conclusion of each debate every student is supplied with the breakdown of their marks in order to provide feedback on individual students' strengths and weaknesses.

##### Individual assignment to develop practical computer skills

With a choice of two assignment questions, students develop a small application using Microsoft Excel or JavaScript depending on the focus of their study.

Students are also assessed on their participation (including fulfilling the requirement to compile a portfolio of work based on the assessment tasks), and a 2 hour final examination for which clear expectations are provided in the final week of lectures.

- Increased communication and support for students will be available through the establishment of a monitored on-line discussion group and email Q and A.

## **DISCUSSION**

### **A. BENEFITS**

- Higher degree of student interaction made possible by the nature of the workshops and the smaller class size
- Teacher satisfaction as students engaged with the material
- Improved teacher-student relationship due to the smaller classes
- Smaller, discussion style tutorials encouraged students to do all the required work
- Enhanced research skills due to the web-based research
- Case studies improved the students' higher-order thinking skills
- Student independence and time-management skills developed

Supporting students in the development of oral communication skills

*"There should be a mid session test so that students might have an idea of how the final exam will be"*

*"Division of marks such that the final is only 45%"....."not as much pressure"*

*"Excel assignment is practical and good for career"*

*"Portfolio helps to organize and to be up-to-date with the subject"*

Improved higher-order intellectual skills

Small classes are a key element

*"the teaching experience in the workshop was much more enjoyable and satisfying than the anonymity of large lectures" (DT)*

Some difficulty adapting to less conventional teaching approaches

Experienced staff facilitating the workshops is important to their success

## B. PROBLEMS ENCOUNTERED

- Some students were confused about links between different types of experiences within course
- Perceived workload
- Initial negative responses of students
- “Shock” for students in moving from other traditional lectures/tutorial/lab courses
- Some students only interested in content that is required in an exam. They are less concerned with developing additional skills, such as research and presentation skills
- The teaching staff found the workshops more intense than tutorials
- Workshop success dependant on student preparation

*“flow of ideas from one topic to another should be emphasized further”*

*“too much reading. Should be reduced”*

*“there should be a lecture each week because students who don’t read the text book or do independent study don’t learn anything”*

## FEEDBACK (EVALUATION) AND IMPROVEMENTS

Feedback on the course:

- Focus groups with diverse students were held three times during the semester to obtain feedback
- Qualitative evaluations were also conducted three times during the semester. Students were asked to indicate three things they liked about the course, and three things they would like to change
- Weekly staff debriefs held to share observations and issues
- Standard teacher and course evaluation forms were also issued

In response to feedback from staff and students, the following changes are being made to improve the course:

- In the future common questions and answers will be posted on the course website
- In lectures there will be greater emphasis on course structure and a more detailed description of the links between the course topics
- Student portfolios will be reviewed more frequently in order to provide students with timely feedback
- Optional workshops, developed with the Education Development Unit, will be conducted to assist students with independent work such as reading, note-taking, referencing, and analysing case studies

## ACKNOWLEDGEMENTS

Bob Baker and Vicki Lowery were the educational consultants involved in the development of the course. The success of the course implementation is largely due to the efforts of Michelle Salmons. The work of all these people is invaluable.

## MORE INFORMATION

For more information on any aspect of this case study, please contact [Denise Tolhurst](#) from the [School of Information Systems, Technology and Management \(SISTM\)](#).