

# “Looking Back, Moving Forward”: Reviewing Economics Curriculum for 2009 and beyond

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Teaching in the field of economics presents complex challenges for the economics teacher. Among these challenges are the large numbers in first year classes, the (inadequate) teaching assistance that one receives, responsibility and management of assessment, restructuring the curriculum to meet the needs of learners, and ongoing budget cuts. All of these factors affect the quality of economics education at tertiary level.

This presentation focuses on one teacher’s attempt to review the economics curriculum to meet some of these challenges in first year teaching. As a volunteer participant in a New Zealand-wide project (Unlocking Student Learning) that provided academic development consultancy, this teacher focused the Massey University case study on restructuring the curriculum. Assessment was identified as an area for restructuring in the hope that it would enhance learning. In looking back, specific areas of assessment were found to be irrelevant and/or inadequate. In an effort to move forward and to design assessment for learning, the case study identified key aspects for improvement. This presentation highlights some of the changes to assessment that were implemented in the microeconomics class over a three year period from 2006 to 2008.

**Keywords:** Student learning, assessment, online tests, academic development

## **Introduction**

This paper is a critical reflective summary of the modifications made to the assessment component of the Economics curriculum of the 115.106 paper at Massey University, Palmerston North. Considerations in modifying the assessment component were made as a result of lessons learned from the recent TLRI three year (2006 -2008) case study research. The 115.106 Economics paper is taught for the first time in 2009. Key considerations in the assessment design of the paper are critically reviewed with the objective of highlighting the enormous task of curriculum restructure and the required support for the ongoing restructuring process.

## **Background**

The Bachelor of Business Studies (BBS) degree is the largest programme in Massey University's College of Business and it is also the largest undergraduate degree programme in New Zealand (College of Business, 2008). The BBS is taught at all three Massey campuses in New Zealand (Auckland, Manawatu and Wellington). At present it has an eight paper compulsory core, consisting of the following papers:

- 115.101 Statistics for Business
- 115.102 Accounting
- 115.103 Legal and Social Environment of Business
- 115.104 Principles of Marketing
- 115.105 Fundamentals of Finance
- 115.106 Economics
- 115.107 Management Information Systems
- 115.108 Organisations and Management

In 2007, a plan to revamp the previous nine paper core was initiated. This involved the redevelopment of all of the core papers with the goal of an integrated and cohesive core that would benefit students doing the BBS.

The Economics course involved a fundamental shift in philosophy from the previous core. Prior to 2009, the core economics paper was the Principles of Macroeconomics course. The decision was made to shift to a predominantly microeconomic course when the learning goals for the new course were developed.

The new Economics course is currently being taught both internally and extramurally on the Manawatu campus at Palmerston North in Semester One. The present enrolments are detailed in Table 1 below.

**Table 1: Enrolments in 115.106 Economics: Manawatu Campus, Semester One, 2009<sup>1</sup>**

Offering	Enrolments
Internal	290
Extramural	565

The teacher responsible for the Economics course in 2009 on the Manawatu Campus was previously responsible for the Principles of Microeconomics course that was offered until 2008. As mentioned earlier, the development of the course assessment for the new Economics course was strongly influenced by the teacher's research into the modifications made to the assessment component in the Massey University case study of the national research project, *Unlocking Student Learning*.

### ***Unlocking Student Learning: The National Project and the Massey Case Study***

*Unlocking Student Learning*, a collaborative Teaching and Learning Research Initiative (TLRI) research project (2006-2008) involved all eight New Zealand universities. The broad aim of the research was to enhance student learning through appropriate interventions in teaching and learning practice through collaborative partnerships between teachers and academic developers..

In the Massey University case study, the teacher responsible for the Principles of Microeconomics course volunteered to participate in the research. He was willing to critically review the course and to restructure relevant components as needed with the intention of improving student learning. The academic development team worked closely with the teacher responsible to identify components of the curriculum that required modifications to enhance student learning. The teacher identified assessment as an important area for modification and designed and implemented a new online assessment scheme to address a number of practical and technical concerns with the help of the academic development team. Several resource constraints led to the decision to modify the assessment component of the course as a result of various concerns.

#### Resource Constraints

Resource constraints that affected the Principles of Microeconomics course and the teacher prior to the commencement of the project included inadequate graduate assistance (the teacher had no no graduate assistants in 2007-8), and reduced funding for casual assistance (to assist with marking, for example) across the Department over the preceding few years. A further

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<sup>1</sup> These numbers are accurate as of 11 June, 2009.

constraint was the teacher's own professional development (working on PhD studies) commitments and his workload (involved in several offerings of a variety of papers throughout the year). However, the teacher worked against these odds to ensure that the concerns with the assessment component would be addressed.

### Addressing Student Concerns: Evaluation Feedback

Student concerns with assessment were noted from as early as 2003 but the TLRI national research project gave the teacher the first opportunity to critically review the concerns and to respond with acceptable alternatives. It was through his partnership with the academic development team and the ongoing mentoring that the teacher was able to design and implement an effective online assessment tool to enhance student learning.

Prior to 2007, the assessment for the Principles of Microeconomics course consisted of two tests, each worth 20%, and the Final Exam, worth 60%. The tests were held in Weeks 5 and 10 of the semester (13 weeks). Students had, for a number of years, expressed concerns regarding the assessment used in the course. Representative comments included:

- *Takes a very long time to get tests back* (SECAT, Semester One, 2003)
- *Not much constructive criticism on tests – no review of correct answers* (SECAT, Semester One, 2003)
- *Two test system does cripple people who constantly study and don't just cram* (SECAT, Semester One, 2004)
- *Maybe should include a multichoice test of like 30 questions during the semester for assessment* (SECAT, Semester One, 2005)
- *Possibly more helpful if tests were returned more promptly* (SECAT, Semester One, 2005)

Much of the student feedback surrounded the return of tests, and the need for more feedback on returned (marked) tests. Some students commented on assessment structure, but most identified the major shortcomings of the existing assessment.

From this feedback, several factors were identified. Firstly, there was a need for assessment to be promptly returned, and with appropriate feedback. There was also a need for the assessment to give students opportunities to atone for poor performances. These concerns formed the basis for designing more effective assessment using an online tool in the absence of graduate assistance.

### Pedagogical Research

The teacher informed his teaching practice by researching teaching and learning theoretical frameworks. Particularly, he focused on assessment design and implementation taking into

careful consideration the pedagogical context of assessment, effective assessment strategies, the importance of assessment choice, and the pros and cons of the various assessment options, in both a general and discipline-specific context.

Some economists have argued that research concerning assessment in economics had not examined whether educational outcomes were being achieved nor how they were being achieved (Becker, 1997). Rather than using tests that require students to memorize and recall economic theory (Becker, 2000), academics should involve students in what economists actually do – that is, use theory to explain and solve real world problems. The key challenge is to devise assessment that meets this objective. Ramsden (1992) pointed out that assessment can be helpful in identifying misunderstandings to assist student learning. Noted academic developer Geoff Crisp noted that “teachers should decide the purpose of the assessment, and that they have a responsibility to inform students what that purpose is – to improve learning, or for grading purposes” (Crisp, 2007, p.27). Assessment that can do both of these will be a step in the right direction.

### Effectiveness of Assessment

Any alternative assessment structure also needed to, wherever possible, test and reward students for demonstrating higher-order thinking, along the lines of what the previous assessment did. The teacher also expressed a desire for consistency across assessment so as to better prepare students for the Final Exam by exposing them to test questions similar to those used in the exam.

Consideration was also given to issues relating to mitigating possible student misbehaviour in assessment (cheating) as well as equivalence between offerings. The fact that a new textbook was also being adopted in 2007 also gave added impetus for change. All these factors ensured that effective assessment strategies would be implemented in the modified assessment tool.

As a result of discussions between the teacher and the academic development team, it was decided that a new, online-based internal assessment scheme would replace the existing assessment scheme for 2007-8. The features of the new assessment scheme are detailed below.

### Features of 2007-8 Assessment Scheme

The new assessment scheme was implemented in the internal offering of the course for the first time in 2007. The assessment scheme was also offered as additional formative assessment for extramural students if they chose to use it.

The assessment consisted of five online multiple-choice tests, each worth 8%, staged evenly throughout the semester. Each test corresponded to three chapters of the course textbook. Within each test, there were 30 questions – 10 questions per chapter. Each test had twelve “easy” questions, worth one mark each, twelve “moderate” questions, worth two marks each, and six “difficult” questions, worth four marks each, giving an overall mark of 60. The choice of the number of questions per level of difficulty was determined largely by the availability of questions in the test bank of questions. Questions were randomised within tests by level of difficulty, effectively reducing the ability of students to cheat by making each test unique. In addition to the randomisation of questions, the order of answer possibilities within each question was also randomised.

Students were given access to each test for a week (from Monday to Sunday)<sup>2</sup>. Each test was set within a time limit of one hour. As soon as the attempt was opened, the clock began counting down. Students could attempt each test a maximum of three times, with the highest mark counting towards their overall grade. After submitting each attempt, students were immediately told their mark, and were able to review their tests. The correct answers were not indicated – only their answers were evaluated.

The assessment plan was both formative in the sense that it was timed to occur at regular intervals throughout the semester, thus giving students more feedback on their progress than in the previous assessment scheme. It was also summative in that it assessed student learning at the end of each group of chapters. The fact that even during summative tests, students are able to have multiple attempts, fulfils a key characteristic of formative assessment in that they receive feedback on progress after each attempt.

Other key advantages of online assessment include:

- Flexibility for students: Students could access the test anywhere, at any time of the week that the test is open.
- Reduced assessment administration for teachers: Setting it up required considerable time and effort, but once it was established in 2007, there was very little extra work required in 2008.

### Significant outcomes of Assessment Intervention

Several significant outcomes were observed as a result of the intervention. There was little effect on retention rates in terms of student completion in 2007 and 2008 when compared to the 2003-2006 years (Richardson, *et al.*, 2009). There was also evidence of a higher proportion of top grades (A+, A, A- and B+) and a lower proportion of C pass grades post intervention when compared to pre-intervention (Richardson, *et al.*, 2009). It was also found

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<sup>2</sup> Before students sat the first test, they were provided with a practice version of a test to see whether or not there were any technical issues present with the tests. Most students took up this option.

that the aggregate pass rates for 2007 and 2008 were not noticeably different from pass rates in previous years (Richardson, *et al.*, 2009).

A model of student performance was developed so the effect of the intervention on individual student results could be analysed. It was found that internal assessment marks were positively affected, but this didn't translate into improved exam marks or overall marks (Richardson, *et al.*, 2009). Such results tended to suggest that the assessment structure required further modifications so as to improve student performance in the final exam.

Student feedback made for interesting reading. Students were initially wary but accepting of the change in assessment during the first semester of 2007, but the hesitant perception did not appear to come through in course evaluations at the end of 2008. For example, the following feedback was noted:

- *The paper is fine, except the wording of the online tests, which seemed to test my understanding of English more than my understanding of economics* (SECAT, Semester One, 2007)
- *Online test language can be confusing and often illogical* (SECAT, Semester One, 2007)

The teacher responded to these (and similar) comments at the end of 2007 by critically reviewing questions identified as having particularly low pass rates (i.e < 20% correct answers). These questions were either modified or deleted from the test bank. There was also some discontent with the amount of multiple-choice tests in the course.

- *5 x multichoice online tests, 1 x 100 multichoice questions exam = multichoice madness! Surely there can be other forms of assessment introduced as well.* (SECAT, Semester One, 2007)

Students in both 2007 and 2008 also consistently requested to see the answers to their attempts.

- *Thought tests were not helpful as we did not know what the correct answer was afterwards.* (SECAT, Semester One, 2007)
- *It would be good if the test results came with the correct answers after the test closes* (SECAT, Semester One, 2008)

Interestingly enough, extramural students were extremely complementary of the new assessment, even though it did not count towards their overall marks.

- *The online tests provided are a great way to gauge progress.* (Extramural 178.101 SECAT, Semester Two, 2007)
- *Would prefer online tests for extramural students – same as internal students* (Extramural 178.101 SECAT, Semester Two, 2007)

## **Lessons Learned for 2009 and Beyond**

Internal student feedback to the 2007-8 experience of online testing was generally favourable, although some shortcomings were identified, including the lack of answers and possibly too many tests. Closer scrutiny of behaviour in tests suggested that learning was taking place for those who made multiple attempts (Richardson, Patel and Naidoo, 2009). Indeed, students also took advantage of the flexibility offered by online assessment by attempting tests at certain times of the day and night, as well as submitting multiple attempts on the same day or even staggering their attempts out over the entire week (Richardson, Patel and Naidoo, 2008). Extramural students were positive towards the online assessment and some even suggested that there be identical assessment between both internal and extramural offerings. The analysis of individual student results showed that despite best intentions (and better internal assessment marks), student performance in the exam and overall were not significantly affected by the introduction (and modification) of the new assessment scheme. The assessment structure for the new Economics paper was developed with these aforementioned considerations in mind. The structure of the new assessment is detailed in the next section.

#### Assessment for 115.106 Economics, Semester One, 2009

The assessment structure for Palmerston North Internal and Extramural was identical between offerings. Because the new course had a slightly different focus to what was previously the Principles of Microeconomics course, and as such used a different textbook, there are three online multiple-choice tests, each worth 10% of the overall grade, and each covering one third of the course content. To continue with the formative aspect of online assessment in a slightly different way to that used in Principles of Microeconomics, a fourth piece of internal assessment was adopted: Weekly Online Activities. This component consists of 12 online activities (one per week) and students were required to pass (that is 50% or better) each activity for 1% credit towards their overall mark, up to a maximum of 10%. The Weekly Online Activities are a combination of true/false and short answer/fill in the blank questions. The Final Exam remained at 60%.

There are some noticeable changes from the *Unlocking Student Learning* experience in the philosophy behind the current assessment design and the approach. Firstly, students only get one attempt at each online test, but they have access to all internal assessment from the start of semester. Each Weekly Online Activity (WOA), on the other hand, is due in at the end of each week, and students have unlimited attempts at each of these in order to achieve the goal of a pass in the activity. Like the online tests, all Weekly Online Activities are also available at the start of the semester for all students. Each of the online tests and the weekly online activities are randomised, so each attempt is unique for each student. Answers for each test and activity are available for each attempt once the deadline has passed.

These changes have been warmly received, if student comments like this one on the course Forums so far this semester are any indication:



- “... the WOAs especially were a great way to test understanding of each topic and figure out the areas that needed more study” (10 June, 2009).

## **Conclusions**

Despite encouraging early indications, evidence of the success (or otherwise) of the modified assessment structure will be reflected in overall student performances and in student feedback to official University evaluation surveys. The assessment for the new Economics paper has certainly benefited from the teacher’s involvement in the *Unlocking Student Learning* research project and in particular from the interaction with academic developers, and the spinoffs from the project into the teacher’s assessment design is likely to continue for many future offerings of the course to come.

In looking back, it is clear that ongoing critical reflection is important in reviewing curriculum and the teacher’s participation in the three year national research project attests to the fact that curriculum restructuring is a long term process of trial and error. Of course, partnerships among teachers and academic developers facilitate the process through appropriate interventions. Most importantly, in moving forward the teacher has to keep an open mind and to listen to student voices in order to effect change in student learning.

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Sam Richardson was also the recipient of a Vice-Chancellor's Teaching Award for Excellence in Teaching First Year Students at Massey University in 2009.

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