

# Student engagement through assessment in Applied Finance: evaluating assessment changes at UniSA

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*This paper discusses the form of and rationale for changes made to assessment structures of final-year courses within the Applied Finance program at UniSA. It also evaluates their impact in terms of student course evaluations and completion rates. Its main contributions are to demonstrate the benefits of reflective practice and the impact of choice of assessment structures within the Finance discipline. The revision of assessment structures was undertaken following our completion of a UniSA Assessment Development Grant (2003-04). Our aim was to determine how to assess to better develop the UniSA Graduate Qualities associated with the characteristics most required of Finance graduates. This required assessment activities that encourage student engagement and attainment of higher-order cognitive outcomes within Bloom's Taxonomy (deep learning). Analysis supported greater use of individual and group presentations, research reports, and open-book exams. These forms of assessment: encourage development of lifelong learning, and verbal and written communication abilities; need not detract from the heavily quantitative emphasis required in finance; and are consistent with assessment that meets a range of regulatory requirements for professional licensing, and also with industry/professional body exams. Changes to assessment in final-year courses were made to embody these ideas. Changes to assessment practices in these courses have been associated with several positive outcomes. First an improvement in student success rates, with a significant reduction in course failure, without reducing either the range or level of material covered in each course. This suggests significantly better student engagement with course content. Second a significant increase in the level of student satisfaction with these courses, as determined through increases in scores achieved in Course Evaluation Instrument survey results. Students are more positive about their learning outcomes, providing additional support for the argument that greater student engagement resulted from this process.*

**Keywords:** *student engagement; graduate characteristics; assessment in finance*

## Introduction

The starting point for this paper was a UniSA 2003-04 Assessment Development Grant study (McIver, et al., 2004), which actioned our desire to undertake a reflective practitioner's evaluation of the suitability of assessment within the Applied Finance major's courses. Our study allowed us to consider a number of questions. What characteristics/qualities should be developed by an Applied Finance graduate? What forms of assessment activity are best suited to the development of the cognitive abilities/UniSA graduate qualities profile that we wish to promote in Applied Finance majors? Are current assessment activities best suited to the development of these outcomes in Applied Finance majors/matched to best practice?

To address the first two of these questions, in McIver, et al. (2004) we reflected on a number of features of finance and the role of assessment within the finance curriculum. First, were alternative definitions of the discipline of finance and its methodology, including its

relationship to microeconomics, mathematics and statistics. Second, survey evidence on the core characteristics that finance students generally need to develop through the undergraduate finance major for future employment, for which we established links with the UniSA graduate qualities (Table 1). Third, the variables associated with student success in undergraduate finance, especially the importance of mathematical/quantitative methods. Finally, how best to assess so as to encourage deep learning in finance (by promoting student engagement).

**Table 1: Key characteristics for finance graduates and related UniSA graduate qualities**

Characteristic <sup>a</sup>	Graduate Quality (No.)
Decision-making	Operates effectively with and upon a body of knowledge sufficient to begin professional practice (1) Is an effective problem solver (3)
Written communication	Is an effective communicator (6)
Computer literacy/skills	Operates effectively with and upon a body of knowledge sufficient to begin professional practice (1) Is prepared for life-long learning (2)
Oral communication	Is an effective communicator (6)
Mathematics/statistics	Operates effectively with and upon a body of knowledge sufficient to begin professional practice (1) Is prepared for life-long learning (2)
Interpersonal skills	Can work as an individual or as a member of a group (4)
Ethics	A commitment to ethical action and social responsibility (5)
Social etiquette	Can work as an individual or as a member of a group (4)

Source: McIver, et al. (2004), Table 2.

Note: <sup>a</sup> Ranking of graduate characteristics reflects views of finance faculty in Moore (2000), and the characteristics used in the survey-based papers of Collier & Wilson (1994), Graham & Krueger (1996), Baker & Phillips (2000), and Moore (2000).

With respect to suitability, the last in the above set questions considered, our analysis supported a focus on the ‘fitness for purpose’ and transformation of qualities of assessment.

In determining ‘fitness for purpose’ of assessment practices we followed an institutional perspective, with the objective of improving the fit with the requirements of associated institutions and interest groups (Ashcroft & Foreman-Peck, 1994). In our case this included: requirements that were institution-specific, such as assisting in the development of the UniSA graduate qualities; discipline-based requirements, reflecting accepted andragogical/pedagogical perspectives; and consistency with professional body practices and licensing requirements. Thus we established a set of qualitative characteristics or benchmark criteria against which to make these judgements: the characteristics desired of Applied Finance graduates, based on survey evidence of the core concepts and skills required of students in undergraduate finance courses; the UniSA Graduate Qualities; and recognition that required concepts and skills may be linked to learning outcomes associated with specific levels of cognitive development within Bloom’s Taxonomy.

With respect to the transformation role we leant on ideas from the cognitive school of learning, as related to the well-known concepts of deep and surface learning. Our concern was whether assessment choices support learning consistent with the achievement of higher-order educational outcomes such as those defined in Bloom’s Taxonomy, cognitive domain (e.g., see Taylor, Goles & Chin, 2002). For us, the cognitive school’s focus on the significance of the learner in the learning process (Curzon, 2000) provided a useful structure within which to consider relevant aspects of university-level assessment process in finance. The cognitive school’s focus on the learner, with recognition that student-centred learning may be actively

applied and related to life experience (a common requirement of adult learners) (Smith, 1998), supported this preference.

Evaluation of existing assessment structures—which included forms of quantitative/practical and theoretical/case study coursework assignments, group presentations, multiple-choice tests, and examinations—was undertaken against these benchmarks. By matching the existing assessment practices against the desired graduate qualities profile and forms of assessment strategy appropriate to encouraging deep learning, we found both positives and negatives in Applied Finance's assessment practices.

With respect to positives, existing assessment practices were found to generally be consistent with the development of the set of attributes desired of finance graduates and also with student engagement in deep learning. This reflected the use of a substantial amount of problem-based, quantitatively oriented and case study assessment activities, particularly in the final-year courses.

Negatives also were present in the existing assessment structures. Assessment activities placed: insufficient emphasis on ethical considerations in finance; insufficient emphasis on the development of communication skills, due to the limited use of individual and group presentations; and a heavy reliance on examinations to assess written communication skills, given the quantitative emphasis of many assignments. Finally, we found a lack of sufficient focus on preparing students for lifelong learning, again reflecting the quantitative focus in a large component of the assessment. This was considered to be particularly important in the case of final-year courses due to its impact on the effectiveness of students in employment within the finance sector.

Based upon our examination of existing structures we recognised: the need to ensure a better fit of assessment practices to our objectives for finance graduates; and the potential to improve student performance by changing our methods of assessment (Greer, 2000). Our interest in: ensuring greater student engagement, encouraging students to develop a capacity to engage in lifelong learning, and improving their communications skills, suggested a number of modifications be made. In the case of our final-year courses, Investment Banking and Project Finance and Portfolio and Fund Management, we reflected on the potential to rearrange the focus of each area of assessment. We also determined to apply new assessment structures to the course Financial Risk Analysis.

The following sections of this paper provide a brief outline of changes made to assessment and the basis for evaluation of changes, the results of these changes, discussion/interpretation of these results, and concluding comments.

### **Changes to final-year assessment and their evaluation**

In light of the analysis discussed above, revised assessment structures that we believed would display greater 'fitness for purpose' were selected for final-year Applied Finance courses. Significant changes were made to the structures of the assignment and exam components of assessment as of 2005. The first was to adopt coursework assessment based more heavily on group research reports (including industry-style applied research). The second, chosen to overcome problems associated with the need to move assessment of more technical/quantitative aspects of the course to the exam, was the introduction of open-book exams. In modifying the assessment structures we sought to reduce the quantitative emphasis

in the coursework component and increase this aspect in the final exam. This was in order to maintain a balance between these essential elements assessment in finance, and to allow some comparison of the performance of student groups under the old and new assessment structures.

Coursework research/industry-style applied group research papers were chosen as a vehicle to provide students with an opportunity to demonstrate that they have integrated the set of knowledge, skills and analytic capacities required of the discipline (Cox & Harper, 2000). In this sense, these formats may be seen as adding to the students' development of skills suited to lifelong learning both in the discipline and more generally. Communication skills, a key area for our finance graduates, may be better developed and demonstrated with this less time-constrained form of assessment.

Open-book examinations were chosen to recognise that professionals engaged in problem solving must be familiar with and utilise a range of resources in order to be effective. Open-book examinations also overcome some of the unrealistic limitations imposed on students under closed-book formats in the presence of the large quantities of formulae and mathematical models common to finance courses. We considered this to be particularly important in light of the shift of our assessment of quantitative material from the coursework assessment to the exam (for which a minimum grade is required in order to pass the course). Also, giving students access to a limited range of resources allows more complex examination questions to be set than is possible under a closed-book examination format (Habeshaw, Gibbs & Habeshaw, 1993). Additionally, as students are precluded from receiving outside assistance in the preparation of their answers, open-book exams provide evidence of individual development of the graduate qualities specified for Applied Finance students, ensure a credentialing role in assessment (*ibid.*), and are consistent with the accreditation practices of professional bodies associated with the finance industry. Finally, the use of open-book exams can be used to encourage students to develop a course portfolio as a learning resource; a reference, both for the examination and beyond the end of the course.

In our evaluation of the above changes we focused on determining the quality of learning outcomes, a student-centred focus, rather than attempting to measure perceptions of teaching effectiveness. Suitability was defined in terms of potential impact on indicators of learning outcomes, in the form of student performance, and student satisfaction, two areas of concern in our discipline. Performance is measured by student success rates, while satisfaction is indicated by UniSA Course Evaluation Instrument Questions 8 (assessment related to graduate qualities) and 10 (overall satisfaction with the quality of the course) results and staff perceptions. Indicators are taken from course offerings between 2002 and 2007 in which either author was coordinator. Again this allows some comparability between course offerings.

## Results

Table 2 summarises indicators of performance both before and after the 2005 revisions to assessment structures in our final-year courses.

**Table 2: Indicators of the quality of learning outcomes related to assessment<sup>a</sup>**

	Existing assessment		Revised assessment <sup>b</sup>	
	Quartile ranking <sup>c</sup>	Failure rate (%) (location offered)	Quartile ranking	Failure rate (%) (location offered)
<b>Course</b>				
Investment Banking & Project Finance	Second (Q8) Second (Q10)	33 (HKBU 1999) 28 (HKBU 2002) 24 (Adelaide 2002)	Fourth (Q8) Fourth (Q10)	15 (HKBU 2007) 16 (Adelaide 2006) 14 (Adelaide 2007)
Portfolio & Fund Management	First (Q8) First (Q10)	26 (Adelaide 2002) 34 (Adelaide 2004)	Third (Q8) Third (Q10)	16 (Adelaide 2005) 18 (HKBU 2007)
Financial Risk Analysis	n.a.	n.a.	Fourth (Q8) Fourth (Q10)	10 or less
<b>Perceptions of staff</b>				
Management of student expectations/learning outcomes	Relatively narrow spread of grades reflecting emphasis on quantitative elements of assessment.		More even spread of grades than traditionally seen in final-year Applied Finance courses.	
Student satisfaction	Multiple student complaints re exam format and fairness in topic coverage.		Greater student satisfaction with the exam format in the form of reduced complaints regarding the fairness of the exam and topic coverage.	

Notes: <sup>a</sup> Refers only to courses where the co-authors co-ordinated and determined assessment in the course. Adelaide refers to the course being offered in Adelaide, HKBU to it being offered through a transnational arrangement with Hong Kong Baptist University School of Continuing Education.

<sup>b</sup> Revised assessment structure introduced for Financial Risk Analysis as of first time offered in Semester 2, 2005.

<sup>c</sup> Ranking refers to the quartile in which the course is ranked based on the average Likert score for responses to the particular question relative to scores of other courses in the Management and Commerce area. Thus a first quartile result indicates a relative rating of student satisfaction in the lowest 25 per cent of all courses offered in Management and Commerce. Q8 refers to Course Evaluation Instrument Question 8 and Q10 to Question 10 of the same.

## Discussion

From our perspective as course coordinators, our modifications to assessment practice have produced a number of benefits (Table 2). Some of these are measurable (or measured) and others more qualitative. Benefits relate to: improvements in course progression rates, student perceptions regarding their learning outcomes and overall course satisfaction, management of student expectations, and students taking more responsibility for their learning outcomes.

The results in Table 2 suggest an improvement in student success rates under the better ‘fit’ assessment structure. Cognitive theories of learning: imply that learner activities are a key component in course design; and place substantial emphasis on interaction, particularly collaborative learning, as this requires an active role on the part of the learner. These approaches are thought to encourage the development of higher levels of educational outcome as defined within Bloom’s Taxonomy (i.e., deep learning) (Wee & Chen, 2001; Hartley, 2000; Lyall & McNamara, 2000; Rosie, 2000; Mazoué, 1999; Smith, 1998; Ramsden, 1992;).

The cognitive school’s approach supports assessment embodying (McIver, et al., 2004): learning by doing and the use of problem-based learning approaches; project work, including group reports; and case study approaches that provide realistic assessment tasks. These elements are emphasised more strongly under our revised assessment framework. Problem-based learning can encourage active and long-term individual involvement with the learning environment and so is useful in developing the students’ expertise with quantitative material of the type found in finance. Group work/projects encourage group activity and active student participation in the learning process, facilitating both teamwork and communication outcomes. Finally, case studies allow students to relate theory to practice and experience, requiring the student to provide evidence of the ability to engage in decision-making and

communicate effectively. This assists students to integrate both the theoretical and quantitative material common in the finance discipline.

Students also appear to have a more positive view of the relationship between assessment and development of the UniSA graduate qualities, as evidenced in large improvements on scores for Course Evaluation Instrument Question 8 (assessment related to graduate qualities) relative to other courses in the Management and Commerce area. The introduction of changes to assessment has also been significant in terms of its impact on student satisfaction, another important indicator to Applied Finance staff, as reflected in comparative scores for the current Course Evaluation Instrument Question 10 (overall satisfaction with the quality of the course).

Benefits in the form of management of student expectations are suggested by a more even spread of grades than traditionally seen in final-year Applied Finance courses. This, we believe, reflects the more complex nature of the group assignment, as opposed to the more narrowly focused and quantitative formats previously used. Results at the extreme ends of the grade distribution are less frequent than with more traditional assessment formats, as students are able to draw on a wider range of skills, knowledge and practical experiences in completing their assessment. Students also comment positively on their learning from undertaking the assignments.

Encouragement to develop a course portfolio and the presence of the open-book exam help students to recognise, and be more likely to take on, responsibility for learning outcomes and success or failure. Greater student satisfaction with the exam format has reduced complaints regarding the fairness of the exam and topic coverage where the open-book exam format has been used, with lower levels of (in some cases zero) student complaint on exam fairness per study period. Furthermore, complaints are now better addressed through reference to the exam questions and their association with the course structure, references and teaching and learning resources (e.g., tutorial content).

### **Concluding remarks**

We believe that this paper highlights the benefits of using reflective practice in determining whether, where and how to change assessment practice, and its effectiveness. While still a work in progress, both in application and evaluation, our efforts to improve the 'fitness for purpose' and transformation qualities of assessment in final-year Applied Finance courses appear successful. In our case this required that we undertake significant changes to the nature and emphasis of both coursework and examination assessment in our final-year courses. The quantitative emphasis was moved from coursework to exam. Improvements to student course and learning evaluations and performance (reduced failure rates), indicating greater student engagement with the course content, support this decision.

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