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Using Diverse Professional Teams and a Graduate Qualities Framework to Develop Generic Skills within a Commerce Degree

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SUMMARY

This paper outlines the approach taken to use teams of diverse professionals and a Graduate Qualities framework to develop students' generic skills within a Bachelor of Commerce degree. The Graduate Qualities framework is closely aligned with the Professional Requirements of the Australian accounting professional bodies and the generic skills of the Australian Council for Educational Research. The pressure to embed the development of generic skills into university courses comes from three areas: the government, employers and the universities. With the impending trialing of Graduate Skills Assessment in universities, the increasing interest by the accounting profession to produce broader thinking graduates and universities' management to improve their institutional ratings, academics will be required to develop students' generic skills through the teaching and learning environment they provide in their subjects. This paper also outlines the changes implemented as an outcome of this process that resulted in students changing their behaviour, improving their generic skills and achieving higher learning outcomes in the subjects involved. This paper suggests that a subject development team composed of a diverse group of experts and the use of a Graduate Qualities framework will better enable subject coordinators to meet the increasing demands of the government, employers and the university to produce students with enhanced generic skills.

INTRODUCTION

This paper outlines the approach taken by the School of Accounting and Information Systems at the University of South Australia to use teams of diverse professionals and a Graduate Qualities framework to develop students' generic skills within the Bachelor of Commerce. The Graduate Qualities of the Univesity of South Australia are closely aligned with the Professional Requirements of the Australian accounting professional bodies. The University of South Australia is at the forefront of Australian universities in the embedding of students generic skills into the teaching and learning environment of its subjects and courses.

This paper outlines the explicit integration of two of the University of South Australia's Graduate Qualities into the teaching and learning environment of the Bachelor of Commerce and provides examples of how this was achieved. The skills outlined are: problem solving skills and the ability to work collaboratively. These are skills of significant importance to the accounting profession. By initially implementing appropriate teaching and learning strategies and assessment methods in a subject in each year of the Bachelor of Commerce, it is expected that students will enhance their generic skills in each of the Graduate Qualities.

BACKGROUND OF THE GRADUATE QUALITIES FRAMEWORK

Graduate attributes, or generic skills, are defined by the Australian Technology Network (ATN) Teaching and Learning Committee (TALC) as:

The qualities, skills and understandings a university community agrees its students would desirably develop during their time at the institution and, consequently, shape the contribution they are able to make to their profession and as a citizen. (ATN TALC 2000)

In 1995, the Academic Board of The University of South Australia agreed that the outcomes of a university education should be much broader than the content taught in each of its courses. This was in response to a range of issues within the University of South Australia and the tertiary education sector (these are outlined in George and Hicks, 1998). In particular the University of South Australia believed that it should make an explicit effort to inculcate values and develop skills that students would need in a professional context (refer to Flexible Learning Centre (FLC), 1997). The resultant consultation process led to the adoption in 1996 by the Academic Board of seven qualities.

A graduate of the University of South Australia:

(1) operates effectively with and upon a *body of knowledge* of sufficient depth to begin professional practice;
(2) is prepared for *lifelong learning* in pursuit of personal development and excellence in professional practice;
(3) is an *effective problem solver* capable of applying logical, critical and creative thinking to a range of problems;
(4) can work both *autonomously and collaboratively* as a professional;
(5) is committed to *ethical action and social responsibility* as a professional and citizen;
(6) *communicates effectively* in professional practice and as a member of the community; and
(7) demonstrates *international perspectives* as a professional and as a citizen.

The implementation of the Graduate Qualities framework reflects a shift in emphasis from content-driven to skills-driven curricula. Technical content is still important as it is the means by which the skills are developed and it differentiates the graduates of each degree. Academic staff have not universally embraced the Graduate Qualities as it requires a commitment to challenging existing teaching methods and changing from the traditional content focus to a process and skills focus for which many staff are not trained. With most academics being time-poor many see little incentive for adopting Graduate Qualities. The University of South Australia is gradually

breaking down this resistance by running seminars and workshops using staff, like those involved in this paper, who have experienced significant success through the implementation of the Graduate Qualities framework.

The ATN TALC has just completed an 18-month project to develop a report on the 'Generic Capabilities of ATN University Graduates'. The aim of the project was to provide guidance for course teams in the ATN Universities in revising curricula to develop students' generic skills.

THE IMPORTANCE OF THE GRADUATE QUALITIES FRAMEWORK

The pressures for the development of generic skills come from government, employers of graduates and universities.

Government

The government has put generic skills on the agenda through raising the issue in the public arena. The Department of Education, Training and Youth Affairs commissioned the Australian Council for Education Research (ACER) to develop the Graduate Skills Assessment (GSA). This takes the form of a two-hour multiple-choice test and one hour of written task by all university students at the entry and exit points of their studies. The GSA is meant to provide students with an indication of their students' generic skills at entry level and exit level (see ACER, 1999). The generic skills that are tested are critical thinking, problem solving, interpersonal understandings and written communications. When the detail of these skills are looked at more closely they are very similar to the Graduate Qualities of the University of South Australia.

The GSA test was first trialed in March 2000 and has not been implemented across the board in Australia by 2002. The results are supposed to help universities identify students at entry level who may need extra assistance to succeed at university. Universities may also be interested in the changes between entry level and exit level in their students' generic skills achievements and they may wish to compare student profiles between fields of study. The ACER (1999) paper also states that 'Other uses of the test are possible and could evolve over time'. The imagination runs rampant at this statement. Could these GSA results be used to measure the success of different universities?

They would certainly be of interest to the Good Universities Guide. Could government funding be linked to a university's achievement in the GSA tests? At this stage 'A policy on the use of data is still being finalized' (ACER, 1999).

With the introduction of the GSA tests by the government, there will be incredible pressure on universities, and their course teams, to embed the development of generic skills into the teaching and learning environment of all subjects and courses in a manner similar to that outlined in this paper.

Employers

The Graduate Qualities of the University of South Australia link closely to the set of skills valued by the accounting profession in their course accreditation documentation (set out in ASCPA and ICA, 1996). In the joint mission statement of the Australian Society of Certified Practising Accountants (ASCPA) and the Institute of Chartered Accountants in Australia (ICA) they 'require all graduates to have capacities for inquiry, abstract logical thinking, and critical analysis in addition to oral communication and interpersonal skills' (for original quote, see ASCPA and ICA, 1996). The skills designated by the professional accounting bodies and called 'Core curriculum in generic skills areas' in Appendix B of the above accreditation document include five skill areas divided into two broad categories of cognitive and behavioural skills. These cognitive skills include routine, analytical/design and appreciative skills. Behavioural skills are divided into personal and interpersonal skills. The generic skills demanded by the accounting profession link closely to the University of South Australia's Graduate Qualities as the above broad categories are broken down to include written and oral communication skills whereby 'graduates are able to write and deliver reports within the conventions of the business world' (Henderson, 1996).

Kavanagh (as per Hardy and Palmer, 2000) reported that a survey for the Business Council of Australia's Business-Higher Education Round Table found employers ranked communication skills, an ability to learn new methods and a capacity to make decisions and solve problems more highly than specialized technical content. Further, Allen and Roschecouste (1997) state that 'businesses rank communication skills as the number one characteristic they were seeking in graduates' and that 'excellent skills in communication continues to be listed in almost all newspaper advertisements as an important criterion for professional appointments'. This suggests that employers would place higher priorities on the University of South Australia's sixth, second and third Graduate Qualities than on its first 'a body of knowledge'.

Universities

Traditionally, universities have focussed their attention almost exclusively on developing the first Graduate Quality, the body of knowledge of course technical content, and the students were supposed to develop the other qualities implicitly, or simply by osmosis. Given the increasing diversity of students making up the student body since the early 1990s (as outlined in Feast et al., 1999), it has become increasingly apparent that traditional university teaching methods do not implicitly result in the development of a broad range of generic skills. It is, therefore, necessary to make explicit the development of generic skills in the teaching and learning process.

Booth and Winzar (1993) found that the type of student that chooses accounting usually have personalities that prefer learning facts and rules applied in concrete ways. Although these personality traits are important in learning a body of knowledge, according to Kavanagh, Allen and Roschecouste and Henderson, they are increasingly at odds with the preferences of the accounting profession. This highlights the importance of developing generic skills in accounting students. Saemann and Crooker (1999) suggest that the embedding of the development of generic skills in accounting degrees is based on evidence in non-business education that 'creativity and critical thinking can be taught at many stages of human development'.

The generic skills are important to universities in differentiating their students from other universities and in meeting their responsibilities to employers and the wider community. The eighteen-month effort by the ATN TALC in producing their draft report reflects the importance of generic skills to the universities.

The approach taken by the University of South Australia is at the forefront of embedding the development of generic skills into the teaching and learning environment of its courses. On the release of the ATN TALC's draft report, Associate Professor Owen Watts of Curtin University said, 'The University of South Australia is at the front line of these developments' and that 'we will be following the University

of South Australia in these developments'. Professor Gail Hart from the Queensland University of Technology supported these comments by saying, 'The University of South Australia is leading the way'. According to Associate Professor Bruce King of the University of South Australia, 'Many universities have a list of graduate qualities but are having difficulties in moving forward to implement them in the teaching and learning environment'. This paper demonstrates the implementation of the generic skills, and by default the core curriculum in general skills areas of the professional bodies, in three subjects in the Bachelor of Commerce by focussing on two of the Graduate Qualities.

PROCESS ADOPTED

In 1998, the subject co-ordinator for the first accounting subject in the Bachelor of Commerce, Accounting Decisions and Accountability (ADA), responded to concerns about the declining pass rates in the subject by contacting the Division of Business and Enterprise's Director of Teaching and Learning. This resulted in the formation of a team that consisted of two study advisors, a staff developer, the Divisional Director and Deputy Director of Teaching and Learning, the subject co-ordinator and a subject lecturer. The team met together every two weeks for a semester to design the implementation of a student-support centred learning environment built on the Graduate Qualities of the University. The advantage of this team was the diverse nature of its participants who brought to it their range of experience and expertise that was not only content focussed. Schön (1987) identifies the need for competent practitioners to reconcile, integrate or choose among conflicting appreciations of a situation in order to construct a coherent problem worth solving. This is why a diverse team of professionals brings richness to the solution of how to embed generic skills into a subject or course that content only professionals could not achieve.

Resolving the conflicting appreciations of the variety of professional experts in the team resulted in a deeper understanding of the problems and solutions needed to embed generic skills in the teaching environment. Traditionally at the University of South Australia, and many other universities, the teaching and learning arrangements were the sole responsibility of the subject co-ordinator who was an expert in the technical content of a subject but may have had no teaching training at all.

The process also used student focus groups to gather feedback on proposed changes. An important part of this was negotiating the way in which the subjects would be assessed. Students strongly indicated that if formative work was not directly assessed then it was unlikely to be done. There appeared to be little sympathy from students for the argument that undertaking extra activities that were not assessed was likely to lead to higher grades in assessed work that relied on the skills developed. Further, students were clear that if the marks awarded for work were too low relative to the effort they perceived was involved then they were likely to simply skip those pieces of assessment. Examples were provided by the students where this had occurred in subjects in the past and they were satisfied with maximizing their grade out of 86%, as the other 14% were not worth the effort involved. The students' feedback, however, had to be balanced with the academic integrity of the subjects involved and this was generally accepted by the focus groups.

The subject development team used the Graduate Qualities framework to make explicit the links between the objectives of the subject, the Graduate Qualities that could be developed while achieving these objectives, the teaching and learning strategies that would achieve the objectives and develop the Graduate Qualities, and the assessment that would measure the achievement of the subjects objectives and also develop some of the students Graduate Qualities. This is illustrated in Figure 1. As yet the
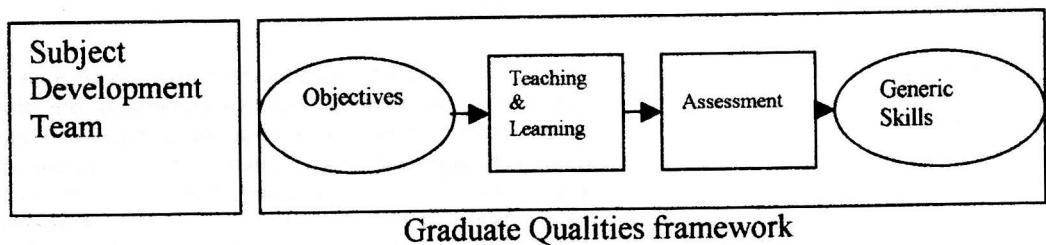

Figure 1 *Using a graduate qualities framework to develop generic skills while achieving the subject's objectives*

University of South Australia has not developed measures of the success of implementing strategies to improve students' generic skills. This is the next step in the Graduate Qualities framework and may have to reflect something of the GSA test.

Through discussion with other members of the Bachelor of Commerce team, interest developed in using a similar method to adjust the teaching and learning environment of Issues in Accounting Theory (IAT). IAT is the final subject in the accounting core of the Bachelor of Commerce. Traditionally students had experienced difficulties in studying IAT due to its high theory content, the fact that it is a language rich subject and its focus on application of concepts via case studies. This had led to lower pass rates than usual for a third year subject. A similar team to that used to develop ADA was established for IAT. Again, bringing together a range of experts from student support, education, staff development and subject specific academics resulted in a diverse team that was able to use the Graduate Qualities framework to better tackle the problems that were being experienced with IAT.

Having implemented strategies in a subject from the first and the third year of the Bachelor of Commerce to develop the generic skills of the accounting students it was felt that a similar approach should be taken with a second year subject. This would provide students with the opportunity to develop these qualities at each level of their study. The subject co-ordinator for Introduction to Management Accounting (IMA) showed an interest in using a similar team approach to developing the teaching and learning processes in that subject.

A useful tool that aided each of these teams in developing the Graduate Qualities within the subjects was the Graduate Qualities Grid (see Appendix C). The Grids began with the objectives of the subjects that were then related to the Graduate Qualities that these objectives would develop. The assessment and teaching and learning activities used to achieve the objectives and develop the generic skills were then stipulated and thus the connection was made between the Graduate Qualities and how they would be developed in each subject.

OUTCOMES OF THE PROJECT

The Bachelor of Commerce now includes a subject at first year (ADA), second year (IMA) and third year

(ITA) level where the teaching and learning environments have been developed by teams of diverse professionals to build up the generic skills of the students in the course. This paper illustrates how the third (effective problem solver) and fourth (collaborative work) Graduate Qualities of the University of South Australia are developed in the three subjects. The way in which the teaching strategies develop these qualities and how they are assessed are summarized in the table in Appendix A. Appendix B includes copies of the Graduate Qualities grids developed for each of the three subjects. The changes to teaching methods and their influence on students' generic skill development and academic outcomes are discussed in the following sub-sections.

Accounting, decisions and accountability

Developing problem solving skills

The development of students' effective problem solving is an important skill in an introductory accounting subject. Some of the teaching strategies for ADA that resulted from this process include lecture examples designed to build progressively through the lecture while the students are provided with lecture outlines with gaps that they need to complete so that they have to work through the examples themselves. The lecture examples provide students with a more approachable introduction to problems than those in the text. Hint boxes are then provided in the study guide to give students an idea of the steps necessary to solve the problems in the text. The answers to some of the steps in problems are also provided in the study guide to encourage students to solve their own difficulties with questions.

The most significant change in ADA appears to be the introduction of weekly workshops. The workshops are run in the hour preceding the tutorial and are not supervised. This effectively increases student contact time without requiring additional teaching resources. The students work in groups to solve problems from an on-going case study that is linked to each of the weekly topics of the subject. Working in groups has provided both peer support and peer pressure to complete the case study and has highlighted to students what they do not know about each topic. Tutors in ADA have reported that when groups cannot solve a case study problem they will usually ask the tutor as soon as they enter the classroom and this has provided a focus for the tutorial. Tutors also reported being asked more 'why' type questions, rather than the 'how to' questions they have been

asked in the past. It seems that once a group of students have collectively mastered *how* to answer a question in a workshop they move to another stage. They start to ask *why* certain procedures are carried out in accounting. This reflects a deeper level of learning than has been evident in the majority of students studying the subject in the past. The other frequent comment from tutors is that having the tutorial immediately after the workshop seems to 'warm the students up for discussion' as they have spent the previous 50 minutes talking within their groups. This has led to better tutorial participation and greater engagement with the subject. Workshops are based around a continuing case study that links the problems introduced in lectures to a realistic world example. Students have to prepare a group answer to this to hand up to the tutor each week.

Students also have to prepare answers to tutorial questions from the textbook and they then have the opportunity in tutorials to discuss any difficulties that they had. Tutors are encouraged to explore problems in depth in class rather than rushing to complete all questions. The answers to tutorials are then provided on the subject website the week after the tutorials so that students have another opportunity to check their work and to cover questions not discussed in class. This gives tutors the luxury of focusing on student understanding rather than having to provide all answers.

Students are assessed on their preparation for tutorials rather than their participation. Tutors collect a copy of the students' answers at the beginning of class and grade it for completeness but not accuracy. It is the students' responsibility in tutorials and from the subject website to check that their answers are correct. This has led to a significant increase in class participation as the students have almost all completed the tutorial preparation and wish to check that their answers are correct.

To develop problem solving in the major assignment a number of ratio calculations are required and then students have to interpret what the financial statements suggest about the financial health of a business and to communicate those findings to a client. A hint box provides ideas on how to structure the report and how to interpret the findings. In 2001, a step-by-step online workshop on how to interpret financial ratio analysis was developed by the subject co-ordinator in conjunction with one of the study advisors from the original team. The students' development of problem solving skills is assessed in the final exam where

about 72% of the exam marks are for problem solving.

Developing team working skills

Several teaching strategies have been incorporated into ADA to ensure that students can work both autonomously and collaboratively. These include workshop answers being produced by groups of five students. These are worth approximately 7% of the students' total assessment. The workshops occur in the hour preceding the tutorial each week and are not staffed. Tutors are present for the tutorial that follows the workshop. Tutors have found that the requirement to prepare the workshop in groups has led to more student questions about most topics and in them engaging more with the subject. Since 2001, this has had the additional support of an on-line workshop on how to work effectively in groups and how to resolve difficulties that arise from the group dynamics.

The major assignment is also prepared in groups of up to three students and covers analysis and interpretation of financial statements. The assignment is worth 20% of the students' total assessment. Since 2001, students have been required to each prepare an individual executive summary to ensure that all members of the group understand the assignment as a whole. Within one group assignment there can be large variation in the quality of executive summaries reflecting the differences in students' appreciation of the task and their results.

In 2002, the subject co-ordinator and a study advisor from the team developed an online workshop to explain to students the process involved in completing a group task. This was supported in class by tutors checking where each group was at in the process each week. The student feedback from this has been positive and it made explicit the pitfalls of the time-honoured approach of writing a third of the report each and stapling them together without checking the other group members' contributions.

Introduction to management accounting

Developing problem solving skills

The development of students' effective problem solving skills is a key aim of IMA. Several teaching strategies have been incorporated into introduction to management accounting to achieve this aim. Because many undergraduate students have had little or no

'real life' business experience, they find it difficult to relate IMA concepts to the real world. As a result, an emphasis was placed on working through 'real life' detailed lecture examples that illustrate how various management accounting techniques can be applied to solve 'real' business problems.

Tutorial questions also play an integral role in developing students' problem solving skills. Four types of tutorial questions are prescribed for each topic to build students' problem solving skills: discussion questions, simple exercises, problem-based questions and a real case study question. By using these four difficulty levels of tutorial questions, students' confidence in applying IMA concepts to 'real' business problems can be developed. To encourage students to attempt the questions set for each topic, they are assessed according to their contribution to each tutorial (10% of overall assessment). Hint boxes are provided for each numerical-based tutorial question in order to give students immediate feedback on their progress.

A considerable amount of time was also spent on developing a major case study assignment that develops problem-solving skills. The assignment is based upon a 'real world' business problem where students are required to analyse the situation, choose the appropriate management accounting technique(s) to use, apply these techniques and provide recommendations based upon the findings of their analyses. An article titled 'Guide to writing readable reports' is distributed to students to assist them in business report writing and making recommendations based upon their analyses. A significant portion of the assignment mark is placed upon the recommendation section.

Finally, over 75% of the exam paper is problem-based, requiring students' to select the appropriate management accounting tool/s, apply it/them and provide recommendations. In order to ensure the students problem-solving skills are being tested (and not their rote learning skills), the final exam always contain problem-based questions very different to any questions previously used in exam papers.

Developing team working skills

Several teaching strategies have been incorporated into IMA to ensure that students can work both autonomously and collaboratively. These include 10% of the subject assessment being based upon their contribution to each tutorial. The aim of this assessment is to build each student's confidence in applying management accounting techniques.

Further, each student is required to present a summary of an article from a professional accounting journal during a tutorial presentation. Many of these articles relate to various concepts covered within the course. This assessment facilitates the development of presentation skills and public speaking skills, and reinforces learning during each topic within the course.

It is compulsory for students to attempt the major assignment for the subject in groups of two to three students. There are many advantages of group work including the synergy that is developed as group members contribute ideas and energy. However, there are often difficulties in fairly awarding marks to students for each member's contribution. To overcome these difficulties a system modelled on one originally designed at the Terry Gatfield School of Marketing in Griffith University has been developed. It is based on peer assessment of student work.

Peer assessment of assignment

The group is awarded an overall mark by the tutor. Part of the marks are awarded by group members based on the average across the following four factors:

- reliability (e.g. came to all meetings or sent apology, completed tasks on time);
- contribution to assignment (i.e. actively participated in discussion on all questions);
- contribution to the final write up;
- was a valuable and responsible group member.

Each student receives a mark by the other group members but the student does not score their own contribution. Thus, each student receives a rating for each element from each group member. This total is called the individual effort rating. Adding the scores of all group members and dividing by the number of members in each group gives the Average Effort rating. The individual rating factor is calculated from these two measures as follows:

$$\text{Individual Weighting factor} = \frac{\text{Individual Effort rating}}{\text{Average Effort rating}}$$

The individual rating factor is then multiplied by half of the mark awarded for each group member by the tutor so that students who contributed more will receive more marks and students who contributed less will receive less marks.

Issues in accounting theory

Developing problem solving skills

The further development of effective problem solving skills is a key objective of IAT. A number of teaching strategies were incorporated into this subject in 1999 in an endeavour to assist students in developing these skills. These included the subject information booklet (and subject web page) now including an appendix entitled 'Steps in Analysing a Case Study' that provides a framework with which to apply concepts to case studies. The development of this model followed advice by student advisers that the most effective method for students to develop their analytical/problem solving skills was to provide students with a tool to assist in the development of an analytical approach to accounting problems. This model was utilized by tutors in class, and the steps outlined explicitly used in discussing answers to case study type questions.

A further appendix 'Common problems in answering examination questions' was also provided to students in the subject information booklet. Analysis of students' examination answers has revealed that many students have not understood that the process (of analysis) is more important than getting the 'right' answer and that they need to display the process in their written answers. This appendix made explicit this process. In addition, a specific tutorial question was used as a basis for illustrating these problems, and used as a basis for group work in tutorials. This required students to consider incorrect and incomplete answers to an examination (case based) question, relating the deficiencies of the answers to the 'common problems' identified, further emphasizing the significance of analytical skills in assessment. A help desk (a one hour extra session) was also introduced, aimed specifically at students with language problems who found the material and or concepts difficult to comprehend and apply. This provided an extra forum for students to review concepts.

In 2001, presentations were introduced, requiring students (in pairs) to explain the process and approach to be taken in relation to a past case based examination question. The presentation required students not to provide the correct answer to the exam question, but to explain the approach to be taken in relation to analysing this question and to identify potential problems in analysing and applying case facts. This again emphasized the development of effective problem solving skills rather than content acquisition.

Developing team working skills

Group work was introduced into tutorials as study advisors suggested that such group work would encourage collaborative learning and assist students in developing the analytical skills required to be effective problem solvers. Group discussions were particularly used in relation to case studies. Debate of alternative views was actively encouraged.

At this level of study, students are expected to have already developed group skills and an appreciation of the benefits of collaborative learning. IAT aims to utilize and encourage further development of these skills by the introduction of the use of groups to discuss case studies in tutorial questions. Although such group participation is not specifically or separately assessed, the debate encouraged by use of these groups enables students to develop an improved understanding of the issues/concepts.

The major assignment can also be prepared in groups, although this is optional. This assignment is worth 30% of the student's total assessment. Approximately one third of students utilize the group option. As well, the presentation introduced in 2001 is required to be undertaken by pairs of students, selected by the tutor, and so requires a collaborative approach.

CRITICAL REFLECTIONS OF THE TEAM

The implementation of the Graduate Qualities in the teaching and learning processes appear to have had a positive impact on students who have been exposed to them over a three-year period. This is reflected in the positive results in each of the three subjects.

Accounting, decisions and accountability

ADA went from a pass rate of 52% in 1998 to 82% and 78% in the two semesters in which it was taught in 1999 immediately following the implementation of the changes to the teaching and learning environment. The pass rate has remained at around 80% through to the end of 2001. Significantly, the main reason for the improvement was higher achievements in all of the exam questions where students consistently scored approximately 20% higher in each question compared to students in 1998. This occurred whilst the style and format of the exam remained consistent with the past. The exam involves about 72% problem solving and 28% theory. This would suggest that students' ability to solve problems has been enhanced by using the Graduate Qualities framework

to implement changes in the teaching and learning environment of ADA.

The feedback from students who had failed ADA prior to the implementation of the changes to teaching and who then repeated the subject after the changes was extremely positive. They reported much greater levels of understanding and appreciation of how the subject achieved its objectives. However, the extra workload associated with the changes has had a negative reaction. Prior to the new teaching strategies being implemented student feedback suggested that the average amount of work being done outside of class time was 2.5 hours per week. Following the changes, this has increased to 4.5 hours per week as well as the unsupervised workshops requiring an extra hour in class each week. This extra time on task is likely to be a significant contributor to the improved student outcomes in ADA.

Like all subjects, the teaching and learning environment has continued to change for ADA as the result of student feedback. These changes, however, are being undertaken by the subject coordinator with reference to the Graduate Qualities framework and with more thought to educational value due to the lessons learnt from working in a team consisting of a diverse range of experts. In the past, the development of the subject had largely rested with the subject coordinator in isolation, and the focus was more on content than learning experiences or developing generic skills.

Introduction to management accounting

IMA replaced two old management accounting subjects and so it is difficult to compare results with prior years. The use of the diverse subject development team and the Graduate Qualities framework meant that this subject was developed from the beginning with a view to embedding the development of generic skills into its teaching and learning processes and assessment as well as imparting knowledge on the subject's technical content. This more holistic approach to the subject's development provided the subject coordinator with a lot more support and direction than was usually the case in the School of Accounting and Information Systems. Part of the development of IMA included peer assessment of students' group reports.

Analysis of the formal subject evaluations revealed that the case study assignment was instrumental for developing their problem-solving skills. In fact, many students indicated that this assignment was one of the most enjoyable aspects of the whole subject. The

subject's emphasis on the application of management accounting concepts to 'real life' business issues example throughout the course design appeared to have positive learning outcomes. As one student stated 'my tutor clarified many topic areas that I otherwise would have had difficulty understanding', and 'the best aspect of this subject is that it has improved my ability to analyse and gives me a good understanding on what management accountants have to do'.

The students' responses to group work were mixed. Although some students had a favourable experience, others did not stating 'group work should be modified. I do not feel that the peer assessments are very accurate' and 'finding a better way to assess those students that do the majority of the assignment on their own, compared with those in groups'. These responses suggest that in some instances the peer assessment form can be difficult to apply in practice. Perhaps this is why anecdotal evidence indicated that most students who performed the case study assignment in groups gave each other the same contribution score. Part of the difficulty in applying the form is that as all group members must fill out the form together, conflict may arise if they cannot agree on each other's contribution. Hence, in order to avoid conflict, every group member is given the same contribution score (thereby making the peer assessment form irrelevant).

Issues in accounting theory

Although it is difficult to assess the impact on students of the implementation of the Graduate Qualities in IAT there are indications that the changes have had a positive effect. IAT historically has achieved relatively low pass rates of around 60%. The pass rate of 70% achieved in 1998, and this has increased to around 80% in 2001 (the year of introduction of the presentation). In addition, teaching staff noted a more structured approach to problem solving displayed in examination answers, suggesting that students' ability in relation to this Graduate Quality had improved. In the formal subject evaluation, additional questions targeted the newly implemented teaching materials and over 70% of respondents indicated that the new materials had assisted in their learning. With the use of groups to discuss case studies in tutorials, to enhance collaborative learning, teaching staff noted a higher active participation than in previous years. Although the use of group work was not specifically targeted in the year-end subject evaluation, comments made by students (for example, 'interesting discussions in tutes [sic] helped understanding'; 'tutorials were extremely beneficial in understanding the work') indicate that

the changes implemented have had a positive impact on their learning experience.

In a formal student evaluation in 2001, 95% of students indicated that the presentation had assisted in achieving the desired learning outcomes and that the course had developed their ability to solve problems. Over 80% of students agreed with the statement that the course had enabled them to develop and strengthen a number of the graduate qualities. Teaching staff also noted a change in emphasis of questions towards the process of solving case studies (rather than content).

CONCLUSION

When considering changes to a subject a coordinator would be well advised to seek the assistance of a *range* of expert professionals from student support (who often hear from students what is wrong with a subject), staff development and other specialists in teaching and learning. These should form a team that can reflect on the past teaching of the subject and develop a new approach that aims to develop students' generic skills. Too often academics 'go it alone' in developing subjects because they are the 'content' experts in the particular field. By uniting that 'content expertise' with student support and educational expertise, the development process is far more rewarding for both the academic and ultimately for the students.

A Graduate Qualities framework, or a similar generic skills framework, should be embraced by all academics as a means of providing an important guide that facilitates the implementation of new approaches to teaching and learning that will enhance the students' experiences, skills and educational outcomes. The Graduate Qualities grid is a useful tool in this process and helps teams to remain focussed on the issue of improving teaching and learning through implementing a Graduate Qualities framework.

The use of a team of diverse experts and a Graduate Qualities framework to develop the teaching and learning of three subjects within the Bachelor of Commerce has led to improved outcomes in each of the subjects and students generic skills attainment throughout the course.

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BIOGRAPHICAL NOTES

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APPENDIX 1: *Summary of Graduate Qualities Implementation*

Graduate Quality 3: Is an effective problem solver, capable of applying logical, critical, and creative thinking to a range of problems.

Teaching Tasks & materials	Teaching Tasks & materials	Teaching Tasks & materials	Professional Body requirements
• Lecture: work through problems • Workshop: working with other students to solve prob. • Tutorials: hint boxes including steps in processes • Assignment: hint boxes	• App 4: Guide to report writing. • Tutorials: problem solving questions (applying concepts to scenario) -hint boxes • Lectures: explain requirements • Assignment: hint boxes & increased weighting on analysis, common problems before & after for feedback e.g. describe v. analyse	• How to analyse case study- steps (S/B & on-line) • Revising the tut. answers to steps in analysis • Case study in tutorials • Common problems/ incorrect answers for case study • Assignment: teach to Bloom's (1956) taxonomy, clearer on mark split up for expectations • Presentation	**Generic Skills Areas** • analytic/design skills • appreciative skills
ADA *Objectives:* • Understand how organizations & individuals use accounting information • Be able to record accounting information in a systematic manner • Understand, apply & be able to critically analyse the concepts that underlie accounting reports • Be able to communicate findings from accounting information • Be able to work together collaboratively to solve accounting problems *Assessment:* • Mid semester test • Tutorial preparation • Major assignment • Exam paper 1.0 Credit Points	**IMA** *Objectives:* • Apply & critically analyse traditional & contemporary costing systems • Apply the appropriate financial analyses for a range of product-related decisions • Understand, apply & critically analyse traditional & contemporary approaches to planning & control • Understand, apply & critically analyse innovative mgt accounting techniques to maintain/pursue a competitive advantage • Development of excellent problem-solving skills *Assessment:* • Major assignment • Tutorial participation • Exam paper 1.75 Credit Points	**IAT** *Objectives:* • Understand & be able to critically analyse accounting concepts • Be able to apply concepts to solve financial reporting and accounting problems • Be able to appraise the theoretical validity and practical feasibility of accounting alternatives and proposed accounting reforms *Assessment:* • Major assignment • Mid- semester test • Presentation • Exam paper 1.00 Credit Point	

(Continued)

APPENDIX 1: (Continued)

Graduate Quality 4: Can work both autonomously and collaboratively as a professional

Teaching Tasks & materials	Teaching Tasks & materials	Teaching Task & materials	Professional Body requirements
• Workshops: case study answers prepared and assessed in groups • Assignment: can be prepared in groups	• Expectations in group assignment • Groups: assignment, either evidence of group work or alternatively a section on the importance of group work in the accounting profession	• expect group work skills • discuss case studies in groups • to refer back to ADA & IMA in lectures and tutorials Tutorials: debate some questions in groups	Generic Skills Areas • personal skills • interpersonal skills
ADA *Objectives:* • Be able to communicate findings from accounting information • Be able to work together collaboratively to solve accounting problems	**IMA** *Objectives:* • Development of excellent business communication skills • Development of excellent problem-solving skills • Be able to work together collaboratively to solve problems	**IAT** *Objectives:* • Development of excellent communication skills • Be able to work together collaboratively to solve accounting problems	
Assessment: • workshop preparation worth 7% of total assessment • assignment worth 20% may be prepared with a group of up to 3 students	*Assessment:* • 10% peer assessment for group participation & contribution • group assignment (voluntary)	*Assessment:* • not specifically assessed • Used skills developed in year 1 and 2 • group work in tutorials expected to impact on performance in all assessment	
0.5 Credit Points	0.5 Credit Points	0.5 Credit Points	

APPENDIX 2: *Graduate Qualities Grids*
Accounting, decisions and accountability

Subject objective	Related to GQ #?	GQ credit point weight	Assessment activities related to subject objective and GQ	Assess. Weight-ing	Assess. Timing	Summary of teaching and learning activities to develop objectives	Teaching Learning-Timing
Appreciate the role of accounting in society	1	1.0	Sometimes covered in the multiple choice section of the mid semester test	1%	Week 5	Lecture 1: the Accounting Standard development process and areas of accountant employment, a section on accounting ethics and how they impact on practice. These themes are developed further in the tutorial in week 2. Lecture 8 critically analyses the theoretical framework of accounting.	Week 1
	5	0.25	Part of question 2 in the end of semester exam Workshop and tutorial participation	5%	Week 15		Week 8
				1.5%	Week 2		
Understand how individuals and organizations use accounting information	1	1.0	Mid semester test question 3 is based on the decision making model developed in the week 1 lecture and week 2 tutorial. The decision making model is also included in question 5 of the exam.	2.8%	Week 5	The week 1 lecture discusses the role of accounting as an input into the decision making process. A decision making model is outlined and then is used in the tutorial and workshop. Management Accounting lectures look at the internal use of accounting information in planning, goal setting and control.	Week 1
	2	1.0					Weeks 10 & 11
	3	1.0	End of semester exam question 4 on management accounting and budgeting	8%	Week 15		Weeks 2–6 & 9
Be able to record accounting data in a systematic manner	1	1.0	Mid semester test questions 2 & 4 test the students knowledge of the journal entry process.	5.2	Week 5	Lectures, tutorials and workshops in weeks 2 to 6 and week 9 develop the students skills to record accounting information according to the rules of the discipline and to produce the three major external financial reports of profit & loss statement, balance sheet and cash flow statement.	
	3	1.0	End of semester exam questions 1 & 3 test the students ability to make balance day adjustments and to prepare the three external financial reports of profit & loss statement, balance sheet and cash flow statement	33	Week 15		

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APPENDIX 2: (Continued)

Subject objective	Related to GQ #?	GQ credit point weight	Assessment activities related to subject objective and GQ	Assess. Weight-ing	Assess. Timing	Summary of teaching and learning activities to develop objectives	Teaching Learning-Timing
Understand, apply and be able to critically analyse, the concepts that underlie the major accounting reports	1 3	1.0 1.0	Mid semester test question 1 End of semester exam question 2 has two questions on the concepts underlying the accounting process based on the conceptual frame-work of accounting.	1 % 10.8%	Week 5	The assumptions and concepts underlying accounting are intro-duced in lectures, tutorials and workshops during weeks 1 to 7 and are then summarized within the accounting conceptual framework in week 8.	Weeks 1–8
Be able to prepare and use common financial and management accounting reports	1 3 6	1.0 1.0 0.5	End of semester exam questions 4 on budgeting and question 5 on CVP analysis and time value of money.	16.2%	Week 15	The students are introduced to the budgeting process in week 11 lectures and use these skills to prepare the week 12 workshop and tutorial. CVP analysis and time value of money are introduced in the week 12 lecture and practiced in the week 13 workshop and tutorial.	Weeks 10–12
Be able to communicate findings from accounting information	2 3 4 6	1.0 1.0 0.5 0.5	Major assignment where 2/3 of marks are for presentation and written content During workshops and tutorials	13.3% 10%	Week 10 Weeks 2–13	The major assignment is a report to a client that is expected to be presented in a professional manner. Detailed guidelines are provided to assist the students in the preparation of the report. Workshops and tutorials involve communicating results to a group of people.	
Be able to work together collaboratively to solve accounting problems	3 4	1.0 0.5	Assessment of effort of groups in the workshops The assignment can be prepared in groups of up to 3 students	15% 2%	Weeks 2–13	Workshop answers are to be prepared in groups of 5 students where they will have to complete a group assessment form reflecting the individuals contribution to the group effort. The major assignment can be produced in groups of up to 3 students.	Weeks 2–13

APPENDIX 2: *Graduate Qualities Grids*

Introduction to management accounting

Subject objective	Related to GQ #?	GQ credit point weight	Assessment activities related to subject objective and GQ	Assess. Weight-ing	Assess. Timing	Summary of teaching and learning activities to develop objectives	Teaching Learning-Timing
Appreciate how management account-ing information can assist management in their planning, performance measurement, controlling & decision-making roles	1 5 6	1.0 0.25 0.5	Exam paper – often one question dedicated to this topic. Tutorial participation	11% 6%	Wk 15 Wks 2, 7–13	Lecture examples & tutorial questions (including hint boxes) for topic 1, 6–12	Wks 1,2, 6–13
Understand, apply & critically analyse traditional & contemporary costing systems	1 2 3	1.0 0.50 1.75	Major assignment Tutorial participation	25% ~4%	Wk 8 Wks 3–7	Lecture examples & tutorial questions for topics 2–6	Wks 2–7
Apply the appropriate financial analyses for a range of product-related decisions: pricing, product-mix, outsourcing & capital investments	1 3	1.0 1.75	Exam paper Tutorial participation	11% ~1.5%	Wk 15 Wks 8, 9	Lecture examples & tutorial questions (including hint boxes) for topics 7 & 8	Wks 7–9
Understand, apply & critically analyse traditional & contemporary approaches to planning & control	1 3	1.0 1.75	Exam paper Tutorial participation	22% ~2.5%	Wk 15 Wks 10–12	Lecture examples & tutorial questions (including hint boxes) for topics 9, 10 & 11	Wks 9–12
Understand, apply & critically analyse innovative	1 3 7	1.0 1.75 0.25	Exam paper Tutorial participation	11% ~1%	Wk 15 Wk 13	Lecture examples & tutorial questions (including hint boxes) for topic 12	Wks 12–13

(Continued)

Subject objective	Related to GQ #?	GQ credit point weight	Assessment activities related to subject objective and GQ	Assess. Weight-ing	Assess. Timing	Summary of teaching and learning activities to develop objectives	Teaching Learning-Timing
management accounting techniques that assist firms in maintaining/pursuing a competitive advantage							
Development of excellent business communication skills	4 6	0.25 0.5	Major assignment Tutorial presentation Tutorial participation	25% 10% 10%	Wk 8 Varies Wks 2–13	Assignment to be presented in business report format. Presentation of relevant article to tutorial class	Wks 1–13
Development of excellent problem-solving skills	3 4	1.75 0.25	Major assignment Exam paper Tutorial participation	25% 55% 10%	Wk 8 Wk 15 Wks 2– 13 Wk 8	Tutorial questions (with hint boxes), assignment & exam involve the application of problem solving skills.	
Be able to work together collaboratively to solve problems	3 4	1.75 0.25	Major assignment Tutorial participation	25% ~1%	Wks 2– 13	Students are required to attempt assignment in groups of up to 3. Marks for group work are based upon peer assessment form. Group work is also used during tutorials.	Wks 2–7

APPENDIX 2: *Graduate Qualities Grids*
Issues in accounting theory

Subject objective	Related to GQ #?	GQ credit point weight	Assessment activities related to subject objective and GQ	Weight-ing	Timing	Summary of teaching and learning activities to develop objectives	Timing
Demonstrate an understanding of contemporary theories of accounting and be able to critically analyse accounting concepts	1	1.5	Test	10%	Week 6	Lectures	Week 1–12
	2	0.75	Exam		Week 15	Tutorials	Week 2–13
	3	1.0				Weeks 2-4 descriptive theory	
	6	0.5		50%		Weeks 5-12 conceptual framework	
Appraise the theoretical validity and practical feasibility of accounting alternatives and proposed reforms.	1	1.5	Assignment	30%	Week 10	Lecture on the basis of the conceptual framework	Week 5
	2	0.75				Assignment	Week 10
	3	1.0					
	4	0.5					
Demonstrate an understanding of contemporary accounting research	1	1.5	Test	10%	Week 6	Lectures and tutorials on Capital Market Research and Accounting Policy Choice Research	
	2	0.75	Assignment (sometimes)	30%	Week 10		
	4	0.5	Exam	50%	Week 15		
Explain the ethical bases of contemporary accounting theory and research	5	0.25	Debated in tutorial although not directly assessed; May be assessed in assignment.		Week 6	Lecture and tutorial on normative vs. positive theories	Week 2–4
						Tutorial question on conceptual framework	Week 1–2
						framework	Week 7
Work together collaboratively to solve accounting problems	2	0.75	Optional group work for assignment	30%	Weeks 2–13		
	3	1.0	Group work in tutorials not separately assessed. Presentation	10%	Weeks 5–12		
	4	0.5	Assignment	30%	Week 10		
Development of excellent communication skills	6	0.5	Exam	50%	Week 15		
			Presentation	10%			
Use accounting concepts to solve financial reporting and accounting problems	1	1.5	Assignment	30%	Week 10	Lecture and tutorials	Week 7
	2	0.75	Exam	50%	Week 15	Topic 5 onwards, application of the conceptual framework and measurement	
	3	1.0	Test	10%			
	4	0.5	Presentation	10%			
	6	0.5					