Embedding the Graduate Quality 'Collaborative Working' into the Curriculum through Reflective Learning

Ann Monday
University of South Australia, Adelaide, Australia

Ann.Monday@unisa.edu.au

Abstract

Graduates of today are not only required to demonstrate academic competence and the ability to learn, they are also required to demonstrate a range of employment skills that will enable them to make the transition from university to work. This paper explores reflective learning as an approach to embedding the graduate quality of collaborative working into an undergraduate business course. It explores a range of activities used and reports on the results of the approach to date.

Keywords: Graduate Qualities, collaborative working, reflective learning, logic problem, Belbin's diagnostic test, Rowe's Decision Style Inventory, SWOT analysis

Introduction

When the Department of Education, Training and Youth Affairs in Australia (DETYA, 2000) examined employer satisfaction with graduate skills they concluded that a number of skill deficiencies existed. To address this deficiency the university in question identified a need to embed seven graduate qualities into the curriculum. All students are expected to demonstrate these graduate qualities by graduation.

This paper explores a range of techniques used to develop the graduate quality 'collaborative working' in one of the core courses in a Bachelor of Business degree. It is accepted that there is a range of definitions of collaborative working. In this paper collaborative working is explored in the context of the interpretation made by the university in question. The university (2000) states that students will know when they have achieved the graduate quality of 'work[ing] …collaboratively as a professional and citizen' when they can:

- use logical and rational argument to persuade others, to negotiate with others
- work collaboratively with different groups, identify the needs of others and build positive relationships
- work in a group (cooperate with all group members, share ideas, forgo personal recognition, negotiate solutions when opinions differ, resolve conflict, recognise strengths of other group members, share responsibility, convey a shared vision for the group, display a commitment to make the group function effectively)
- be able to provide leadership within a group context by understanding responsibilities for organisation, planning, influencing and negotiation.'

The focus on 'collaborative working' in this paper arose from repeated comments from each cohort of students, that although the university expected students to demonstrate that they could work col-

laboratively, there was no guidance, education or training provided to help them to achieve this. *'We're just put into groups and told to get on with it … no-one tells us how to do it … when things go wrong we don't always know how to put them right …we all have different schedules and can't manage our time … we don't know how to split the tasks up … so that everyone is making an equal contribution …we don't know where to start …"*

The university has adopted the approach of embedding the graduate qualities into all of its programs rather than teach them separately. The university now requires all programs to be structured to include a plan for the development of graduate qualities throughout the duration of the program. Steven and Fallows (1998) explore '[t]he strategic decision to embed employability skills into each level of the undergraduate curriculum …' to ensure that '… every student is fully equipped, at graduation, with the skills necessary for the very important transition into the world of employment'. They point out that graduates of today face a different employment challenge to university graduates of yesteryear, namely the need to acquire essential employment skills as well as being able to demonstrate academic competence and an ability to learn.

The Course

The course (subject) is 4.5 units and is one of 24 x 4.5 unit courses undertaken by students to complete the degree program. Semesters are 14 weeks long, with 13 weeks of tuition followed by a one-week self-study period before examinations commence. The course is scheduled in year 2, semester 2 of the degree program and has pre-requisites of a first year IT course and a second year first semester course in end-user development of databases.

In this course students explore decision making in organisations, individual and group decision makers and some of the technology that supports individual and group decision-making. Students analyse a complex problem, analyse the decision makers in the case and develop a small decision support system using Microsoft Excel. They are required to scope the problem and plan and manage the project as part of a group. They are also required to learn the software, and ultimately choose the appropriate features that allow them to build a user-friendly application. In addition, they are required to demonstrate development of the graduate qualities detailed in Fig 1.

Fig 1: Graduate qualities

Graduate quality	1 body of knowledge	2 lifelong learning	3 effective problem solving	4 work autonomously and collaboratively	5 ethical action and social responsibility	6 communicates effectively	7 international perspectives
Unit weighting	1.2	0.5	1.0	0.5	0.2	1.0	0.1

Although the chosen graduate quality 'collaborative working' appears to form only a small part of the course (0.5 points out of 4.5 points, see Fig 1), it impacts considerably on the other graduate qualities detailed in Fig 1. In terms of the course focus, the body of knowledge relates to group decision makers and the tools that might support group decision making (GQ1), how decision makers solve problems (GQ2). The approach to learning is intended to develop the qualities of life-long learning (GQ3). Whilst students are working collaboratively they are expected to operate in an ethical and socially responsible manner (GQ5), to communicate with the business, group members, tutors and other resource providers in the university (GQ6), and given a large proportion of the students are overseas students, be cognisant of international perspectives (GQ7).

Student Population and Study Modes

The course is delivered to large numbers of students in several delivery modes and delivery patterns (see Fig 2).

Fig 2: Student population

	Onshore Internal	Onshore External	Offshore	Total
2002	73	10	200	283
2003	80 projected	10 projected	350 enrolments	440

Onshore internal students attend 3 hours of lectures, tutorials and practical sessions. Onshore external students receive hard copy study materials and access to resources on the course web site. Offshore students study in their own country. Lecturers visit the country for one week at the beginning of the semester and one at the end to deliver mass lectures. Students attend 4 x fortnightly workshops with local tutors. All students can access lecturers via email, telephone and a web-board throughout the course.

Learning Approach

Reflective Learning

Jarvis (1992), cited in Liimatainen, Poskiparta, Karhila and Sjogren (2001, 650), defines reflection as 'an essential phase of the learning process, where people consciously explore their experiences in order to arrive at new understandings and behaviours'. To provide a rich learning environment within which reflective learning can take place a variety of learning approaches are used, including case studies, role play and a collaborative project.

Case Study

The course is taught via a case study either written in consultation with local businesses (service sector and manufacturing), drawn from the industrial experience of staff working with the program or from past students. The intention of case studies is to develop the problem solving capabilities of the students by using the body of knowledge, concepts and skills relevant to the course (Kreber, 2001). The case is used to tell a story, raise issues for discussion, contain elements of conflict, lack a definitive answer, encourage students' thought processes, requires a decision to be made and are reasonably concise (Gross Davis 1993, cited in Kreber, 2001). It is also important that students reflect on their choices, approaches and actions from the outset so the case is used as a vehicle for learning as well as for assessment.

Role Play

A role play approach is used to simulate the interaction between the parties to the case study. It allows students to tackle 'live' projects, adopt a role and view a situation from the viewpoint of their role, present arguments, defend their viewpoints and work in groups to develop group skills (Cutler and Hay, 2000). Because students study in a variety of modes (internal, external, offshore) face-to-face role play with all students is not possible and has had to be adapted for use with each group of students. Students are required to work with the case business to solve a problem and develop a spreadsheet decision support application. Business roles are adopted by the tutors and the students are required to communicate with the business, clarifying the problems of the organisation, elicit the information needs of the case business and then design the spreadsheet for the case business. Students learn to handle conflict and ambiguity. Cases are alternately drawn from the service sector and manufacturing to provide an insight into the range of businesses students will meet in their working lives.

Collaborative Project

A collaborative project introduces the students to group dynamics, problem solving and managing complexity, managing time and resources and achieving project goals (Monday & Barker, 2002). Students are required to demonstrate their ability to communicate with the case business through interviews, presentations, project plans and spreadsheet designs.

Group Composition

All students, onshore (internal and external) and offshore students, are required to work in groups. Groups are formed from within each study mode. Internal and offshore students are allowed to choose their own group members, though group sizes are limited. External students are able to choose their own group if they know someone else taking the course. In many instances external students have never met other students so these students are grouped by the tutor, primarily based on their location to give as many as possible the opportunity to meet up if they so desire. Otherwise communication takes place via email and the web board, and occasionally the telephone, though the university discourages students from exchanging personal details.

The remainder of this paper discusses a range of activities introduced this semester to internal onshore and external students to develop collaborative working. Although the activities have not yet been introduced to offshore students, the inclusion of offshore students in the discussion so far is important. Many of the lessons learned (discussed later), and the issues raised will impact on the way these activities can be introduced to this group of students.

Learning Activities

Groups are formed no later than week 3 in the semester. Because onshore students at the university are offered a huge amount of choice in their degree program a large number of students will never meet more than a very small number of students in their 24 courses. Thus it is more common for internal students to meet a group of strangers in the first session even though they are in the fourth semester of their degree. External students are unlikely to meet at all, though some students do study in 'mixed mode', that is, internal for some subjects and external for others. It is considered important, therefore, to provide an opportunity for students to get to know each other early in the semester to facilitate the forming, storming and norming stages of a project once groups are identified.

Simple activities (Fig 3) are used to encourage students to get to know each other, explore their strengths and weaknesses as individuals and as group members and to identify their individual decision styles. Internal students complete the activities in tutorials and practicals and external students receive printed study materials. These activities, which have now been piloted with onshore students, will be phased into offshore teaching in 2003. The activities include a logic problem, Belbin's diagnostic tool, Rowe's Decision Styles Inventory, SWOT, (individual and group), project planning and peer review. Students are introduced to these activities in terms of what they are expected to do and why they are doing it.

Fig 3: Schedule for phasing in activities

	Onshore internal	Onshore external	Offshore
Logic problem	**2002**	**2003**	**2003**
Belbin's diagnostic tool	**2002**	**2002**	**2003**
Rowe's Decision Style Inventory	**2002**	**2002**	**2003**
SWOT analysis	**2002**	**2002**	**2003**
Project planning	**2002**	**2003**	**2003**
Peer review	**2002**	**2002**	**2003**

They are required to reflect on each activity in terms of what they felt they had learned and if and how it would help them in their group project.

Once groups are established they are required to determine the goals of group, determine how each member can best contribute to the group's goals, identify any problems previously encountered in group work and strategies for avoiding problems, plan a project schedule, allocate tasks, establish good working practices, operate ethically within the group and with the case organization, communicate effectively with fellow group members and the organisation, accept responsibility for their actions, and the actions of the group, and manage the group project to successful completion.

Logic Problem

The logic problem had several purposes. Firstly it was used as an ice-breaker. Secondly, it was used to promote group interaction. Thirdly, it was a reasonably complex but fun problem that some students were invited to solve whilst others were invited to observe and document their views of what happened during the process. Thus all students were involved in some capacity. Finally its aim was to help students to start to recognise key features of successful group problem solving. As soon as the activity was completed a reflection took place with all students (players and observers) contributing to constructive feedback. Tutors were provided with the following questions to provide some structure to the reflection and students were encouraged to add their own viewpoints:

Did the appointed leader lead the group?
If not, did this cause any problems (for the group and for the leader)?
Did the group establish if existing expertise in this type of task was present?
If yes, did they make full use of it?
If no, what problems did they encounter?
How quickly did the tasks come to light?
What incorrect assumptions were made in the early stages?
Was anyone keeping an eye on the time available for the task?
Did everyone contribute to the process?
Did anyone press for a particular approach to be adopted?
How was ambiguity and conflict handled?
How was trivial data removed from the scene?

Belbin's Diagnostic Tool for Group Selection

Belbin (1981) suggests that a perfect group would consist of a number of key players. Belbin's diagnostic tool for group selection was used to identify the range of 'players' in the course. The tool was used to help students to identify potential group strengths and weaknesses. Once project groups were formed students used this analysis to explore their potential roles in their group. They explored potential con-

Fig 4: Results of Belbin's diagnostic test

Role	**Total**
Company worker	20
Chair	1
Shaper	10
Plant	2
Resource investigator	4
Monitor evaluator	1
Group worker	14
Completer finisher	6
Multiple	13

flicts and alliances that might arise between group members, and also considered whether the group might suffer from group think.

The results of the diagnostic test (71 students: 97%) are shown in Fig 4.

Rowe's Decision Style Inventory III

In Rowe's Decision Style Inventory III (cited in Marakas 1998**)** decision makers are analysed on the basis of cognitive complexity (requirement for structure or ability to handle ambiguity) and value orientation (task/technical, people/social, logical or relational). As with Belbin's diagnostic tool for group selection, this tool was used to help students to identify their preferred decision style in order to help students to explore the composition of their group and any strengths or weaknesses that might exist within the group.

The results of the diagnostic test are shown in Fig 5.

Fig 5: Results of Rowe's decision style inventory III

Decision Style	Before	After*
Analytical (structure, task/technical)	14	20
Behavioural (structure, people/social)	20	16
Conceptual (ambiguity, relational)	10	9
Directive (ambiguity, logical)	8	10
Multiple	14	20

* Not all students chose to repeat the process

SWOT analysis

SWOT analysis was used to summarise all the issues that had been explored with the previous activities. In addition, in the previous semester students had been involved in another group project. Students were also asked to reflect on this group work, or other group work they had been involved in and to identify their successes and failures. One of the main weaknesses highlighted by a large number of students was time management. In terms of strengths the most common were reliable, hardworking and good listener. Threats were seen as social commitments, work commitments and inexperience in handling conflict and opportunities as sharing ideas, job opportunities and making new friends.

Project Planning

At this stage students were able to identify tasks, allocate roles, plan a time schedule and identify required resources for the semester. The forming, storming and norming stages of group work were well underway and students could concentrate on performing.

Peer Evaluation

Given students were required to collaborate extensively throughout the semester, it was considered important to provide not only a framework to allow students to develop their expertise in collaborative work, but also the opportunity to evaluate the success of themselves, their group members, and their group in terms of the collaborative process. Dochy, Segers and Sluijsmans (1999, 337), cite Falchikov's (1995) definition of peer assessment 'as the process through which groups of individuals rate their peers'. They continue by noting that the activity may or may not include the use of a rating system or checklist, and if it does this may or may not be designed or agreed by the participants.

Students were advised at the start of the course they would be required to complete a peer evaluation after each of their collaborative assignments. Students were allocated a number of points for distribution.

Where groups awarded an unequal distribution of points to different members of the group they were required to explain and justify their allocation. Peer evaluation was not undertaken on an individual basis. The group was required to reach a consensus of agreement on the allocation of a set number of points. There is thus an element of self-evaluation in the process. Where a group had difficulties, tutor mediation was available. Given the evaluation was undertaken, by discussion, with all members of the group present, self assessment was also taking place. Dochy (1999, 340) et al consider the combination of self- and peer assessment 'fosters reflection on the student's own learning process and activities compared to those of other members in the group …' and can form a valuable part of the process.

Students were asked to consider a number of issues that had been identified by the previous cohort of students to be important for the success of their collaborative work. In addition students were encouraged to add any other criteria they considered to be important to the success of their group work. The given criteria were:

Did the group member attend all the required scheduled meetings?
Did the group member produce all the required preparation for the scheduled meetings?
Did the group member produce all the required preparation at other times?
Did the group member contribute ideas?
Did the group member welcome the inputs and ideas of other members?
Did the group member contribute significantly to the group work?
Did the group member work to promote co-operation within the group?
Did the group member work appreciate the efforts of others and support them?
Did the group member act in a socially responsible way?
Did the group member act as a group member rather than as an individual?

Students' Reflection

Students were required to reflect on each activity in terms of what they felt they had learned and if and how it would help them in their group project. They were advised that they might find it useful to keep a diary throughout the semester to jot down their thoughts, feelings, ideas, successes, frustrations, etc.

Logic Problem

This activity was received well by all tutorial groups. All students had a role to play in the activity and were able to contribute well to the discussion that followed. Although some of the 'lessons learned' during the structured reflection were quickly forgotten and needed repeating the approach adopted by the students during the project demonstrated a number remained with the students.

Belbin's Diagnostic Tool for Group Selection and Rowe's Decision Style Inventory

A typical comment as the groups formed was *'It's not fair, we're being disadvantaged, we don't have a perfect group, not all the characters and decision styles are represented.'* However, in their final reflection at the end of the semester many commented that they had found this didn't actually matter. *'It didn't matter that all the characters were not represented. We understood our strengths and weaknesses as a group and were able to address our needs'*. Others commented that although they had conflict in their groups at times, understanding each other's decision styles and preferred group roles helped them to resolve their differences.

SWOT Analysis

Some students commented that they didn't find it too difficult to identify their strengths but found it harder to be honest and open about their weaknesses and threats. One student commented *'... SWOT*

Analysis is always hard, as who wants to list their threats and weaknesses (I always find I'm low on these areas, as it's a threat to list them).' Others considered the only way to find out about the individuals in the group was to work with them.

Project Planning

Students found project planning helped in terms of identifying the activities they would need to complete. For the first assignment students allocated roles to each of their group members and successfully completed their individual tasks. For the second assignment, although students were able to identify the tasks they would need to complete, several commented they found it difficult to complete their task independently. *They felt they all needed to sit round the computer to work on the spreadsheet design and implementation because each task was closely related to the others and although they had broken them down, in reality they couldn't complete them independently.* The task was large enough for all group members to take on individual roles and thus their decision to work together added considerably to their workload.

Very few groups followed the timelines. Inevitably some became stressed as the hand-in date loomed and they blamed the task, the discussion board and the tutors but not themselves. During reflection they commented that they *should be assessed on their ability to follow the project plan and they would then have to meet their deadlines.* This raises an issue in terms of when students should start to take responsibility for their own learning

Peer Evaluation

Students are aware from the first week that peer evaluation will take place and that it is part of the learning process. In general, although students grumbled about peer assessment at the start of the semester they were thoughtful in their final evaluation. Most groups, in their final presentation, stated they felt they had made an equal contribution to the group work and were able to demonstrate each of their roles to support their belief.

Students are also encouraged to seek help from tutors if conflict arises in their groups and they are unable to resolve it themselves but this did not always happen. Tutor mediation during peer review was necessary for two groups. In both instances group members had been inflexible and had failed to take account of the needs of other group members.

Final Presentation

At the end of the semester students were required to deliver a short presentation reflecting on their approach to the project and what they had learned as an individual, as a member of a group and as a decision maker. The diary was intended to help the students to develop their presentation. However, as no marks were attached to the diary many students chose not to do it and thus final presentations were generally weak. A typical comment was *we should have kept a diary, we couldn't remember lots of things even though at the time they were important to us.* They also requested further guidance on what was expected from them. The final product (spreadsheet DSS) produced during the project was generally of a good standard.

Outcomes and Issues

This paper has explored a number of activities used in an endeavour to embed the graduate quality 'collaborative working' into the curriculum. There is evidence in the student reflection that lessons have been learned, but to what extent and by whom?

Reflective Learning

Beveridge (1997, 8) points out that 'students won't give reflective writing a chance unless it is assessed, while serious reflection requires the student to write openly and this requires safety'. Routledge (1997, 124) suggests that 'Since reflective abilities are demonstrated through personal accounts which cannot be anonymized this could create inappropriate anxiety, compromise results or a tendency for students to write more for the assessors than to inform their own learning'.

Creating a safe learning environment was important for the students and this was successfully initiated in the first week of the semester for internal students through the logic problem, however, it was not maintained throughout the semester. Initially tutors were allocated roles within the case organisation. This approach had been used many times over a number of years and had always received positive feedback from both students and staff. However, on this occasion, while some tutors engaged well with the role play and the case organisation, others opted out.

Additionally, there is the added pressure for probationary staff whose future tenure rests on good student feedback. They may feel uncomfortable with an approach that perhaps requires them to step outside their own comfort zones. However, the approach required the tutors to 'get involved' and because they didn't the student feedback showed that the students saw this as the co-ordinator '*keeping the tutors in the dark'*. They felt that unnecessary obstacles were being put in their way, particularly during the software development when the students wanted answers in workshops and were constantly referred to the course co-ordinator. The students were not aware that tutors had opted to define their own roles.

Another consideration must also be the role the course co-ordinator played in the delivery of the course on this occasion. On previous occasions the course co-ordinator had taken an active role with the students during tutorials thus the students had time to get to know the co-ordinator. On this occasion the co-ordinator met the students only during the weekly one-hour lecture and thus the co-ordinator did not get to know the students, and nor did the students get to know the co-ordinator. Students commented that they would have felt more comfortable in the role play had they had the opportunity to know the co-ordinator better.

External students used the course co-ordinator as their business contact and responded positively to the role play. External students were introduced to each other via email, but soon decided that face-to-face meetings would be valuable for their groups. They quickly established a rapport without the help of the co-ordinator or the logic problem.

The group role activity and decision style analysis helped most students to understand the approach of other members of their team and to resolve minor conflicts before they became real problems. However, once students started to analyse their strengths and weaknesses, opportunities and threats in terms of their group they became more cautious about sharing what they considered to be personal 'failures'. Although students had identified what they perceived to be personal weaknesses it was difficult to establish to what extent, if any, they had reflected on these issues and learnt from them.

In the final presentations there was evidence of internal students presenting what they thought the tutors wanted to hear, but in many instances different members of each group contradicted other members and it quickly became evident where the real issues and tensions had existed within groups. It was then possible to explore these issues with internal students. However, Boud and Walker, cited in Thorpe (2000) warn that approaches such as 'ritualistic checklists' and questioning may encourage compliance as opposed to genuine self-reflection. Given the students are second year students, and that this is their first foray into reflective learning it was considered essential by the course co-ordinator to provide some structure for the students. External students produced a written reflection and feedback was provided in written form. Thus the richness of the discussion that internal students benefited from was lost.

Staff Development

The activities described above are meaningless without context and effective reflection. For this to take place it is clear that it requires a team of staff who are familiar and comfortable with this approach and able to support the students through the different activities. This is particularly hard given that some tutors are casual and transient staff, and others are on probation prior to consideration for tenure. Although detailed guidelines were provided for tutors teaching on this course it was clear that further training and guidance will be necessary, particularly where students and staff start to move out of their comfort zones.

Offshore Delivery

There are a number of issues that are relevant to the introduction of these activities to offshore students and tutors. Role play was successfully introduced to the offshore students some time ago. Although offshore students only meet the course co-ordinator during two brief visits to their country, at the start and the end of the semester, and thus do not get to know the co-ordinator well, they do not appear to find it difficult to stay in touch with the co-ordinator and are happy to use email to do this. Thus role play with the business will continue to take place via email and the co-ordinator will continue to take the role of the business. The need to get to know the co-ordinator does not appear to be a major concern for these students. They see status as an issue and prefer to liaise with the course co-ordinator rather than tutors. Another priority is prompt feedback to their questions.

Offshore tutors are less familiar and less comfortable with the approach described in this paper and tend to be threatened by a potential 'loss of face'. Little or no direct contact is available between the course co-ordinator and tutors who are teaching on the offshore program. Course co-ordinators may meet the tutors for a brief meeting at the start of the semester and are invited to attend lectures, but they rarely do because of their demanding work schedules. They are also invited to email if they have any questions, but this also rarely happens. Thus it will be essential to provide detailed guidelines to help tutors to feel more comfortable when these activities are introduced in 2003.

Staff Workloads

However useful collaborative activities may be, many students will not take it seriously unless they are offered extrinsic rewards in terms of marks. A time limit is imposed, by the university, on the marking of student assessments and thus prohibits the marking of all activities involved in this approach. For internal students many of the activities could be evaluated during the seminar but for external and offshore students this is not possible. Given the large numbers of offshore students this is an issue that still needs to be addressed if we wish to embed the graduate quality into the curriculum rather than treat the learning as surface learning.

Conclusions

This paper has outlined a number of activities that have been used to try to address the issue of embedding the graduate quality 'collaborative working' into the curriculum. Students have, to some extent and with guidance, learnt to reflect on their approach to collaborative work. However, it was found that once students move out of their comfort zones true reflection stops and surface reflection takes over. Further development is necessary for both staff and students to facilitate more successful and deeper learning. In addition, the vast majority of students will choose only to take part in those activities for which they are awarded marks. Thus a review of the assessment is currently being undertaken and will be modified to place more emphasis on process rather than product.

References

Belbin, M. (1981). *Management Groups: Why they succeed or fail*. Heinemann.

Beveridge, I. (1997). Teaching your students to think reflectively: The case for reflective journals. *Teaching in Higher Education*, Mar, Vol 2, Issue 1, pp33-44.

Cutler, C and Hay, I (2000). 'Club Dread': applying and refining an issue-based role play on environment, economy, and culture. *Journal of Geography in Higher Education*, 24, 2,179-197.

Department of Education, Training and Youth Affairs, Australia (2000). Employer Satisfaction with Graduate Skills, Research Report, AC Nielsen Research Services, 99/7, February, Evaluations and Investigations Programme, Higher Education Division.

Dochy, F., Segers, M. and Sluijsmans, D. (1999). The Use of Self-, Peer and Co-assessment in Higher Education: a review. *Studies in Higher Education*, Vol 24, No 3, pp331-350.

Kreber, C (2001). Learning Experientially through Case Studies? A Conceptual Analysis. *Teaching in Higher Education*, 6, 2, 217-228.

Liiamatainen, L., Poskiparta, M., Karhila, P., and Sjogren, A. (2001). The development of reflective learning in the context of health counselling and health promotion during nurse education. *Journal of Advanced Nursing*, 34 (5), 648-658.

Marakas, G.M. (1999). *Decision Support systems in the 21st Century*. Prentice Hall.

Monday, A. and Barker, S. (2002). Developing Quality Graduates through Graduate Qualities. *IRMA International Conference: Issues and Trends of Information Technology Management in Contemporary Organizations*, Seattle, 522-526.

Routledge, J. and Willson, M (1997). Reflection on the development of a reflective assessment. *Medical Teacher*, June, Vol 19, Issue 2, pp122-128.

Steven, C. and Fallows, S. (1998). Enhancing Employability Skills Within Higher Education: Impact on Teaching, Learning and Assessment, *Higher Education Close Up Conference*. University of Central Lancashire, http://www.leeds.ac.uk/educol/documents/0000000700.htm [accessed online 13/09/01].

Thorpe, M. (2000). Reflective learning and distance learning – made to mix by design and by assessment. *Information Services and Use*, 20, 145-158.

University of South Australia (2000). Graduate Quality 4 leaflet http://www.unisanet.unisa.edu.au/gradquals/GQleaflet4.doc [accessed online 04/10/01].

Biography

Ann Monday lectures in end-user computing for decision support at undergraduate level and information systems for competitive advantage at masters level in the School of Accounting and Information Systems at the University of South Australia, where she has been based since 1997. She worked for a bank and a large pharmaceutical company before joining academia. She previously worked in the UK tertiary sector for 17 years teaching a range of information systems subjects at undergraduate and masters levels. Her current research interests are in the areas of education, systems thinking, and email policy, supply chain management, and best practice within the Australian wine industry.