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JULY 1995

Editorial

Margaret Buckridge



In past editorials, I have, on occasion, made no secret of the extent of my Union involvement. Because I am also a Staff Developer, my Union activism is, for me, a little bit doctrinaire. I believe, in principle, that it is important for staff development to maintain contact with a concern for industrial justice.

This was once a relatively easy principle both to espouse and to practise. Staff development was often largely focused on the individual staff member - staff participated either voluntarily, or, if pushed, in order to seek assistance in relation to tenure or promotion. For staff developers, providing assistance under these conditions posed no difficulties - helping the individual, helping the institution and optimising industrial entitlement were all nicely rolled together.

The first challenge to this relationship occurred at a number of institutions with the advent of systems of student evaluation of teaching. These systems were often run by Staff Development Units - who had an obvious professional interest in the kinds of questions asked and who viewed student feedback as a vitally necessary component of teaching improvement. Because they produced highly-prized quantitative data, however, there was a swift, inevitable tendency for these evaluations to feed in to various management processes, not least those connected with decisions about staff. As various elements of compulsion were added, some staff development units found themselves, professionally and industrially, astride a monster. No matter that they cautioned that student opinion was only one source of evaluative data, or that percentages of students responding were unacceptably small, or that there were documented differences between the responses of big/small, young/old, elective/non-elective, first year/late year, etc. The numbers gleamed triumphantly.

Some units, including the one in which I work, have moved to reassert their professional voice in this area, to insist that the evaluation of teaching is more complex than this one set of numbers, and that improvement of teaching is more complex still, and utterly unlikely to occur in face of numbers alone, however disciplinary their use. In so doing they have also gone a long way towards handing back the responsibility for evaluating, improving and reporting on teaching to staff themselves.

The second challenge to Staff Developers is more unlimited, more diffuse. In face of quality assurance and accountability demands we are being asked by the management of our institutions, to a greater or lesser

extent, to assist in the formation and implementation of strategies for quality enhancement. At first glance, this seems innocent. No-one would argue against quality; and the focus of this work would seem to be institutional rather than individual.

But we are being asked to do this in a context conditioned by cost-cutting and Enterprise Bargaining. Each of these factors presents its own difficulty. Better quality ultimately takes time and money - there is a small amount of leeway for 'working smarter' and for conserving learning, both individual and organisational, but, sooner or later, in a situation where there is less money rather than more, we are asking academic staff for additional contribution. And it is staff developers who must often be the instrument of this asking. More than once, it has been evident to me that the expectations, the newly-instated norms I am 'facilitating', are striking staff members as oppressive and demoralising.

This brings us to Enterprise Bargaining. One effect of changing to this mode of organisational operation must be to bring together our collegial, professional and industrial identities. In many universities, one of the items on the Union Log of Claims is negotiation over new quality improvement and assurance measures. It is a not-unexpected claim. Academic staff believe that they should be able, as appropriate, to share in the productivity achieved by these measures as initiated through collegial processes or to reject them where they represent an imposed and unrewarded additional demand.

Staff developers are left very little room to move on this new stage. For ourselves, we invoke the notion of 'leadership' and distinguish it clearly in our own minds from processes of imposition and managerial prerogative. But the distinction can break down completely at the coalface. For the sake of our own best practice, as well as for a just and non-oppressive workplace, some of us must assert the industrial perspective as strongly as we assert the managerial agenda. Peace between them is still some way off.

Margaret Buckridge.

Community Service: A Science School in Summer

- The Siemens - Curtin University of Technology Experience

Universities are constantly being encouraged to develop relationships with the communities in which they exist. Indeed, in Australia, this year's quality audit of institutions focuses not only on research but also on community service. Such service can take different forms with different groups of community stakeholders. Here, Stan Kailis details for us one university's participation in a significant national outreach initiative.

INTRODUCTION

Why do Australian 14 year-olds give up precious holiday time, the chance of going to the beach or the pictures, to attend an intensive three-day science experience? The thought of scientists in laboratories, the mystique of the chemistry laboratory, the challenge of following physical phenomena, or a push from parents and teachers: which of these are the reasons? Whatever, some two thousand five hundred school students attended Siemens Science Schools conducted at twenty-three university campuses around Australia in the 1993/1994 year. The majority of these were conducted in the summer of 1994. Curtin University of Technology participated for the first time in 1994.

BACKGROUND OF SIEMENS SCIENCE SCHOOLS

Siemens Australia, part of the internationally recognised electrical and electronic corporation, in association with the Australian Scientific Industry Associations and participating Rotary Clubs, developed the concept of Siemens Science Schools to provide opportunities for year 10 high school students to undertake enrichment programs in science and technology. The schools, which are conducted over 3 days, provide hands-on scientific activities supervised by scientists. Students pay a small fee which is passed on to the participating university to help towards expenses. Siemens provides all the infrastructure support for each school including canvassing and enrolling students.

THE CURTIN SIEMENS SCIENCE SCHOOL

The summer schools are widely publicised around Australia. Specific mailings are sent from Siemens to government and non-government schools in urban and country areas including very remote Aboriginal schools. Rotary clubs also provide extensive support to the science school including assistance in billeting students. Student applications are generally supported by letters from school principals and science teachers.

Table 1 Enrolment numbers for the 1994 Siemens Science school at Western Australian Universities

Curtin University of Technology	118
Edith Cowan University	41
The University of Western Australia	149

In Western Australia, Siemens Science Schools were held during the summer of 1994 at Curtin University, Edith Cowan University and The University of Western Australia (Table 1). Virtually all the students attending the Curtin school had chosen that University as their first preference.

Curtin University was invited by Siemens to participate in the 1993/1994 round of Siemens Science Schools. This provoked an intensive period of brainstorming and planning by members of Curtin's scientific community to develop indelible and entertaining experiences in science and technology that would excite and entice students into a scientific career.

There were three components to the Curtin Science School. These consisted of a small number of focused lectures, hands-on experiences and a science adventure rally. On each day the participants were drawn under the spell of practising scientists. Topics ranged from how dinosaurs lived in Western Australia's own Jurassic Park to the likelihood of orbiting extraterrestrial bodies colliding with the earth. Sherlock Holmes would have been amazed if he had joined the students listening to how forensic scientists use state of the art equipment including the electron microscope to solve murders and identify motor vehicles involved in traffic accidents. Demonstrations on how to lift bricks with water and how planes fly further illustrated practical applications of science.

Topics ranged from how dinosaurs lived in Western Australia's own Jurassic Park to the likelihood of orbiting extraterrestrial bodies colliding with the earth.

A major component of the Curtin Science School was a series of hands-on exercises designed and supervised by Curtin scientists. Down by the Canning River students were engaged in the dynamics of biology, catching and handling brown jelly fish. While these students were examining the jelly fish structures under the microscope, other groups of students worked in the University's scientific laboratories learning why oil and water do not mix, how chemical reaction speeds are measured, and about the oldest material on earth

(rocks). Other groups pondered over mathematical problems and computer simulations. Two very popular exercises were the construction of electric motors from magnets and wire and the use of blood groups to identify parent-child relationships.

On the last day teams of students competed in a science adventure rally. Eight problems requiring scientific inquiry were posed to the groups. These included assessing ticket sales in an amphitheatre, measuring the speed of a rotating sculpture, plant identification and determining the cost of a cement footpath around the University's lake. The rally teams were supervised by Curtin scientists and a group of volunteer high school teachers.

GIRLS IN SCIENCE

An interesting twist to the Curtin school was the high proportion of participating female students compared to male students. This trend was typical for all the Siemens Science Schools around Australia and particularly for the 1994 schools. However, the proportion of female students attending the Curtin school was significantly greater than that for any other school conducted by Australian Universities. In attracting students to the schools there was no restriction on female/male enrolments, nor were female students specifically targeted by the Siemens group. Although no causal explanation was sought, the high participation of female students was encouraging for the University because it is active in the area of promoting science, engineering and technology careers for women. Recent initiatives in this area have included specific appointments, school visits to promote the entry of female students into engineering and technology courses, career evenings for female high school students, and residential camps for female high school students in Kalgoorlie.

Table 2. Ratio of girls to boys attending Australian Siemens Science Schools

Western Australian Institutions	Ratio
Curtin	3:1
Edith Cowan	1:2
The University of Western Australia	1:2
All Institutions	
Australian Capital Territory	1:6
New South Wales	1:5
Queensland	1:3
South Australia	1:2
Tasmania	1:6
Victoria	1:5
Western Australia	1:6

PARTICIPANT FEEDBACK

Participants were invited to provide feedback on the program through a participant's evaluation sheet. Eighty-one females and 23 males responded. The results are as follows.

1. Finding out about the Curtin Siemens Science School arrangements rated good to excellent, with an acceptance rating of 3.8 [5 = Max]
2. Participants preferred the Scientific Activities (3.9) > Lectures (3.6) > Science Adventure (3.4) [5 = Max]

3. Detailed analysis of program

□ Lectures

Most participants found individual lectures good to excellent. The forensic science and astronomy lectures were less popular than the lectures on Dinosaurs and Communicating Science.

Communicating Science (4.9) > Dinosaurs (4.0) > Astronomy (2.9) > Forensic Chemistry (2.6) [5 = Max].

□ Activities

Most participants found activities good to excellent with the Brown Jelly Fish, the Electric Motor and the Biological Detective exercise the most popular.

Ratings given by participants were as follows:

	[5 = Max]	Ranking
Brown Jelly Fish	4.3	1
Math Puzzles	2.8	8
Electric Motor	4.3	2
Oil & Water	3.3	6
Chemical Reactions	3.7	4
Geology	3.0	7
Biological Detective	4.2	3
Computers	3.4	5

Science Adventure

	[5 = Max]	Ranking
Ticket Sales	2.7	8
Rotating Sculpture	3.0	6
Garden Plants	2.7	7
Lung Capacity	3.3	2
Touching Pencils	3.2	4
Guesstimates	3.8	1
University Lake	3.0	5
Reflex Reaction Time	3.3	3

... the high participation of female students was encouraging for the University because it is active in the area of promoting science, engineering and technology careers for women.

4. Overall Impression of the Curtin Siemens Science School

Most participants found the Curtin Siemens Science School very good to excellent. The overall participant score was 4.1 [5 = Max]. Many of the participants commented that the Curtin Siemens Science School was interesting and worthwhile. Participants indicated that the Curtin Siemens Science School expanded their knowledge in science and informed them on possible career choices. Some commented that more activities should be included in the future. A number of students were disappointed that they were not given the opportunity to participate in all activities. Other students who had specific subject interests wished they could have concentrated on these during the Curtin Siemens Science School. Some students commented that the weather, which was extremely hot at the time, affected their interest.

The following general types of comments were recorded:

Comments	Response Rate
a) Interesting/good learning experience/useful	22
b) Sometimes boring	9
c) Enjoyed activities/should be more	3
d) Lectures should be improved (more explanation)	2
e) Too hot (temperatures at the time were 35-40C)	3
f) Wanted more on specific subjects	7
g) Everyone should do all activities	4

5. Reasons for enrolling in the Curtin Siemens Science School

Participants had similar reasons for enrolling in the Curtin Siemens Science School. Of the participants, 38% enrolled because they thought it might help them in the future. They hoped that the Curtin Siemens Science School would inform them of upper school science courses, university courses and the different science careers available to them. A number of participants enrolled because they had an interest in science at school and thought the Curtin Siemens Science School looked fun and interesting. Some students said they enrolled in response to suggestions from their parents and teachers; others enrolled for the learning experience.

6. Did the school live up to its expectations?

Over 30% of participants indicated that the Curtin Siemens Science School was better than expected. The overall participant rating was high with a value of 4.2 [5 = Max].

7. Other Comments

Other comments from participants varied. Nearly all the students said they enjoyed the Curtin Siemens Science School. Many participants followed these comments with constructive criticism. A common comment was that some of the lectures were boring even though the subject looked interesting. Some indicated that the problem may have been due to the level at which the lectures were directed. Many students indicated their agreement with the Communicating Science lecture. Participants reaffirmed a desire to carry out the full range of activities and to choose their own groups for participation.

CONCLUDING REMARKS

The Curtin Siemens Science School is one of a series of activities where the University opens its doors to the community. For the University, it was a challenge to provide meaningful experiences to a potential client group. For the participating students, exposure to the University and in particular to the areas of science, engineering and technology, will assist them in making decisions for future careers. The high proportion of female participants was extremely interesting and will be monitored closely to see whether this translates to future science enrolments and graduates.

Associate Professor Stan Kailis
Director

Inaugural Curtin Siemens Science School.

Editorship of HERDSA News

The present editor of the newsletter comes to the end of a five-year term with the last edition of the News this year. Accordingly, the Executive invites expressions of interest in filling this role.

The Newsletter is one of three key publication initiatives within the Society. It is likely that it will serve an increasingly important function in a growing and diverse Society keeping members of different branches and different interest groups informed of each other's movements.

Currently, the position involves a five-year term. The Editor works in conjunction with the Executive and will be an ex officio member of the Executive.

Abstracts Editor – HERDSA News

Professor Amy Zelmer has indicated that she is stepping down from this position. The Executive is therefore looking for expressions of interest in relation to this role.

Amy had made the suggestion that the abstracts may be able to be generated as a part of the requirements for a subject within one of the numerous Graduate Certificate programmes that are now offered. Accordingly, convenors of such programmes or subjects are especially invited to consider whether they could take on this role. Postgraduate students in the area of higher education may also find the position interesting.

For further information about either position, please contact:

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who is convenor of the Publications Portfolio within the Executive.

Examining Theses and Dissertations: A Proposal

The production of research higher degrees has been one of the areas in higher education that has seen rapid expansion over the last few years. This expansion has brought various issues in its wake, particularly for areas and institutions which have not traditionally been the site of research higher degrees. Amy Zelmer gives us the benefit, in this article, of a paper which she initially prepared for the Research and Higher Degree Committee at her own institution.

BACKGROUND

Many universities have a long tradition of requiring an oral examination or 'defence' of theses in higher degree programs – a scheduled opportunity for the student to respond to searching questions from examiners about the thesis in a 'public' (usually semi-public) forum as the final stage in the degree process. The process may have different formats or titles (in some Australian and British universities such an examination is known as a 'viva'), but is often regarded as an integral part of the post-graduate research experience.

In contrast, many Australian universities provide for an oral defence only under unusual circumstances, or not at all. The only examination of the thesis is based solely on the written work and is carried out by two or three anonymous examiners working in isolation from each other.

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This discussion paper will outline some of the pros and cons of a system of oral examination as well as making a case for its more frequent inclusion in the Australian higher education system. It is the view of the author that the interests of the universities, the supervisors and the students would be well served by instituting an oral examination as a part of the process for research higher degree students at Master's and PhD levels.

RATIONALE

The provision of an oral defence by the student has several positive outcomes:

□ There is assurance that the work presented in the thesis is the student's own work and that he or she understands the process by which he or she has arrived at the stated conclusions. This becomes particularly important where students carry out much of their work at a distance from direct supervision and/or where the

students may be encouraged to have a good deal of editorial help; for example, if English is not their first language.

□ The experience provides both student and supervisors with a sense of completion. In a system without a concluding 'event' there is a rather protracted period in which the thesis has been submitted, there is a bit of feedback through the examiners' reports (the amount may be quite variable and usually concentrates on perceived faults or problems) and a further pause of varying duration until the actual graduation ceremony. Rarely do the student and supervisor have an occasion to have a sense of closure and to receive positive feedback for work done well.

□ The student presenting the thesis has no opportunity to 'defend' his or her work against the criticisms of examiners. It is likely that in some situations examiners' critical remarks could be queried, explanation offered and a positive outcome result, rather than the inconclusive request for "corrections to the satisfaction of the supervisor, head of department or chief examiner".

□ The oral exam provides a potential opportunity for other post-graduate students and supervisors to become aware of standards. This may be particularly important for supervisors and examiners with little experience.

□ The entire process can be an important part of any university's quality assurance process in that it is conducted openly and is open to review.

POSSIBLE DIFFICULTIES

□ Many post-graduate students may not be 'on campus' at the time when the oral defence would logically be held.

With the availability of modern telecommunications technology this should pose no problem. Both external examiner and student can participate through audio- or video-conference as appropriate.

[In the circumstances where I have personally participated in examinations conducted with the help of such media, I have perceived little difference in the teleconference process to the face-to-face mode.]

□ Increased stress for student and supervisor.

While the event is not without its stress, the satisfactory completion of the defence is usually seen as more than sufficient reward. A student who is unable to defend a

thesis adequately is probably not ready to graduate with a post-graduate degree. The stress of the oral defence is probably no greater than the protracted period of waiting for written comment.

- Cost - travel cost for external examiner and student; time of all concerned.

Travel costs can be kept to a minimum by use of teleconferences (see above). The time and cost are probably a wise investment in quality.

While the student will have some travel costs, this should not prove to be a large burden for shorter distances; the student's visit to campus at the time of examination can considerably speed up the process of making minor corrections if required.

The student presenting the thesis has no opportunity to 'defend' his or her work against the criticisms of examiners.

In many cases external examiners may also be asked to conduct a seminar or lecture while on campus, thus making the benefits of their visit available to a wider cross-section of the university.

- This is an extra step which would prolong the examination process.

In my experience the provision of an oral defence may actually speed up the process since all examiners will read the thesis by the examination date (no-one wants to come to an examination without at least that preparation). This avoids the sometimes lengthy delays in having the written reports returned.

- Lack of anonymity of examiners.

Provided that examiners are advised of the oral defence requirement prior to their taking on the task, there would seem to be no problem with a face-to-face meeting between examiner and student. [In some fairly extensive experience of supervising students and being on examining committees I am not aware of any refusals from potential examiners who did not wish to participate in an oral exam because that would necessitate meeting with a student or the supervisor.] The signatures of the examiners on the final acceptance document are their public acknowledgment of the quality and contribution of the thesis and also a public recognition of their important role in the process.

SUGGESTED PROCEDURES

The procedures described below are not necessarily suited to all situations, but are presented as an example of a workable and economical way of implementing this practice.

1. Selection of examiners as per current process (once the 'completed' thesis has been submitted).

2. Fixing of date for oral defence, taking into account the time required by the examiners to read the thesis and make comments. Obviously the date needs to be set by negotiation with all concerned.

3. Notification of date and place of exam to potential attendees (see #6 and #7 below).

4. Examiner's written comments may be invited or required to be provided to the appropriate campus office at least one week prior to the time of the oral defence. Copies of the comments to be provided to the chair of the Examining Committee (See #6 below).

5. Option for student and/or examiners to participate by teleconference if they have to travel more than XX km to reach the examination site; the exact distance to be travelled might depend on circumstance of the university and other incentives for the examiner. Expenses of travel for examiner and/or teleconference to be borne by the university.

6. Examining Committee to be composed of 2 or 3 appointed examiners as per current practice.

The chair to be selected from among members of the Higher Degrees Committee (by whatever name at a particular university) and to be from a Faculty other than the one in which the student has done the work for the degree. (The Chair's role is to be a neutral facilitator rather than an 'examiner' per se; is responsible for seeing that the examination is conducted in a fair and open manner.)

7. Observers to be permitted/encouraged to attend the oral defence:

- the supervisor and any associate supervisor
- the Dean of the Faculty and Chair of Dept
- representative from any facility involved in the research process (eg., CSIRO, industry, hospital)
- up to 3 other members of the university's academic staff (permission to be obtained from the individual chairing the defence)
- up to 3 other post-graduate students (permission to be obtained from the individual chairing the defence)

Observers are expected to be present for the whole of the meeting; after the defence has concluded the chair of the meeting may ask if the observers have any questions or comments to make depending on the time available.

8. Format for the defence

- ◆ Chair calls the meeting together and briefly introduces those present as examiners. If any observers are present their role should be described as in #6 above.

- ◆ Student is invited to make a brief opening statement outlining their background, qualifications to conduct the research, the research carried out and the conclusions reached.

- ◆ The chair then asks each examiner in turn for questions or comment, with the student having whatever opportunities are required for response. (In some circumstances students may wish to have a whiteboard or similar equipment available.)

- ◆ When the examiners indicate that they have had all of the opportunity for questions that they wish, the chair of the defence may ask whether any of the observers have a question or comment.

- ◆ In general the major part of the defence meeting would not be expected to exceed 90 minutes.

(continued page 10)

Doing Something about Student Motivation.

On March 29 a seminar was held in Sydney on the topic of student motivation. It was organised jointly by members representing HERDSA, the Centre for Learning and Teaching, UTS, and the Centre for Teaching and Learning, University of Sydney. Three speakers presented different perspectives on the issues, and small groups of participants discussed and reported actions teachers could take to help students maintain their motivation. Alan Prosser provides us with this expanded version of his concluding summary of the topic.

FRAMING THE PROBLEM

Mimi El-Ters, a Computing Science student at UTS, contributed a clear account of some students' point of view, based on her own and her colleagues' experiences. They found that their ability to cope with and learn from a subject was related more to the way the teachers presented it than to either the professional relevance or the inherent difficulty of the subject matter. Some teachers had the effect of making it easy to learn a difficult subject, whereas others had the effect of making easier or more relevant subjects a much less enjoyable experience. Features which helped students to learn included:

- teachers with a thorough knowledge of the subject matter
- the availability of printed/typed supporting materials
- the teacher's willingness to respond constructively to each student's questions and comments, and
- consistency among the presentations when more than one teacher was involved.

Students resented:

- teachers assuming that they were unwilling to study seriously,
- teachers expecting them to spend time on unprofitable work, such as reading material which largely repeated the lectures, or
- teachers giving unhelpful responses when approached.

All of these feelings about their teachers had a strong influence on their commitment to studying the various subjects.

Jane Stein-Parbury, from Nursing, UTS, and Robin Ford, from Mechanical Engineering, UNSW, presented teachers' perspectives on the issue. On several points their contributions complemented that of Mimi El-Ters, but each provided some other valuable points. Stein-Parbury used some synonyms for 'motivation' like 'helpfulness', 'support', 'reassurance' and 'encouragement' to illustrate that motivation was not necessarily about getting people 'fired up' and active. She also summarised the typical signs of low motivation seen by a teacher, such as lack of interest, lack of participation, lack of preparation, and distraction. She regarded these signs as feedback to the teacher calling for help of some sort.

Ford illustrated how the title of the seminar could be interpreted in an unfortunate (and unintended) way. Through appropriate sporting analogies he indicated how some teachers could persuade students to work

intensively in a class, but at the same time have no lasting, substantial effect on their commitment to a subject or course. He was not interested in that sort of psychological fix for the problems of poor motivation among students. He indicated his personal responses to the different signs of good and poor motivation. He also raised questions about 'what responsibility, if any, teachers have to do something about poor student motivation' and 'what moral justification teachers have for expecting commitment from students'.

The whole proceedings confirmed that motivation was indeed an issue for both students and teachers in current higher education. However, the two groups perceive the issue in substantially different ways.

Stein-Parbury used some synonyms for 'motivation' like 'helpfulness', 'support', 'reassurance' and 'encouragement' to illustrate that motivation was not necessarily about getting people 'fired up' and active.

Students feel that teachers and institutions have a major effect on their motivation. They frequently experience policies, rules and practices which make their studies more difficult and less enjoyable. Many are frustrated by the lack of concern shown by teachers for their difficulties. Occasionally, they experience a more understanding and supportive teacher and their achievements improve markedly.

On the other hand, even among those academics who are committed to good quality teaching, there is a strong feeling that most present-day students are aiming to improve their employment prospects with the least amount of intellectual effort. It seems that both students and teachers would like the students' motivation to be higher, but there is a great deal of misunderstanding of the causes and effects of various features of current higher education related to that motivation.

LOOKING FOR SOLUTIONS

The sorts of action teachers could take to improve or maintain student motivation were revealed by the opening speakers and the group discussions. Reflection

on my own experience has indicated that each of the following is beneficial.

Subject matter

Students are more inclined to study if they themselves can see that a good proportion of the material and the tasks set is relevant to their ambitions. It is not sufficient for teachers to tell students that the relevance will become clear when they start to practise as professionals. One way of achieving this is to focus on substantial problems and issues and let the concepts and principles be introduced as the means of addressing the problems. The best sorts of problem-based learning are examples of this approach.

When messages from different teachers are in conflict, with no acknowledgment of the fact let alone explanation, the students lose faith in their teachers and the institution.

Academic planning

Most academics have a plan for their own teaching and make a real effort to implement it. Unfortunately there is often little detailed coordination of the contributions of the several teachers involved in a subject, year of study or course. On many occasions I have attended classes of other teachers. Almost without exception there has been clear evidence that each teacher is ignorant of precisely what other teachers have contributed. When messages from different teachers are in conflict, with no acknowledgment of the fact let alone explanation, the students lose faith in their teachers and the institution.

The effect on student motivation is even worse when a teacher shows little concern for being late in providing essential information, but penalises students when they are late in submitting assignments. Teachers, individually and collectively should aim to be exemplars of the sorts of practice they expect of students. Where a different approach is adopted deliberately, or a mistake is made, the students should be given an explanation and an opportunity to indicate the effect it has on them.

Active engagement with the subject

Higher education students are inclined to engage in physical and mental activities at a level well above those for most of the population. Sitting and recording material in lecture rooms represents a low level of activity. Even reading books and notes is a low level of activity when it is not part of a more demanding task. Perhaps it is not surprising that students seek their physical and mental activity elsewhere than in the classrooms. One way to improve student motivation is to reduce the time the students spend in 50-minute lectures and on reading to augment those lectures. Provide the students with more (worthwhile) tasks to do. There are many teaching and learning methods which can be used in place of lectures, almost all of which represent a higher level of engagement of the students with the subject matter. The feature these methods have in common is that the students

themselves are using knowledge for some purpose, not passively listening to or reading about how someone else has used it. This is not suggesting that there should be no formal presentations from teachers, but that the principal form of contact between teacher and students should not be a monologue (from teacher or another student). (Formal presentations have some value in introducing a topic and stimulating the students' interest in its intellectual challenge, and in summarising what a topic has covered.)

Feedback

We all respond positively when someone else remarks favourably or constructively about something we have done or said. The signs are that students currently in higher education are not getting much substantial, *individual* feedback about their work, especially in large, first- and second-year classes. A tick or mark out of 10 is not substantial feedback. Even when a student has been given 10 out of 10, a few remarks about the most creditable features of the work provides encouragement. When the mark is only 3 out of 10 it is most desirable to explain as clearly as possible what the student should do to improve. I believe, even with classes of over 1000 students it is possible to give each student personal, constructive feedback at least once in each subject. However, for such classes the tasks and tutors have to be organised in advance for that purpose. Of course, it is most desirable that the students receive this sort of constructive feedback as soon as possible after they have done the task and in time to allow them to improve their work on the next task.

Hand-outs summarising a topic and model answers are other means of assisting students to a higher level of achievement, but they are no substitute for personal feedback.

Non-verbal messages from the students

Students' behaviour in classes contains numerous non-verbal messages about their response to what is going on in the class. All these messages are informal feedback to the teacher. They may include indications that the students are engaged with the subject, e.g. an animated discussion during a tutorial. But they may indicate that the students are not obtaining much from the class, e.g. when there is a continuous buzz of conversation during a lecture. Teachers should be willing to accept these messages, reflect on them and act accordingly to improve the effectiveness of the class.

Involving the students with planning

The students' commitment to a subject improves substantially if they feel they can have some influence on it. With small classes, face-to-face discussions can be held to enable students to express their thoughts about aspects of the subject. With large classes, formal evaluation questionnaires, designed for the purpose, are probably more practicable. The aspects which the students could be invited to influence include the subject matter itself, the objectives, the tasks set (such as the reading list), the teaching methods, the assessment methods and criteria, and the 'rules' defining what is acceptable process and outcome. Once the students and teacher have gained confidence in such discussions, they can also cover more sensitive issues such as student commitment and weaknesses of the teacher.

Providing the students with opportunities to select from a number of options is a simple way of allowing them

to influence their education. Allowing the students to provide some of the options is even better.

Whatever is done, it is desirable that the students should see some benefit for themselves. That means the process should be used well before the end of the subject. It also means that the teacher should be very careful to avoid misusing, dismissing or discrediting the students' point of view. A remark like 'that comment shows that you have not listened to what I said' will lead to more harm than good coming from a discussion (or questionnaire).

'Process versus product'

The broad characteristics of the modern higher education system seem to be forcing teachers to focus more on the 'product' of the students' work rather than the 'process'. If the emphasis during the contact between teachers and students is consistently on what the students should know and how well they have learnt it then it is understandable that the students conclude that 'getting the right answer' is all that matters; that how they obtain the answer is unimportant. In extreme cases, it is understandable if they use processes to produce the right answer that are undesirable or unacceptable, such as plagiarism and cheating. So it is important that teachers show a constructive interest in how the students set about their work. This can be done during the introduction to and summary of a subject, by selecting teaching methods which foster desirable processes and by the provision of constructive feedback that refers to the processes the students have used.

Cooperation rather than confrontation

Students, like everyone else, respond favourably when they feel their point of view or contribution is valued. A classroom environment in which cooperation among students and teachers is encouraged, where different approaches are at least tolerated, where the teacher is prepared to modify materials, methods, tasks and demands in response to the students' needs does much for student motivation. On the other hand, student motivation toward long-term learning is reduced where the teacher appears to be oblivious to the students' needs, focuses on regulating the students' work and

confronts or penalises them when they do not meet the demands. The stick and carrot approach may achieve better attendance or compliance with the rules, but the students will be inclined to neglect the subject matter once they have 'passed'; their learning will be less or of poorer quality.

Perception of students

In view of the probable, total life experience of students before entering a university, it is reasonable to assume that they are intellectually able, willing to study and honest. It certainly helps all concerned if they are regarded in this way. Not least it makes classroom contacts more enjoyable for teachers as well as students.

Institutional change

Teachers and students can work individually or collectively to bring about change in a department, faculty or university which helps to maintain student motivation. Usually considerable persistence and patience are required to bring about significant change to policy, but I have been surprised on a few occasions how easy it has been to achieve a change in practice.

PRACTICAL STEPS TO TAKE

Teachers can implement some (more) of these suggestions. It may require a change in attitude from making excuses for not changing current practices to taking the risk of trying some change. Students can seize or create opportunities to advocate such practices. They will probably achieve more if they emphasise cases of good practice rather than only criticise the instances of poor practice. When either a teacher sees the benefits of improved student motivation or a student experiences the benefits, they could help by telling colleagues about what was done and its effects. Good news about university teaching and learning is still appreciated.

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(from page 8)

◆ Following this public period of the defence all observers withdraw, the student and supervisor also withdraw (although to a nearby location where they will be available) and the examiners discuss their conclusion.

◆ When the examiners have reached a conclusion (accept with no changes/accept with minor changes/ask for a re-submission/do not accept) the student and supervisor are invited back and the result discussed with them. [In my experience a celebratory occasion usually follows!]

9. Minor corrections etc. can be made to the thesis as per current practice.

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- see especially p 37 "Examination and Examiners"
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Professor Amy E Zelmer
Central Queensland University

Higher Education Research In Progress

Here is another gourmet selection of research projects. If you find any that particularly interest you, do make use of the 'for correspondence' information. All contributors would be delighted to hear from interested colleagues.

Details of how to contribute to the column appear after the abstracts.

95.9

Project title: Alternative modes of delivery for postgraduate coursework

Researchers: Richard James and
Kate Beattie

The purpose of the study is to examine the nature, extent and effectiveness of alternative modes of delivery for postgraduate coursework. In 'alternative modes of delivery' we include all modes of delivery other than those used in the traditional classroom, such as distance learning, workplace delivery, telecommunications (such as tele-lecturing, video-conferencing and electronic mail), multimedia and other computer-based teaching technologies.

The project will involve case study research of up to eight postgraduate courses selected from a number of Australian universities. Academic staff responsible for the design, delivery and review of the programs, a small number of students, and, where relevant, representatives of professional associations or industry bodies will be asked to participate in semi-structured interviews which focus on teaching and learning aspects of the programs. Relative costs and appropriate staff development and curriculum development strategies will also be reviewed. The study will contribute to understanding of the extent and effectiveness of innovation in delivery modes and should be of value system-wide.

Keywords: postgraduate, coursework, delivery methods, distance education, open learning, telecommunications, computer-based learning

Funding body: Department of Employment, Education and Training (Evaluations and Investigations Program)

Name and Address for Correspondence:

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University of Melbourne
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Telephone: (03) 344 7627 or 344 7790
Facsimile: (03) 344 7576

95.10

Project title: The relationship between the prior learning gained from pre-requisite study and the related subject.

Researchers: Douglas McMillan (Leader), Tony Bush,
Dr Hailu Kildane, Pamela Mathews,
Jan Scott and Janet Smith.

The purpose of this study is to examine the relevance of pre-requisites to students assumed knowledge in

relation to advanced academic subjects. At least four second or third year subjects studied in the School of Management which have one or more specified pre-requisite subjects will be selected. The topics of the subjects will be examined to identify prior knowledge, skills, and competencies which are assumed knowledge/abilities when studying the subject. These knowledge, and skills and competencies will then be looked for in the pre-requisite subjects. Students studying the selected advanced subjects will be surveyed to establish whether or not they concur that the knowledge, skills and competencies have been provided by the pre-requisites. The results of the study will help to re-structure courses to avoid the duplication of subject content. The hypothesis is that the nominated pre-requisites are necessary for satisfactory performance in the later subject.

Keywords: Pre-requisite, prior knowledge, skills, competency

Funding body: CSU Quality Funding Teaching Development Grants, \$5000

Name and Address for Correspondence:

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Business Telephone: (069) 33 2698

95.11

Project title: The use of electronic communication methods in a business simulation

Researchers: Douglas McMillan and
Associate Professor David Meacham.

The project is designed to trial a) teleconferencing, b) communication by fax, and c) face to face meetings in the context of a business simulation game which makes up 45% of the assessable work in MAN21 Strategic Management, offered by CSU on behalf of the OLAA. The business simulation game requires teams, at least 3 in number and of at least 4 participants, to make a series of 12 decisions on the operation of a company which is in competition with all other teams in the game. Each decision is considered to be for a quarter's operations and therefore the game runs for an effective period of three years. Intensive consultation is required amongst the members of each team in order to produce quality decisions.

The Project will make available funds for telephone conferencing, make accessible FAX machines and the hiring of meeting locations for teams taking part in the business simulation. The Director will also be available to work with the project teams in the use of these

communication methods and to provide introductory sessions. The basic Project objective is to find the communication method which can most advantageously be used in a distance education environment to facilitate the inclusion of such a game in a distance education unit.

Note: The project was funded in 1994 but there have been insufficient enrolments to carry out the research to date. It is hoped to commence the project in Term 1 1995, in March.

Keywords: Computing, communications, interpersonal skills, competency

Funding body: Open Learning Association of Australia, \$20,000

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95.12

Project title: An ethnographic study of barriers to student persistence in distance education

Researchers: Maureen Tam, Chris Morgan and Neil Jones

The overall research aim is to increase understanding of those variables associated with distance education non-persistence and dropout. Dropout is a very complex phenomenon which involves numerous inter-connected causal factors and often builds up over time. In this project, an attempt is made to illuminate the problem by identifying what appears to be the key impediments to participation in distance education and by suggesting certain explanatory frameworks.

Having been disenchanted with the usual superficial reasons we received for withdrawal from our courses, in this project we are trying to delve further by using the ethnographic interviews to elucidate those higher-order reasons for withdrawals and additional problems that pose barriers to persistence in distance education. It is important to get beneath the superficial reasons given for withdrawal if we want to improve student persistence.

It is envisaged that the results of the study will provide insights into the barriers to student persistence from which implications will be drawn to determine ways in which development and delivery of distance education courses can be improved.

Keywords: dropout, persistence, distance education

Funding body: University of Sydney Research Grant

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95.13

Project Title: Development and evaluation of a CBL pilot project for the delivery of holistic accounting concepts and their incorporation within farm business management systems

Researchers: Stephen Wedd, Maureen Tam and Margaret Mckerchar

This R & D project is about the development and evaluation of a computer-based self-instructional package for the delivery of holistic accounting concepts. It is the aim of this project to focus on the pedagogical use of CBL to improve the conceptual understanding of accounting principles and practice, develop higher thinking skills such as synthesis of information, evaluation and inferential judgements.

The R & D process is in two phases which involves firstly the development of a CBL pilot program to present and simulate the impact of individual business decisions and transactions on the entire accounting system; and secondly an evaluation of it to prove that the instructional strategies have led to better conceptual understanding of accounting principles by means of pre- and post-test on two groups of students.

Keywords: CBL, accounting, conceptual understanding

Funding body: RIRDC (Rural Industries Research and Development Corporation)

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95.14

Project Title: Quality Audit Mechanisms for the Evaluation of Clinical Education Programming in Allied Health Sciences .

Researchers: Richard Ladyszewsky and Simon Barrie

This study involves the implementation of a Clinical Education Quality Audit (CEQA) tool, (developed by the investigators), to measure both qualitative and quantitative outcomes of a clinical education program in physiotherapy and speech pathology. Measures of the students' patient care inputs will be contrasted to the inputs made by clinical staff in the area of supervision. The net benefit or cost of the clinical program to the agency (ies) will then be assessed. The second component of the CEQA asks participants to evaluate their specific learning placement using 13 outcome statements which are descriptors of a positive learning outcome. Discrepancies between student and clinical instructor teaching and learning outcomes will be evaluated. The information will be analysed using specific software currently being developed by the researchers.

Keywords: Outcome Measures, Quality, Clinical Education

Granting Body: Curtin University of Technology Quality Grants (DEET)

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Society members and other readers of this column are invited to send new project details to:

Christine Bruce, Editor
Higher Education Research in Progress
School of Information Systems
QUT, Gardens Point Campus
Brisbane QLD 4000

The following are presented by way of information.
Both have significant implications for the higher education sector as it moves to a more systematic and seamless relationship with other post-secondary education.

New Qualifications Framework: Making the Most of Achievements

The new Australian Qualifications Framework, introduced Australia-wide from 1 January 1995, is a comprehensive, nationally-consistent structure of qualifications designed to recognise achievement at all levels and encourage flexible pathways between levels and education and training sectors.

Endorsed by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA), the Australian Qualifications Framework was developed jointly by the Commonwealth, States and Territories in consultation with representatives from industry, government, training and the education sectors.

The Framework encompasses all qualifications in post-compulsory education and training, including those gained through formal and on-the-job training. It incorporates twelve levels of qualifications from Senior Secondary Certificates of Education through to Doctoral Degrees. Each qualification is shown in the accompanying table under the education and training sector that is primarily responsible for its delivery.

The titles of qualifications at Bachelor degree level and

Qualifications Framework takes more account of pathways to these qualifications involving the recognition of prior learning and credit transfer.

The four new Certificates recognise more skill levels, from the basic (Certificate I) to the more advanced (Certificate IV), which can be achieved through a wide range of pathways including education, training and workplace experience.

Diplomas and Advanced Diplomas are new qualifications with new requirements. Diplomas and Advanced Diplomas may be offered in either the vocational education and training or higher education sectors. The achievements required to gain the qualifications will be similar in both sectors, although in the vocational education and training sector, competency standards will also be taken into account.

All of the new qualifications offered by the vocational education and training sector will be based on competency standards. This will enable employers and employees to assess skill levels more easily and identify clearer pathways for further training and acquisition of skills.

Australian Qualifications Framework

Secondary School Sector	Vocational Education & Training Sector	Higher Education Sector
		Doctoral degree
		Masters Degree
		Graduate diploma
		Graduate Certificate
		Batchelor Degree
	Advanced Diploma	Advanced Diploma
	Diploma	Diploma
	Certificate IV	Diploma
	Certificate III	
Senior Secondary	Certificate II	
Certificates	Certificate I	

By encouraging pathways between the vocational education and training sector and the higher education sector, the Australian Qualifications Framework will contribute to the development of opportunities for self-development and career advancement, ultimately helping to create a better skilled, more productive workforce.

Further information can be obtained from:

**Mrs Sue Christophers
Chair, Australian
Qualifications Taskforce**
Telephone: 03 9628 3702

Adult Learners Week 1995

WHAT IS ADULT LEARNERS WEEK?

Adult Learners Week is a high profile campaign that will promote lifelong learning across the nation. It will celebrate the contribution made by adult and community education to the empowerment of people and the economic, social and cultural development of Australia.

Adult Learners Week will run from 10-16 September, 1995. It is the first week of its type to be held in Australia. It is in part based on the enormously successful Adult Learners Week mounted in the UK over the last 3 years.

The Week is endorsed by the Minister for Employment, Education and Training. It is funded by the Australian National Training Authority, and coordinated by the Australian Association of Adult and Community Education. It has the involvement of each state government. Major international guests will include Dr Paul Belanger, Director of the UNESCO Institute for Education, Hamburg.

All providers and others interested in adult learning are invited to register to participate in ALW 1995.

WHAT WILL IT ACHIEVE?

The broad goals of the week are to:

- increase profile and recognition of adult learning
- increase participation in adult learning
- enhance networks amongst all involved in adult learning
- promote national objectives for education and training.

Three broad, carefully selected national themes will provide focus and create opportunities for involvement:

- Lifelong learning
- Women's ways of learning and leading
- Access to learning for all.

How will it achieve?

At a national level, plans for the Week include a major TV Special, news and current affairs features, national awards and international guests. State coordinating committees are developing conferences, launches and media features. At a local level, adult and community education providers and organisations are preparing plans for stalls, open days and local media to capitalise on the national publicity. 25 national networks of providers and community organisations have already joined in; 500 adult learning organisations across Australia have registered to participate.

HOW DO YOU GET INVOLVED?

1. Include ALW in your organisation's activity plan; register your participation
2. Announce the dates for the week in your publications (ALW Coordinators can provide artwork, articles and other ready-to-go material)
3. Discuss ideas for local ALW activities and promotions with colleagues and learners
4. Contact the ALW team to get support for your ideas and to share them with other participating groups.

For more information contact
the ALW National Coordinators:
Michael Smitheram & Julie Foreman
Telephone: 06 251 7933.

Review

Subject Evaluation, Griffith Institute of Higher Education, Griffith University, Brisbane, Qld, 4111. 1995

The evaluation of teaching generally, and the role of student evaluation in particular, is one which has received substantial attention in the context of the quality movement in higher education. Quality assurance using student evaluation can take two distinctive directions. One which focuses on students rating teachers' subjects and courses as a means of judging the value or worth from the students' perspective. This approach usually uses standardised questionnaires, the results of which are made available to academic managers such as Heads of Schools and Vice-Chancellors. Follow-up action can then be taken by academic managers to ensure that problems are dealt with. The other approach is to ensure quality by putting in place a system which enables those responsible for teaching the subject to systematically review and continually work towards improving their teaching subjects and courses. Such an approach uses

non-standardised questionnaires and relies on teaching staff to interpret and contextualise the results of student evaluations and place them in context with other forms of evaluation.

The materials developed by Griffith University are designed from the second perspective.

THE CONTENTS OF THE PACKAGE

Subject Evaluation:

A resource book for improving learning and teaching. Two hundred and sixty odd pages of resources relating to the evaluation of teaching span the range from undergraduate teaching to evaluation of postgraduate supervision. The resource book is organised into modules setting out detailed steps for a student-centred approach to the evaluation of teaching. Each module

has an overview and a summary, as well as references. There is a subject index as well as a section in which various evaluation instruments are printed in pro-forma form ready for photocopying. The book also contains various mock examples of student questionnaires and evaluation reports.

User's Guide to Subject Evaluation Software

The User's Guide takes the user through the entire process of one evaluation i.e. creating and printing a customised questionnaire, data entry, and analysis of results and reports. It also contains some guidelines on how to interpret the reports, as well as the item bank for student questionnaires for perusal before starting any serious selecting of questionnaire items.

Subject Evaluation Software 1.0.

This software consists of an integrated package which can be accessed and used to create questionnaires, enter data, analyse data and/or produce reports.

These materials provide a substantial resource for universities and staff interested in the continuous improvement of teaching.

EVALUATION OF THE PACKAGE

The presentation of the print material is excellent, with good design and lay out. The resource book contains carefully selected material and provides a comprehensive cover of the literature. The material is set out in digestible form and provides useful practical guidelines on how to approach an evaluation. Questionnaire based instruments as well as other approaches are discussed in detail. A very useful module discusses what to do with the results of subject evaluations. This material is excellent, perhaps a bit overwhelming for a novice user.

The User's Guide accompanying the software is equally clearly set out, easy to use and comprehensive in its coverage of key issues in the production of instruments for evaluation.

The practical use of the software is clearly explained by well designed help sections, warnings on screen and strategically placed explanations. The program is easy to use, even during the first try.

A questionnaire can be set up very quickly. A wide range of choices ensures flexibility in the type of items to include and the range of questions to use. Even though the User's Guide points out the lack of a pre-viewing facility (as in print preview) there is a List function which lets you see in one place all items that have been selected. Editing must be done at the level of individual items, and could become cumbersome. Not every user's need will be satisfied by a questionnaire

lay-out which is determined by the software.

The term Likert-type, which first appears in the middle of the Item section, may need some explanation. We could find no reference to Likert or why the name is used in the material. Terms such as 'open-ended', 'closed-ended question' may be better.

Data entry was simple, if somewhat cumbersome. One of its strengths is that the software allows you to enter brief responses to open ended questions, along with the closed-ended responses and keep both together (longer items should be recorded using a word processing package). This enables lecturers to compare one student's responses with that of others without having to check the questionnaire originals. The process of entering the data is, however, fairly slow as the graphics need to catch up with the keystrokes. We do not recommend this method of data entry for lecturers with large classes. The recommendation in the User's Guide to only use random samples from large classes does not satisfactorily deal with this issue. Perhaps data entry could be managed by utilising different software such as Excel and then merging files.

The package produces four types of reports: frequency distributions, percentage distributions, means and standard deviations and graphical representation of means and standard deviations. This represents a comprehensive range of indicators, but as each report is independent of the others and is printed separately, the interpretation of the pattern of responses for each item is quite laborious as the user has to look at four different pages to get the breakdown for each question.

At an introductory price of \$95.00, we believe the package currently represents excellent value - even though we feel it could be further enhanced in the next update. In its current form, we imagine it will more likely be used by schools or departments than individuals. The developers of this package might need to decide which market they wish to target: the schools or the individual lecturers? To make the package more 'user-friendly' for individual use will require specific sorts of improvements while maintaining a low price tag. To refine it for school/departmental use might be achieved more easily and could incur a reasonable increase in price.

Finally, the major strength of the package lies in its student centred approach to the evaluation of teaching, in the provision and explanation of a wide range of instruments and in the focus on continuous improvement rather than on the making of managerial judgements.

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Information about:

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Conferences

Third International Symposium on Improving Student Learning

Theme Using Research to Improve Student Learning
Place Exeter, UK
Date 11 – 13 September, 1995
Information Felix Lam, Oxford Centre for Staff Development, Oxford Brook University.
E-mail: f.lam@brookes.ac.uk

Don Schon Conference: The Practice of Productive Organisational Learning

Place Ballina Beach Resort (hosted by Southern Cross University)
Date 21 – 22 September, 1995
Information Noresearch Conference Services.
Telephone: 066 203 932; E-mail: nsearch@scu.edu.au

National Conference of the Australian Society for the Study of Intellectual Disability

Theme Intellectual Disability: On the Cusp of a New Millennium
Place University of Melbourne
Date 24 – 28 September, 1995
Information Karen Nankervis, Dept. of Psychology and Intellectual Disability Studies,
RMIT, PO Box 71, Bundoora. Vic. 3083.
Telephone: 03 468 2363; Fax: 03 468 2303.
E-mail: knankervis@eos.xx.rmit.edu.au

Joint Conference of The American Evaluation Association and the Canadian Evaluation Society

Theme Evaluation for a New Century: A Global Perspective
Place Vancouver
Date 31 October – 5 November, 1995
Information John McLaughlin at "JMcLaugh@pen.k12.va.us" (coordination)
Dr Arnold Love at: AS001477@Orion.YorkU.CA (program chair).
"AGowdy@MtRoyal.ab.ca" for pre-sessions.

Australian Higher Education Staff Development (AHED)

Theme Developmental Learning Towards 2000
Place Fremantle, WA (hosted by the Western Australian universities)
Date 1 – 4 November, 1995
Information Barbara Black, c/- Centre for Staff Development, UWA.
Telephone: 09 380 2136; Fax: 09 380 1156;
E-mail: bblack@cas.uwa.edu.au

Fifth Annual HERDSA Inc. Victoria Branch Conference

Theme: Breaking Down Barriers
Place: Albury, NSW
Date: 19 – 21 November, 1995
Information: Dr. Kym Fraser, Professional Development Centre, Monash university, Clayton, Vic.
Telephone: 03 9905 3271; Fax: 03 9905 3268
E-mail: kym.fraser@adm.monash.edu.au

Second National Conference on Information Literacy

Theme Learning for Life: Information Literacy and the Autonomous Learner
Place Adelaide, SA
Date 30 November – 1 December, 1995
Information Irene Doskatsch, Uni. SA Library, Holbrooks Rd. Underdale, SA.5032.
Telephone: 08 302 6219; Fax: 08 302 6699.
E-Mail: Irene.Doskatsch@Unisa.edu.au

ABSTRACTS

HERDSA Abstracts are based on a regular survey of relevant literature. They are intended for use by tertiary teachers, research workers, students, administrators and librarians. The abstracts are classified into the same groups used by the Society for Research into Higher Education in their quarterly publication *Research into higher education abstracts*.

The *Abstracts* attempt a coverage of current English-language publications in Australia, New Zealand, Papua New Guinea, Malaysia, Singapore, Indonesia and Hong Kong. Publications describing research, teaching, administration, staff and students in tertiary education are abstracted.

Educational or other non-profit organisations may reproduce a limited number of these abstracts in their own publications provided that HERDSA receives suitable acknowledgment.

HERDSA is most grateful to the editors of the journals abstracted. The *Abstracts* are edited by Professor Amy Zelmer, Dean, School of Health Science, University College of Central Queensland, Rockhampton M.C., Queensland, 4702.

GENERAL

Harman, Grant, *Australian College of Education review: 1994 in retrospect*, Unicorn, Vol.21, No.1, (1995), pp.5-13

At the beginning of each year *Unicorn* invites a leading College member to review the past year in education. In this review Grant Harman, former Chair of the College Research Committee, argues that 1994 was a year of comparative stability and calm. There were fewer changes in policy direction or of personnel in policy-making positions than had been the case in the past years. Quality had been a key theme in 1994 as had been the perennial issue of resource allocation. As in the past, long-term planning and coordinated cross-sectoral planning had been mainly absent from the agenda. (Journal Abstract)

Lingard, Bob., Porter, Paige., Bartlett, Leo., Knight, John *Federal/State Mediations in the Australian National Education Agenda: From the AEC to MCEETYA 1987-1993* Australian Journal of Education, Vol.39, No.1, (1995), pp.41-66

Drawing on research interviews and relevant document analysis, this paper analyses the changing forms of the national education agenda as it was developed and modified in the Australian Education Council from 1987 to 1993. Particular attention is given to four significant developments in this period: national curriculum statements and profiles in schooling, and Mayer competencies; the training reform agenda; higher education; and the National Strategy for Equity in Schools. The study is located against general developments in Australian federalism and the changing political complexion of State governments across the period which led to the creation of the Ministerial Council on Education, Employment, Training and Youth Affairs. (Journal Abstract)

Trosa, Sylvie PhD *The Uniqueness of the Australian Service Quality Experience*, Evaluation Journal of Australasia, Vol.6, No.2, (1994)

This paper examines the popular trend towards public-sector service quality initiatives in OECD member countries. In doing so it addresses three main issues: why there is a general trend towards service quality in the public sectors of OECD member countries; the impact different philosophies have on the role of public services; and the ability of some countries to implement sophisticated service quality initiatives. Different philosophical perspectives will affect the size and legitimacy of public services and their ability to respond; Australian governments appear to be seeking some balance between the two main philosophical approaches; that major differences exist between the implementation methods used by a sample of countries (especially between 'top-down' and 'bottom-up' approaches) and that Australian initiatives are aiming to combine the positive features of both approaches. (Journal Abstract)

SYSTEMS AND INSTITUTIONS

Fitzsimons, Patrick, *The management of tertiary educational institutions in New Zealand*, J. Education Policy, Vol.10, No.2, (1995), pp.173-187

It is argued that, as a result of recent restructuring, the state in New Zealand has paradoxically become minimized as well as more powerful and pervasive. This paper presents public sector restructuring as the policy context of the reforms and neo-liberalism as the critique of state reason to explain the reduction of the state in terms of the numbers of people it employs and the scope of its direct control. Reforms to tertiary education are seen to follow the restructuring of the core public sector. Michel Foucault's notion of governmentality, it is argued, is a powerful critique of neo-liberalism through focusing on practices rather than theories of state. One element of the reforms to tertiary education - the practices of the New Zealand Qualifications Authority (NZQA) - is presented as a counter instance of neo-liberalism. The account of the governmental practices of NSQA illustrate that neo-liberalism is an inadequate account of state reason because it cannot explain the increasing power and pervasiveness of the state. The paper concludes that the practices of management of tertiary educational institutions under these conditions are seen as a useful agenda for further research. (Journal Abstract)

Rawlings, Felicity *Academic Audit in New Zealand Universities: Some Considerations*, New Zealand Journal of Educational Studies, Vol.30, No.1, (1995), pp.1-14

In April 1993 the New Zealand Vice-Chancellors' Committee approved the establishment of the New Zealand Universities Academic Audit Unit (Te Wahanga Tatari Kaute Tohungatanga o nga Whare o Aotearoa). The Audit Unit will comprise a Board, a Register of auditors, and a secretariat headed by a Director. At this stage it is planned that each of the seven universities will be audited by a panel once every four years, the first cycle of audits starting in October 1995. This article outlines the context which gave rise to the Audit Unit's existence and comments on preparatory discussions. It then examines the Audit Unit's foci of attention and identifies various areas in question. Finally the article highlights particular benefits which are likely to result. To ensure effective implementation, the paper suggests that the Audit Unit adopts an open and participatory style of functioning. (Journal Abstract)

TEACHING AND LEARNING

Appleton, Ken **Student Teachers' Confidence to Teach Science: Is More Science Knowledge Necessary to Improve Self-confidence?**, *International Journal of Science Education*, Vol.17, No.3, (1995), pp.357-369

In recent years there has been renewed concern expressed about the state of science teaching in many primary and preschool (elementary and kindergarten) classrooms, and the poor science background knowledge of many teachers. The teachers' lack of confidence to teach science has been largely attributed to their poor background knowledge. A reaction from teacher educators, such as recommended by the *Australian Discipline Review of Teacher Education in Mathematics and Science* Report, has been to provide more explicit science discipline units in preservice teacher education courses. However, a few studies have cast some doubt on the notion that more science discipline studies help preservice teachers become more positive about teaching science. This paper reports on preservice students' perceptions of their confidence to teach science before and after a science education unit which included only a small amount of physical science, and took an explicit gender approach emphasizing the students as learners. That factors other than the study of more science content influence students teachers' confidence to teach science is substantiated. These factors, and implications for teacher education, are explored. (Journal Abstract)

Cholowski, Krystyna M., Chan, Lorna K.S. **Knowledge-Driven Problem-Solving Models in Nursing Education**, *Journal of Nursing Education*, Vol.34, No.4, (April 1995), pp.148-154

This paper compares the hypothetico-deductive model of clinical problem solving commonly used in current nurse education and practice with the knowledge-driven model provides a more complete account of the processes involved in clinical problem solving. The knowledge-driven model emphasizes the organisation and availability of relevant content knowledge stored in memory as the prime determinant of clinical problem solving. This contention is discussed in relation to the development of a clinical problem-solving task for nursing students and its implications for nursing curricula. (Journal Abstract)

Davies, Elizabeth, **Reflective Practice: A Focus for Caring**, *Journal of Nursing Education*, Vol.34, No.4, (1995), pp.167-174

Nurse education has long been plagued by a perceived disjuncture between theory and practice. This paper explores the use of reflection as a mechanism to enable students of nursing to overcome this problem. A grounded theory approach is used to study a group of first-year students undertaking a 3 year undergraduate nursing course. Results of the study indicate that the use of the reflective processes of clinical briefing and journaling does impact on the environment, the process, and the focus of learning. Anxiety associated with the learning environment was reduced through peer support and cooperation. In addition, students moved from a passive to a more active mode of learning. The most significant finding was that, over time, reflective processes resulted in the emergence of the client as the central focus of care. (Journal Abstract)

Grundy, Shirley & Hatton, Elizabeth J. **Teacher Educators' Ideological Discourses** *Journal of Education for Teaching*, Vol.21, No.1, (1995), pp.7-24

This paper reports a qualitative study of teacher educators which investigated teacher educators' ideological discourses. A number of ideologies were found to inform the work of the teacher educators who participated in the study. While multiple ideologies are discernible, the social orientation tends towards conservatism rather than transformation. The paper concludes with the claim that the recognition of multiple conservative discourses allows more possibilities for change in teacher education than might be possible if the conservative social orientation was understood as a single hegemonic ideology (Journal Abstract)

Hand, Brian., Peterson, Ray, **The Development Trial and Evaluation of a Constructivist Teaching and Learning Approach in a Preservice Science Teacher Education Program**, *Research in Science Education*, Vol.25, No.1, (1995), pp.75-88

This paper reports on the use of a constructivist teaching/learning approach to improve first year pre-service primary teachers' confidence in, and attitude to, teaching science. The two-semester program was based on allowing the students to explore science concepts in detail during the first semester and then developing constructivist pedagogy in the second semester. There were many benefits reported by students including ownership of knowledge, the development of pedagogic skills and the use of group work to develop ideas. However, a number of concerns were raised such as uncertainty of knowing what to do when exploring knowledge for themselves and the lack of note taking which occurred. A number of issues that need to be considered when re-implementing the program are discussed. (Journal Abstract)

Owen-Mills, Verna A **Synthesis of Caring Praxis and Critical Social Theory in an Emancipatory Curriculum**, *Journal of Advanced Nursing*, Vol.21, No.6, (1995), pp.1191-1195

As several schools of nursing in New Zealand are accepting the challenge to prepare nurses better in order to meet changing health care needs, one lecturer discusses the design and implementation of a new degree curriculum at Manawatu Polytechnic. The author has drawn from educational, nursing and feminist literature to provide a background for the central concepts in order to explain their role in the development of the curriculum. It is contended that the caring imperative is central in all student-educator-clinician relationships when the purpose of the curriculum is to emancipate students to become nurses who care for individuals, families and communities in a transformative way. The transformative teacher is also aware of the power of open and regular dialogue when teaching caring within a critical social paradigm, and has a responsibility to ensure students understand the mandate for social action. It is through such consciousness-raising that nurses are empowered to both provide the best possible nursing care, and become agents of social change through an overhauled health care system. (Journal Abstract)

Scott, Ian **Clinical Reasoning: Exploring Teaching and Learning**, Australasian and New Zealand Association for Medical Education, (April 1995), Vol.22, No.2, pp.8-25

An instruction program in clinical reasoning skills was undertaken involving 10 hospital interns over a 15-week period. The aim of the course was to impart theoretical precepts and generic skills in clinical reasoning, using a clinical vignette approach, allied with reading materials and interactive discussion. By means of empiric observations made during the discussion sessions, and protocol analysis of transcribed audio-tapes of thinking-out-loud exercises, an attempt was made to characterise the interns' reasoning process, as part of a formative learning experience. At the end of the programme, interns completed an evaluation form to establish its pedagogic value. Results and literature indicate that there is both empirical and theoretical affirmation for a dedicated syllabus in generic reasoning skills, independent of the mere transfer of domain knowledge. Implications for future methodology in clinical education and training resulting from this project are discussed, particularly in relation to new graduate medical curricula being presently devised.

(Journal Abstract)

Slade, Christina **Higher Order Thinking in Institutions of Higher Learning**, Unicorn, Vol 21, No.1, (March 1995), pp.37-47

Higher order thinking skills are manifest primarily in a particular form of dialogue: a cooperative and reflective discourse governed by logical criteria. In this paper Christina Slade argues that the teaching of higher order thinking skills in the university is best achieved through a tutorial system which emphasises certain sorts of linguistic strategies.

(Journal Abstract)

INFORMATION NETWORKS

Frampton, David **Analysing Cognitions in a Hypermedia Learning Environment** Australian Journal of Educational Technology, Vol.10, No.2, (1994), pp.81-95

The paper describes the theoretical basis and methodology for research seeking to identify higher-order cognitive activity occurring in students' information-seeking and learning tasks with hypermedia. It reviews difficulties arising from the inconsistency among schemes of cognitive analysis, and of articulating such schemes closely with accounts of the desirable attributes of graduates in employment, where the display of higher-order skills is expected. It concludes that such analyses of learning with hypermedia must, despite these problems, be guided by more holistic theoretical accounts of thinking, and constantly adapt methodologies to avoid reliance on over-simplified models.

(Journal Abstract)

STUDENTS : GENERAL

Roberts, Geoffrey **An Evaluation of the Use Made by Students of the Audio Recording of Lectures**, Australian Journal of Educational Technology, Vol.10, No.2, (Summer, 1994), pp.96-102

The audio recording of lectures, particularly in subjects with large enrolments, offers a number of benefits to students, staff and facilities such as libraries. An evaluation of the use made by students of audio recordings of lectures revealed that students valued the opportunity to listen to the lectures they

missed while also reducing the number of students seeking academic staff to ask questions. The ability to make copies of the audio recordings was used by students to learn away from the library which reduces pressure on library facilities. The study also revealed that few students deliberately missed lectures on a regular basis, even though they knew the lecture was being recorded. The results produced a number of insights into how students used audio materials in their learning.

(Journal Abstract)

D. J. Magin, A. E. Churches **Peer Tutoring in Engineering Design: a case study**, Studies in Higher Education, Vol.20, No.1, (1995), pp.73-85

The case study provides an evaluation of the use of peer tutoring to introduce students to the use of a state-of-the-art solid modelling designer's package in a second year mechanical engineering design subject at the University of New South Wales.

In 1993 a situation arose in which peer tutoring was seen as a viable teaching strategy for the first 4 weeks of the second year subject.

The outcomes from the evaluation study have indicated a new potential for using peer tutoring to achieve course goals related to the development of communication skills; and have led to planning to integrate tutorial assistance needs of students commencing computer graphics at work stations with the needs of later year students for developing skills in a mode of communication which is rapidly assuming importance.

(Journal Abstract)

Francis, Dawn **The Reference Journal: A Window To Preservice Teachers' Practical Knowledge**, Teaching and Teacher Education, Vol.11, No.3, (1995), pp.229-241

Following the work of Schon (1983) "reflection" as a way in which teachers construct the meanings and knowledge that guide their actions in the classroom has become something of a buzz word in education. I believe that reflection is more intellectually challenging than is generally recognised and that too little assistance is provided to teachers to help them observe, think through, reconstruct, and deeply understand the process of personal theory building. In addition, preservice students have developed a pattern of focusing on what they feel they are supposed to say in order to please supervisors and lecturers. This paper outlines one approach to developing preservice teachers as reflective practitioners.

(Journal Abstract)

Kramer-Dahl, Anneliese **Reading and Writing Against the Grain of Academic Discourse** Discourse: Studies in the Cultural Politics of Education, Vol.16, No.1, (1995), pp.21-38

Every course in the university is fraught with a potential violence against the student. Every faculty members is a potential executioner, not simply because of his or her personal characteristics ... but because of the tradition of the institution and the way it is actually organised. I suggest therefore that the first line of defence against the violence of the rhetoric of the establishment is to learn something about rhetoric. And that means to learn something about communication. But a line of defence is not enough; the

victims must take the offensive. What is required - at this admittedly minimal level - is a GUERRILLA RHETORIC. And for a guerilla rhetoric, you must know what your enemy knows, why and how he knows, and how to contest him on any ground. (Anthony Wilden (1980) System and Structure).
(Journal Abstract)

STUDENT SELECTION AND PERFORMANCE

Taylor, Catherine **Student Selection and Predictors of Success for a New Course of Study in Critical Care Nursing**, *The Journal of Continuing Education in Nursing*, Vol.26, No.3, (1995), pp.119-122

Nursing education in Australia is undergoing many changes. In line with these changes, a new innovative collaborative course in critical care nursing has been developed and offered at Deakin University, Melbourne. The process and rationale for student selection for this new course is outlined in this paper and in particular, a model for selection that defines aspects related to potential for success.

(Journal Abstract)

STUDENTS: CAREERS AND EMPLOYMENT

Marginson, Simon, **The Decline in the Standing of Educational Credentials in Australia** *Australian Journal of Education*, Vol.39, No.1, (1995), pp.67-76

Since the 1960s, there has been a major expansion in the number of people holding post-school educational credentials, and the proportion of the full-time workforce with those credentials. The penalties of not holding credentials, in terms of the incidence and duration of unemployment, are increasingly severe. At the same time, there has been a long-term decline in the income associated with degree and trade qualifications, relative to all incomes. Thus rising needs for education coincide with declining returns from education,

and this is one of the sources of claims about declining standards. Human capital theory does not understand these trends well, and the notions of credentialism, and of education as a positional good, are a better basis of explanation.
(Journal Abstract)

OPEN AND DISTANCE EDUCATION

Carmichael, John, **Voice Mail and the Telephone: A New Student Support Strategy in the Teaching of Law by Distance Education** *Distance Education*, Vol.16, No.1, (1995), pp.7-23

This article reports on an innovative use of a voice processing system - Voice Mail - to support students undertaking law subjects in the distance education mode. It is contended that the computer-based voice processing system is a potent and cost-effective means of minimising isolation, distance from other students perceived disadvantages compared to internal students studying the same subject. These bulletins are seen as having a variety of possible uses including covering developments in dynamic disciplines after the cut-off time, extending the 'shelf-life' print-based materials, providing students with particular needs with a valued form of contact and being either a regular feature of subjects or used at peak times. They provide a means for spontaneity and for students to share in setting the agenda - features perhaps not often associated with teaching in the distance mode. This report arises out of a particular improvisation and it is anticipated more systematic developments and research will follow this particular initiative.
(Journal Abstract)

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