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QUALITY TEACHING FOR SELF-ACTUALISATION: INDI V IDUALISING LEARN I NG

ABSTRACT

This paper explores the issue of teaching for quality outcomes for the individual, within the context of the economic rationalist parameters of education, where quantity outputs are given priority. It proposes that the primary desirable outcome of education is the self-actualised person who is capable of contributing at peak productive levels to his/her society. Such an individual exhibits high levels of psycho-social health because he/she is maximising his/her potential. If education is to promote the development of such persons then the process must be individualised to provide opportunities for students to explore their unique interests and to develop their talents. The rationale for such educational outcomes is elucidated and practical educational strategies for achieving these are explored. These include contract learning, profiling broad based assessments, graded tutorials and multiple assessors.

INTRODUCTION

Universities are characterised by a preponderance of organisational and structural aims as evident in 9 of the 10 aims of Edith Cowan University (See Appendix 1) detailed in the Submission to the Committee for Quality Assurance in Higher Education (1993). The outcomes of these aims are assessed primarily in quantitative terms by statements about the increasing variety and range of services, or numbers and types of students serviced. Such a document illustrates the difficulty Universities have in assessing quality outcomes for individual students. This area of quality assessment is treated cursorily. Although Aim IV of the document states:

"To sustain an innovative, equitable and supportive university environment that challenges students and staff to achieve to their full potential". (1993:4)

There is a striking absence of information about what might be "full potential" and how this quality outcome might be monitored within the university system. Certainly, there is a comprehensive listing of services that might provide support to students in the process of realising their full potential (libraries, residences, canteens, computer services) but a glaring absence of identified processes for assisting the individual student achieve his/her full potential. This paper focuses precisely on this issue of developing a university system to assist the individual achieve his/her full potential, a process termed by Maslow (1954) as "self-actualisation". Four key aspects of this are explained in this paper, namely:

(1) developing a quality based individual oriented university system in contrast to a quantity based mass oriented university system.

(2) defining a model of self-actualisation and establishing the desirability of such an outcome.
identifying systemic and personal constraints in individualising learning to develop self-actualised individuals.

exploring immediate teaching strategies for developing self-actualised students within the University system.

1.0 Characterising a quality based, individual oriented university system in contrast to a quantity based mass oriented university system.

Essentially, quality based, individual oriented learning systems which promote the development of individual’s potential leading to their self-fulfilment, have their roots in humanistic value systems popularised by educational theorists like Plato, Rousseau and Neill. Maslow (1966:2) defines humanistic systems as based primarily on human capacities, needs and aspirations. The individual is seen as a holistic being with the power to exist freely, and who is motivated to fulfil his needs in constructive and positive ways (Goble: 1970:35). The individual and system needs must coincide. This occurs Maslow (1965: 103-4) argued, when systems make it rewarding for the individual to do that which is in his/her interest and which is also the interest of the common good. This creates high levels of "synergy" or social energy for growth and fulfilment. Hampden Turner (1971:49) defines a cyclical growth model of humanistic social systems which is diagrammatically presented below:

```
SOCIAL GROUP/SYSTEM
  a) Shared outlook or perception
  b) an identity
  c) purpose and competence

i) A group body of knowledge and shared integration of feedback from encounters

h) a series of dialectical encounters with neighbouring groups from which a degree of synergy will emerge

 g) a desired impact which it seeks to make on other groups

d) a series of investments in the external environment

e) a degree to which it is willing to risk and support its agreement in order to develop

f) a degree of differentiation between itself and other groups which it is prepared to bridge
```

Such a growth promoting dialectic means that the humanistic system has open boundaries, can tolerate diversity, and supports creativity of its members. There are loose hierarchies, and rewards based on talent, not status. In contrast, Hampden-Turner (1971: 150-66) identifies the conservative system as emphasising conformity, punishing diversity, rejecting creativity and favouring the
routine, rigid rules and hierarchies. Tables 1 and 2 included in Appendix 2, illustrate the
differences between humanistic and conservative systems in terms of performance and research.
University systems based on humanistic values must be flexible to meet the needs of the individual
towards self-actualisation. Rules, course entry requirements, pre-requisites must be managed for
individuals and tailored to meet their needs, not those of bureaucratic rule-keepers. There must be
opportunities for frequent exchange with other learning systems for students and staff, and
differences must be seen as providing the potential for innovative contributions. In such a learning
environment there is opportunity for individuals to fulfil their potential. In an educational
environment that is increasingly dominated by the conservative economic rationalist paradigm,
which aims to maximise numbers of students processed per capital and resource input, there is
little time for challenges to the system, for non-conformity to the rules, or for open boundaries
promoting influxes of different ideas. Consequently in these environments the challenge of
providing quality outcomes that maximise the individual's unique potential are remote. Self-
actualisation requires a system which emphasises human and quality values over the economic and
quantity paradigm.

2.0 Defining a Model of Self-actualisation and establishing the desirability of such
outcome.
Maslow (1954) in his work, Motivation and Personality, established a model for self-actualisation,
sometimes referred to as Maslow's hierarchy of needs. It is detailed in Appendix 3, and begins with
the need to satisfy basic physical needs, then security needs, belongingness and esteem needs.
These culminate in the need for self-actualisation whereby the individual fulfils his/her unique
potential. Self-actualisers are high on creativity, open to experience, spontaneous, expressive,
capable of loving relationships, efficient perceivers of reality, capable of great enjoyment,
democratic, friendly, and non-status oriented. They have high levels of tolerance, compassion and
philosophical humour (Wilson, 1972: 155-6). Maslow (1959: 127) argues that the subjective
confirmation or reinforcement of self-actualisation is feelings of serenity, joy, confidence, zest for
life, happiness and confidence to handle stresses and problems. Hampden-Turner (1971:453) finds
a high positive correlation between self-actualisers and the willingness to engage in social justice
movements, to stand up for the rights of the poor and oppressed, and to work for human rights.
They demonstrated the highest level of tolerance to differences. (See Appendix 4 for further
details). Clearly, these are qualities that are so desperately needed to mobilise productively, the
energies of our diverse members of society. Self-actualised individuals in the Maslowian sense, not
only become society's most productive workers in their particular occupation, but they are
committed to introducing changes which maximise the opportunities for other individuals to
achieve self-actualisation. Writing in his Eupsychian Management Journal, Maslow (1965: 77)
proposed that the self-actualised person makes a better work group and the better group in turn
tends to improve individuals, because it provides more humanising social structures. He went on to
propose that much of the malaise of modern society was the failure of society to inspire individuals
to growth, to fulfill their potential. Society needs to awaken in individuals an awareness of their
metaneeds which are based on b-values like truth, goodness, beauty, aliveness, perfection, justice,
order, simplicity, honesty. Failure to do this has meant that many people get stuck at the level of
satisfaction of their basic physical needs. The result is a state of "anhedonia", where consciousness
is impoverished and the individual suffers from metapathologies. These metapathologies all reflect
pathogenic deprivation of growth - promoting b-values (Maslow, 1979a: 564), and they result in
disillusionment with society and a wide array of social problems (Maslow, 1973: 336).

Clearly then, if education is to produce individuals with the motivation and value base to maximise
their own well-being and the well-being of others, we need to radically re-assess our preoccupation
with designing courses around bodies of technical or professional skills alone. Head-counts of the
number of graduates in education, computer technology, nursing, human services or any other
discipline cannot be taken as evidence that we are educating to produce self-fulfilled individuals,
only that a number of technocrats have been graduated with bodies of limited expertise, inadequate to handle the social and personal demands of complex and diverse societies.

To produce self-actualised individuals we must individualise our programs and teaching processes. Some of the critical questions we need to ask are:

- Does this study program "fit" with the individual student's talents and desires?
- Do our teaching processes inspire individuals to aspire to self-actualisation?
- Are our teaching processes and study programs broad enough and flexible enough to give the individual the opportunity to explore and develop his/her unique talents?
- Do we have evaluation processes to monitor the development of self-actualisation in the individual student?

3.0 Identifying systemic and personal constraints in individualising learning to develop self-actualised individuals.

Four key systemic constraints that must be acknowledged in the quest to individualise learning to promote the development of self-actualised individuals. These are:

(i) economic rationalisation undermining humanist learning values
(ii) compartmentalisation of student programs and services
(iii) pre-occupation with left-brain performance
(iv) over-specialisation of programs

3.1 Economic rationalism undermining humanist learning values.

The drive in recent years in the university system to demonstrate economic efficiency too often has the consequences of increasing class sizes and increasing staff student ratios. While the argument for efficiency becomes translated into maximising the number of graduates per unit of resource inputs, it is inevitable that there is a decline in the opportunities for staff to individualise learning to meet specific student needs. Staff who are teaching 15 hours a week, and over 300 student hours are limited in the opportunities to individualise learning programs. Too often the economic rationalist forces evaluate teaching processes in terms of economic efficiency and ignore the quality costs to individual students. Thus for example, while optic fibre link is praised for linking many students on different campuses into specialist knowledge it is rarely acknowledged the students report high levels of dissatisfaction with this teaching process in the areas of staff-student contact, precisely the area that is the nexus of quality inputs into individualising learning. Each student listening to a particular lecture has slightly different interests in the subject and will want to follow up in his/her unique way. Such an individualised learning needs to be supported by lower staff/student ratios, so that individual guidance is possible.

3.2 Compartmentalisation of programs and student services.

The separation by departments of a range of academic and support services that students require, compounds the difficulties of students obtaining the support they need to fulfil their potential. Too often students have interests in areas that fall across different departments and unless the student is highly skilled in academic negotiation, he/she inevitably ends up committed to something that is not quite his/her preference. The compartmentalisation of programs means that too often students
don't get the information about course possibilities that fit their unique interests, or it arrives too late. Moreover, compartmentalisation means that different services provide for parts of the students' needs but students must be viewed holistically if an integrated learning package is to be tailored to meet their unique needs. Departments are usually relatively isolated structures, so that cross-sharing of information about student needs occurs infrequently. Possibly the careers counselling service, on campuses where it exists, could provide such a holistic approach to individual learning needs, if its staffing levels were considerably upgraded.

3.3 Pre-occupation with left-brain performances.
Self-fulfilment of an individual means the individual has discovered and begins to develop his/her whole self with unique talents. It is becoming increasingly clear in research (Edwards, 1986), (Capra, 1982) that for holistic growth to be maximised in the individual, there needs to be lively dialogue between the right and left hemispheres of the brain. These hemispheres use contrasting methods of information gathering and processing (Edwards, 1986: 10). The right and left qualities have been listed by Capra (1982: 21) as follows:

<table>
<thead>
<tr>
<th>RIGHT</th>
<th>LEFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>feminine</td>
<td>masculine</td>
</tr>
<tr>
<td>contractive</td>
<td>expansive</td>
</tr>
<tr>
<td>responsive</td>
<td>aggressive</td>
</tr>
<tr>
<td>co-operative</td>
<td>competitive</td>
</tr>
<tr>
<td>intuitive</td>
<td>rational</td>
</tr>
<tr>
<td>synthesising</td>
<td>analytic</td>
</tr>
</tbody>
</table>

Other qualities are associated with those hemispheres by Edwards (1986: 12):

<table>
<thead>
<tr>
<th>RIGHT</th>
<th>LEFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>non-verbal</td>
<td>verbal</td>
</tr>
<tr>
<td>feeling</td>
<td>thinking</td>
</tr>
<tr>
<td>spontaneity</td>
<td>structure</td>
</tr>
<tr>
<td>art</td>
<td>maths</td>
</tr>
<tr>
<td>music</td>
<td>science</td>
</tr>
<tr>
<td>dance</td>
<td>writing</td>
</tr>
<tr>
<td>creative</td>
<td>procedural</td>
</tr>
<tr>
<td>symbolic</td>
<td>concrete</td>
</tr>
<tr>
<td>non-temporal</td>
<td>temporal</td>
</tr>
<tr>
<td>spatical</td>
<td>digital</td>
</tr>
</tbody>
</table>

Clearly an examination of university assessment procedures indicates an extreme preference for left mode functioning (except possibly in the Academy of Performing Arts). Analytical, "objective", linear, left-brain thinking procedures are favoured. Written skills and conformity to particular perception of knowledge are rewarded. The consequences of this pre-occupation with the left-mode qualities are effectively presented by Frijef Capra (1982) in his seminal work, The Turning Point and these consequences include violence, racism, sexism, speciesism, interpersonal conflict and cultural disintegration. The dominance of left-brain qualities in the University learning
system paradigm, placing major constraints on designing learning so that individuals may fulfil their full potential. It is particularly exacerbated for individuals who have an abundance of right hemisphere talents, which are largely acknowledged in the university system.

3.4 Overspecialisation of Programs

The increasing vocational emphasis in University programs means that too many students are channelled down one-way streets before they have the self-knowledge to know what their particular talents and interests are. This is in my experience, a particular problem with school leavers who opt for immediate specialist programs such as teaching or nursing only to discover mid-way or at the end of the programs that it is not their interest. Such early specialist training of undergraduates may also produce graduates who take some years to discover why they do not feel fulfilled in their careers. Over-specialised undergraduate programs often do not expose students to other interest areas by going so far as to specify the student's course electives, a practice known as "compulsory electives". Over-specialisation of programs in undergraduate years provide a major constraint on students exploring their unique talents and interests.

There are four key personnel constraints that influence the development of self-actualised students. These are:

(i) Lack of awareness or motivation to achieve self-actualisation
(ii) Staff who have not taken up the challenge of self-actualisation
(iii) Limited staff/student contact
(iv) Fusion of recruiting and teaching functions

3.5 Lack of awareness or motivation to achieve self-actualisation

Staff who are either unaware or not committed to supporting students discover their full potential, do not encourage students to self-actualise. Many students are discontent with their sense of unfulfilment with courses they have chosen, and require supportive staff to help them discover the cause of their discontentment.

3.6 Staff who are not themselves working on their own self-fulfilment and self-actualisation

Teaching staff who may be committed to assisting students discover their full-potential, but who have not undertaken that journey themselves are unable to effectively support the student. Maslow (1973:53) argued that the greater the level of self-actualisation of the "helper" in this case staff person, the greater their ability to assist the student self-actualise. If the staff person is still functioning at the level of deficiency needs, then the student may well become the channel for the staff person's defensive activities (Chiang and Maslow, 1969:50). Such staff feel particularly threatened by students who challenge rationale or content of programs.

3.7 Limited staff/student contact

Supporting students in their journey to discover their full-potential is time consuming and involves holistic knowledge of the students' needs, talents and aspirations. It is not a process that happens quickly. Maslow (1973:46) saw it as an ongoing process made up of gradual numerous, small steps. Often staff have contact with any one student during one unit only of a student's academic program, and it requires considerable additional time and effort to support students on his/her journey to discover his/her potential. In practice, time constraints mean that only "a few" assertive students, or students in crisis over their academic programs, select themselves for staff attention.
3.8 Fusion of recruiting and teaching functions

Unless staff are highly committed to supporting students fulfil their unique potential, the fusion of recruiting and teaching functions of academic staff, results in students being advised to undertake programs/units for which the staff member is trying to recruit. This may result in student selections that are not in the interests of their self-fulfilment.

4.0 Exploring immediate teaching strategies for developing self-actualised students within the University system

Five key teaching strategies for developing self-actualised students are explored. These are:

(i) Motivational strategies
(ii) Management strategies
(iii) Design strategies
(iv) Assessment strategies
(v) Support strategies

4.1 Motivational strategies

Essentially these are strategies which motivate students to discover their full-potential. Maslow (1973:37-9) identifies eight such strategies:

(i) Supporting students to make choices in their academic studies that are self-fulfilling.
(ii) Supporting students to make choices in their academic studies that are growth rather than fear choices.
(iii) Challenging students to discover their likes and dislikes in the areas of study and work.
(iv) Providing an environment where students can be honest and self-responsible.
(v) Encouraging students to commit themselves to the things that they love doing.
(vii) Communicating with the student about one’s own ‘peak experiences’ in discovering who one is and what, how one made fulfilling career choices.
(viii) Supporting the student to discover his/her potential:
"To unfold, to break through the defences against his own self-knowledge, to recover himself, and to get to know himself " (Maslow, 1973:54).

Motivation of students often comes from staff belief in the potential of the student. A student may come to discover his/her academic potential, because someone else, first believed in it. This is particularly the case with many mature-age women, who come to studies with low esteem. In my experience, staff acknowledgment of their potential talents, awakens them to undertaking the journey to fulfil their potential. Mary provides such a case study. At 38, she commenced her University degree, with a husband, 2 school aged children, no confidence and no work experience. She left school at 14, married at 16, and had been involved in home duties. It was soon clear to the staff in the human services program that she had high levels of empathy, interpersonal skills and outstanding organisational skills. Over the four years of her degree, staff encouraged her to undertake work experiences that demonstrated her skills and commented on her strengths. Mary graduated with more than a degree. She graduated with a sense of her power as a person, a sense of her unique talents that she could use to work with others and a strong sense of esteem and identity. Mary has gone on to employment in a human service organisation where she finds high levels of
satisfaction. She is confident now to talk to new students about taking up the challenge of finding their unique potential and talents. Students like Mary who have graduated and experienced a sense of self-fulfilment become great motivators for new intakes of students, because they are approachable and believable role models.

4.2 Management strategies
Teaching staff, especially co-ordinators of particular programs and units have the opportunities to implement management strategies which promote students' abilities to discover and develop their potential. Maslow (1965:45) in *Eupsychian Management* defines the desirable management style as that which is essentially democratic. This gives students a sense of empowerment or control over their fate, of self-responsibility, of autonomy and initiative. Students need to be treated as people who participate actively in shaping their destiny. Such a management style requires flexibility, initiative and lateral thinking on the part of staff. It means the avoidance of pseudo freedoms such as compulsory electives which create resentment and resistance from students, and maximising student opportunities to explore their areas of interest. Maslow (1965:77) indicated that there are positive correlations between the democratic style of management and psychological health, and that such managers are not only creators of synergy but frame synergic or growth promoting situations for those around them.

4.3 Design strategies
Such strategies refer to the use of innovative structures and processes in unit design. Two such important strategies which facilitate the student discovering his/her self-potential are contract learning and graded tutorials. Contract learning is most appropriate when a student wishes to explore a particular area of interest. Contracts may be designed in lieu of lectures, assignments of any combination of the above. I look back with great delight on Joe, a first year mature age student, uncertain about where he was headed. In one unit on Social Analysis, he identified an interest in phenomenology. We designed a contract for Joe to complete specialist research in the area. In the process, he discovered his specific talent for philosophy and is now completing a PhD in a specialised area of phenomenology.

Graded tutorials are used when a sub-group of students in any particular area of knowledge, demonstrate a commitment to exploring the subject in greater depth than is part of strict course requirements. Grading these students into a particular interest tutorial group provides high levels of synergy, as the students act as mutual inspiration to each other on their quest for knowledge. I have found particular success with graded tutorials as they overcome many of the time constraints on individual student support, they also develop a student support network, for those students committed to self-actualisation.

4.4 Assessment strategies
Assessment strategies can have major effects on developing or hindering students discovering their potential. Rigid, norm-referenced assessments which ignore right brain talents, are conducive to producing graduates with low esteem who feel they have not fulfilled their potential. Rose is such a student. Her interpersonal skills are good, she is a creative, synergistic thinker, a good negotiator and has high levels of professional helping skills. In her career as a human service worker, Rose performs at an A+ level. Yet Rose still believes she's not much good. After all she was always assessed as a C+ student because only her written analytical skills were assessed. Rose remains in occupations well below her potential, because she did not graduate with a sense of her potential.

Broadening assessment strategies can help overcome this problem by ensuring students are assessed more holistically - their verbal and written skills, their people and task skills, their
individual and group-work skills. These skills are all highly relevant to their future professional functioning and in assisting students more comprehensively explore their potential.

"Profiling" is an effective way of presenting to a student and potential employer a profile of the range of a student's abilities from a range of perspectives - staff and student concerned. Bill Laws (1984:4-5) proposes that profiling assessment systems have three components which together work to support the student maximise his/her career potential. These components are (i) summative; (ii) formative; and (iii) catalytic. The first component involves extending the base of skills on which we evaluate students. The second involves students in formulating and assessing their learning experiences. The third involves developing a comprehensive ongoing bank of information about student needs and goals, that can be passed to appropriate staff and built upon during course progress. Essentially, if assessment is to be focused towards encouraging self fulfilment then multiple and varied assessors need to be incorporated in consultation with the students being assessed.

4.5 Support Strategies

In the University system, it is essential holistic, integrating strategies be set in place to monitor and support the student in his/her journey to uncover and fulfil his/her potential. A key support strategy is the establishment of staff course advisers who undertake to advise the students in that particular year cohort. Such staff are in an unique position to provide an integrated perspective on the students' interests and learning experiences and to provide appropriate support. Where the course adviser moves through three years with the same cohort of students then it is a particularly effective structure.

Other support strategies include conducting extra curricular seminars or organising workshops which enable groups of students with similar expressed needs to have these met. Such seminars may be skill based or information based. Examples include workshops on "Self-Esteem", "Choosing the Right Career" and "The Job Interview". The range is limitless.

Supporting students fulfil their unique potential means that staff need to be informed of the range of learning options within their University, in other Universities and in training organisations. For some students the best combination of units may be streams from two different Universities' programs. This has been used as an effective option for students seeking unusual or unavailable combinations of study, such as human services/counselling studies. Mixing and matching across courses and sometimes Universities is an essential skill that staff need to develop to tailor courses of study to individual interests.

CONCLUSION

"To challenge students to achieve their full potential", to self-actualise, is a noble aim for a University. This paper has begun to explore this process, by positing a model for self-actualisation, and outlining management, motivational, design, assessment and support strategies that staff can implement to facilitate this aim.

However, it must be recognised that fundamental aspects of the present University system are inimical to tailoring education to meet individual student needs to develop their full potential. These include the ascendance of the economic rationalist paradigm and its displacement of the humanistic learning paradigm, the growing preponderance of specialist over multi-disciplinary programs, the fusing rather than separation of teaching and recruitment tasks, and the evaluation of system performance in quantitative rather than qualitative measures.
These system trends must be critically reassessed for they are inimical to the development of fulfilled self-actualised persons who have the skills so urgently required for negotiating our way through the critical, ethical, social and ecological problems that will confront us in the 21st century. The skilled, but unfulfilled technocrat who graduates from university systems driven by rationalist economics, may have much to contribute to the problems of the 21st century but little to their solutions.

REFERENCES


APPENDIX 1

AIM I:
To extend education opportunities to students of appropriate potential from a wide range of social, cultural, educational and national backgrounds, including the disadvantaged, thereby enhancing their capacity to contribute positively to society.

AIM II:
To provide undergraduate, postgraduate and specialised professional programmes at standards recognised internationally with an emphasis on emerging services and disciplines, so as to enhance the diversity of educational opportunity in Western Australia.

AIM III:
To maintain the vocational and professional orientation of programmes while expanding fundamental science, social science and arts courses.

AIM IV:
To sustain an innovative, equitable and supportive university environment that challenges students and staff to achieve to their full potential.

AIM VI:
To offer a range of delivery options to students on-campus, off-campus, interstate and overseas and, in particular, to provide leadership in the delivery of programmes using electronic media.

AIM VII:
To pursue research and development related to the focus and priorities of the University and in cooperation with the public and private sectors.

AIM VIII:
To address state and national priorities constructively.

AIM IX:
To interact with the international university and professional communities so as to promote advances in knowledge and to ensure that graduates are able to operate internationally in their vocations.

AIM X:
To make available the expertise and resources of the University to the Western Australian and wider communities.

Source: Aims of Edith Cowan University from: Submission to the Committee for Quality Assurance in Education.
# APPENDIX 2

## TABLE 1

### CREATIVE AND UNCREATIVE RESEARCH ENGINEERING DEPARTMENTS

<table>
<thead>
<tr>
<th>Segments of the Cycle</th>
<th>Creative Department</th>
<th>Uncreative Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXISTENCE</td>
<td>Outstanding record of creative innovations</td>
<td>Routine, and very conventional work</td>
</tr>
<tr>
<td></td>
<td>Researchers insist upon the integrity of search for truth</td>
<td>Researcher relinquish values in favour of business orientation</td>
</tr>
<tr>
<td>a) PERCEPTION</td>
<td>Humanistic concern and orientation toward development</td>
<td>Overriding concern with day to day mechanical operations</td>
</tr>
<tr>
<td>b) IDENTITY</td>
<td>Technicians able to change their identity to become engineers</td>
<td>Hard and fast insuperable barriers between technicians and engineers</td>
</tr>
<tr>
<td></td>
<td>Goal utilization of individual background and skills</td>
<td>Poor utilization of backgrounds and skills</td>
</tr>
<tr>
<td>c) COMPETENCE</td>
<td>High levels of aspiration</td>
<td>Low level of aspiration</td>
</tr>
<tr>
<td></td>
<td>Only 13% of research staff know of better jobs they would like to have on the outside</td>
<td>57% of research staff know of better outside jobs</td>
</tr>
<tr>
<td>d) INVESTMENT</td>
<td>Many more interaction counted with wide spectrum of persons</td>
<td>Relatively few interactions with narrow range of proximate persons</td>
</tr>
<tr>
<td></td>
<td>Head of research department represents his own authentic view to all departments values from research and more research</td>
<td>Head or research department “faces both ways” and call for more business values from managers</td>
</tr>
<tr>
<td>e) SUSPENSION and RISK</td>
<td>Performance diverges from seniority and rank</td>
<td>Performance remains congruent with seniority and rank</td>
</tr>
<tr>
<td></td>
<td>Low structure</td>
<td>High structure</td>
</tr>
<tr>
<td></td>
<td>No organization chart</td>
<td>Much “pulling rank” and identification by seniority</td>
</tr>
<tr>
<td></td>
<td>President is egalitarian and dresses like a machinist</td>
<td>Each man keeps his place</td>
</tr>
<tr>
<td></td>
<td>Long range view</td>
<td>Short range concerns</td>
</tr>
<tr>
<td></td>
<td>Uncertainty is legitimate</td>
<td>High certainty</td>
</tr>
<tr>
<td>f) BRIDGING THE (wide) DISTANCE</td>
<td>High range of upward initiation</td>
<td>Research department described as “isolated”. Complaints of “language gap” between depots</td>
</tr>
<tr>
<td></td>
<td>High rate of interaction between departments</td>
<td>Brilliant and eccentric persons squeezed out</td>
</tr>
<tr>
<td></td>
<td>“Misfits” welcomed and their talents stressed. Lower status persons included</td>
<td>Lower status persons isolated</td>
</tr>
<tr>
<td>g) SELF CONFIRMING SELF TRANSCENDING</td>
<td>Many engineers with reputations for scientific integrity</td>
<td>Very few engineers with reputations for scientific integrity</td>
</tr>
<tr>
<td></td>
<td>66% Highly Satisfied</td>
<td>37% Highly Satisfied</td>
</tr>
<tr>
<td></td>
<td>Many deep friendship involvements</td>
<td>Few deep friendship involvements</td>
</tr>
<tr>
<td></td>
<td>Supervisors act as “sounding boards”</td>
<td>Supervisors exert pressures for conformity</td>
</tr>
<tr>
<td>h) Dialectic leading to SYNERGY</td>
<td>Research department reconciles its differences with the rest of the company</td>
<td>Research department complains of domination by business values</td>
</tr>
<tr>
<td></td>
<td>High number of interdepartmental and intradepartmental mutual friendship choices</td>
<td>Low number of interdepartmental and intradepartmental mutual friendship choices</td>
</tr>
<tr>
<td></td>
<td>Pleasure taken in nurturant relationships</td>
<td>No evidence for this</td>
</tr>
<tr>
<td>i) INTEGRATION of FEEDBACK and COMPLEXITY</td>
<td>Reconciliation of scientific integrity with business values, with needs for friendship, with creativity and deviance, a balanced cycle with complex integration</td>
<td>Conflict and subordination of science to business, of creativity to “fitting in” of friendship to status, of satisfaction to coordination</td>
</tr>
<tr>
<td></td>
<td>An unbalanced cycle with dichotomous structures</td>
<td></td>
</tr>
</tbody>
</table>

## Table 2

### Characteristics of High Performing and Low Performing Organizations in Complex-Demand Environments

<table>
<thead>
<tr>
<th>Segments of the Cycle</th>
<th>Where the developmental environments...</th>
<th>Then, High Performing Organizations...</th>
<th>But Low Performing Organizations...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXISTENCE</strong></td>
<td>are full of innovative contributions and are in rapid flux</td>
<td>are the most creative in the production of new products</td>
<td>are the least creative in the production of new products.</td>
</tr>
<tr>
<td><strong>a) PERCEPTION</strong></td>
<td>Contain much ambiguous information</td>
<td>Confront those who disagree about policy</td>
<td>Evade those who disagree.</td>
</tr>
<tr>
<td><strong>b) IDENTITY</strong></td>
<td>Require innovative persons</td>
<td>Give prominence to research activities</td>
<td>Give less prominence to research activities.</td>
</tr>
<tr>
<td><strong>c) COMPETENCE</strong></td>
<td>Require considerable expertise</td>
<td>Contain managers who experience themselves as influential and successful</td>
<td>Contain managers who feel less influential and successful.</td>
</tr>
<tr>
<td><strong>d) INVESTMENT</strong></td>
<td>Are constantly changed by novel inputs</td>
<td>Have the most expert also exercise the most influence. Have departments which reveal the full extent of their disagreements departments</td>
<td>Have the less expert exercising more influence than the more expert. Have departments which hide and suppress the full extent of their disagreements.</td>
</tr>
<tr>
<td><strong>authentic and intense</strong></td>
<td>Are high in uncertainty</td>
<td>Are less hierarchical, formal or structured</td>
<td>Are more hierarchical, formal and structured.</td>
</tr>
<tr>
<td><strong>e) SUSPENSION &amp; RISK</strong></td>
<td>Require “wide” division of labor and highly differentiated</td>
<td>Achieve wide differentiation</td>
<td>Achieve either less differentiation or</td>
</tr>
<tr>
<td><strong>f) BRIDGING THE (wide) DISTANCE</strong></td>
<td>Require effective integrations of these sub-systems</td>
<td>Achieve effective integration of these sub-systems. Managers (especially coordinators) feel more rewarded.</td>
<td>Achieve less integration (or both) Managers (especially coordinators) feel less rewarded.</td>
</tr>
<tr>
<td><strong>g) SELF CONFIRMING, SELF TRANSCENDING IMPACT</strong></td>
<td>Require considerable skill to reconcile complex opposites</td>
<td>Use prolonged confrontation mutual reasoning, and “digging for the truth” in order to reconcile conflict. Less smoothing over of differences.</td>
<td>Have conflict settled by stronger suppressing weaker or top management imposing forced solutions. More smoothing over of differences.</td>
</tr>
<tr>
<td><strong>h) Dialectic leading to SYNERGY</strong></td>
<td>Are exceedingly complex and require equally complex comprehension</td>
<td>Achieve Optimal balance and reconciliation of— Differentiation with Integration. Researchers influence with Coordinator’s influence, Knowledge commenurate to influence.</td>
<td>Severe imbalance with either poorly integrated, over-differentiated highly integrated sub-systems. Knowledge and influence are typically separated.</td>
</tr>
</tbody>
</table>

ABRAHAM MASLOW'S HIERARCHY OF NEEDS

SELF ACTUALIZATION

TRUTH
GOODNESS
BEAUTY
ALIVENESS
INDIVIDUALITY
PERFECTION
NECESSITY
COMPLETION
JUSTICE
ORDER
SIMPLICITY
RICHNESS
PLAYFULNESS
EFFORTLESSNESS
SELF SUFFICIENCY
MEANINGFULNESS

SELF ESTEEM
ESTEEM BY OTHERS

LOVE & BELONGINGNESS

BASIC NEEDS
(Deficiency needs)

SAFETY AND SECURITY

PHYSIOLOGICAL
AIR, WATER, FOOD, SHELTER, SLEEP, SEX

THE EXTERNAL ENVIRONMENT
PRECONDITIONS FOR NEED SATISFACTION
FREEDOM, JUSTICE, ORDERLINESS
CHALLENGE (STIMULATION)

* Growth needs are all of equal importance (not hierarchical)
APPENDIX 4

BEHAVIOUR, STYLES AND
CHARACTERISTICS OF NEW LEFT
ACTIVISTS AT BOSTON UNIVERSITY

Segments of the Cycle

As Compared with Right Activists, non-Activists and Centre
Activists, New Left Activists were:

Man exists freely

Highly on Existentiality and Moral Freedom Scales (see Chapter
IX)

Lease committed to an existing professional slot in professional
society.
Most free and spontaneous in their public meetings.
Most likely to live off-campus and away from home.
Least committed to formal religious practices and organisations.
Least likely to suppress rebellious feelings.
Least likely to support "school spirit" organisation.
Least conventional in career choices.
Least interested in legal career.

a) PERCEPTION

Lowest on Scale of Perceptual Narrowing

Most interested in Music (especially Folk Music).
Most interested in Modern Art and History of Art.
Most interested in "Art" Movies.
Least interested in Westerns, Light Entertainment and Satire.
Lowest on index of TV watching.
Highest in belief in Humanism.
Most likely to be studying Liberal Arts.

b) IDENTITY

Highest on Scale of "Sensitivity to Own Feelings".

Deepest appreciation of poetry.
Greatest concern with self-discovery and personal search for
meaning.
Most psychologically minded.

c) COMPETENCE

High Scale of Social Dominance (Centre was highest)

Most secure in social status.
Most upwardly, least downwardly mobile families.
Highest evaluation of persons with power through others.
Lowest evaluation of persons with power over others.
d) INVESTMENT

Highest on Scales of Inner Direction and Achievement via Independence

authentic and intense

Most likely to live away from home after graduation.
Most independent from parents.
Most likely to have demonstrated publicly.
Least likely to show discrepancy between feeling and action.
More spontaneous, open and confiding.
Least difficulty in self-expression.
Less "hung-up" and inhibited sexually.

e) SELF-SUSPENSION and RISK

1) IN THE SENSE OF EXISTENTIAL DESPAIR

Highest on Scale Measuring Belief in Man's Aloneness

Most anxious about achieving personal development and identity.
Most anxious for others and for society.
Least likely to seek "quiet" or "graceful" life.

2) IN THE SENSE OF BEING FLEXIBLE

Highest on Flexibility Scale, Lowest on Dogmatism Scale.

Longer reflection before answering questions.
Most likely to regard college as moratorium.

3) IN THE SENSE OF SUSPENDING SELF CONCERN

Lowest in expressing exclusive personal concerns.
Highest membership in altruistic organisation for social betterment.

f) BRIDGING THE (wide) DISTANCE TO OTHERS

Lowest on "Intolerance toward Disbelievers" Scale

Most likely to come from large city and least likely to come from small town.
Highest contact with opposite sex.
Most likely to identify with "far flung" personalities of many creeds and colours.
Least likely to identify exclusively with white Americans or Europeans.
Most likely to have global concerns.
g) SELF CONFIRMING  
*Highest on Self-Actualisation Scale*

Highest in reporting self discovery.
Highest in reporting close and long friendships.
Highest in sexual experience.
Lowest in unconsummated sexual fantasy.

**SELF TRANSCENDING IMPACT**  
*IN THE SENSE OF REFUSING TO PLAY REPETITIVE GAMES*

Least playing of card games.
Least interested in cars.
Least participation in sports.
Least concern with sports.
Rejection of the "Dating Mill" and mutual con-game of going through the motions of dating.

h) Dialectic leading to higher SYNERGY

Highest in persistence under criticism.
Highest rejection of parental demands as overriding one's own.
*Lowest on "Fear of Compromise" Scale and Highest in Capacity for Intimate Contact.*

More "mother-centred" homes.
Highest frequency of informal "bull sessions" with friends.
Most participatory democracy at meetings.
Highest in *living with*, not just visiting sexual partners.
*Lowest on Authoritarian Scale.*
Least identification with national figures wielding power.

i) INTEGRATION OF FEEDBACK AND COMPLEXITY  
*Highest in Intellectual Efficiency Scale*  
*Lowest on Isolation, and Non-Integration within Belief System*

Highest in "personal search for truth".
Highest in ownership of books.
High in pursuit of knowledge as an end in life.
Low in objections of being tape-recorded.
Highest in linking public with private concerns and self with the environment.

NB  "Highest", "lowest", etc, mean that neither Centre, Right nor Non-Activists rated as high or as low.
"High", "low", etc, mean that one other group, usually the Centre, and occasionally Non-Activists, rated as high or low.

SOURCE  
"A Study of a Sampling Boston University Student Activists" by Irvin Dones, Unpublished Doctoral Dissertation, Boston University, 1968. (Additional analyses of the raw data were undertaken by Charles Hampden-Turner).
ABSTRACT

This paper examines some of the practical teaching issues in the design, development and delivery of courses for aboriginals. Findings are based on experience in conducting higher education and training courses in public sector financial and resource management for aboriginal public sector managers employed by the Victorian and Commonwealth governments. Some strategies for adapting traditional teaching approaches to the needs of Kooris are outlined.

Case Study: Recognising Koori Learning Styles in Course Design and Delivery - Lessons for Teaching and Learning from a Victorian Initiative.

INTRODUCTION

A small group of staff from the Faculty of Business at VUT has been designing and presenting training and formal award courses in public sector financial and resource management for middle and senior managers from Local, State and Commonwealth public sector agencies, for the last five years.

This paper is based on our experience in conducting two higher education/training courses for aboriginal public sector middle managers employed by the Victorian and Commonwealth governments. There may well be limitations to the applicability of our observations to other aboriginal teaching situations since the Koori groups were urban rather than traditional aboriginals, and included only public sector managers.

The paper outlines some of our research into the needs of Koori students and our strategies to provide an environment where Koori participants can feel comfortable, ready to learn, prepared to take risks, whilst at the same time being mindful of the integrity of maintaining the content required.

There are a number of practical teaching issues arising from our experience in the design, development and delivery of courses for Kooris, which we feel are worth sharing and discussing with other educators with the expectation of receiving feedback that can be factored into future courses. A key reason for presenting the paper at this conference is the prospect of exposure to the range of experience and expertise in aboriginal teaching and learning styles in Western Australia.

Background to the Courses
The past decade has seen major reforms in public sector accounting and management, including a growing emphasis on accountability and reporting of performance by public sector bodies (see Task Force on Management Improvement, 1992, chapter 2 for a detailed history of the reforms).
Public sector managers now find themselves operating in a rapidly changing environment in a climate of progressive devolution of responsibilities and an evolving culture of performance evaluation. In many public sector organisations the combined effects of organisational restructuring, program budgeting, devolution, and other management reforms have created new and expanded expectations of managers, especially in the area of financial management. In this context the concept of financial management seems to have broadened from the relatively narrow notion of budget management and expenditure control to the broader notion of results-oriented management (Shand D, 1989 pp3-5), resource management and achievement of value for money. (Keating M, 1990 pp 387-398)

The Corporate and Program Management Cycle (Appendix 1) provides a good illustration of the increased emphasis on evaluation and performance measurement in terms of outcome orientated objectives(MAB & MIAC, 1993).

Teaching the traditional concept of financial management relied very much on teaching technical skills via a knowledge of processes, and was usually taught using chalk and talk and practical exercises, typical of tertiary business courses. Financial management training in the current environment must now focus on investigative, analytical, problem solving and communication skills as well as technical skills. In our experience the development of such skills is best achieved by the use of case studies and group work where there may be many complex social, political and economic considerations and often no single best answer.

Having developed and delivered financial management training courses (as well as formal undergraduate and post-graduate courses) reflecting these changes, we were faced with the challenge of adapting to meet the needs of groups comprising only Koori participants.

Koori Programs

The first project involved adapting a financial management training course designed originally for mainstream finance officers in the Victorian Public Service to meet the needs of Koori managers. Most of the participants had limited experience or formal training in financial management.

The Koori participants were drawn from a range of Victorian government agencies as diverse as Tourism, Education, Consumer Affairs, Agriculture, and Community Services, and had been recently exposed to a number of general management training programs as part of an accelerated professional development program under the auspices of the Aboriginal Employment Unit of the then Victorian Public Service Board. Significantly there was no assessment requirement, we were given a high degree of flexibility in the content, timing and course materials within a broad content framework.

The second project involved the delivery of a financial and resource management stream within the Public Sector management Course. The four major streams of study covered in this course are:

Stream 1 - Managing Service and Program Delivery
Stream 2 - Leadership and Professional Identity
Stream 3 - Financial and Resource Management
Stream 4 - People Management

There were a number of significant differences in offering stream 3 compared to the Victorian Public Service Board project:

1. The course was conducted Australia-wide with participants drawn from all three tiers of government.
2. Key aims of the course were to increase the number of public sector managers with formal post-graduate qualifications in management, as well as to foster the development of practical skills. Participants who successfully completed the assessment components of all four streams of the course receive a Graduate Certificate in Public Sector Management from Queensland's Griffith University.

3. The material we were contracted to use for stream 3 had been developed by the University of Wollongong in New South Wales, and the content, approach and resource materials were prescriptive.

4. Participants could elect whether or not to undertake the formal assessment component, while initially there was certainly an expectation that virtually all participants would in fact attempt the assessment component, which is assessed by staff at Griffith University.

In common with colleagues in Victoria in business education and training we had previously had little exposure to aboriginal students. Two reasons for this are the relatively small proportion of aboriginals in the community in Victoria compared to other states, and the preference for aboriginal students in higher education in Victorian universities for courses such as Arts, Law and Education rather than business courses as based on the experiences of Koori liaison units at Monash, Melbourne, Deakin and Victoria Universities.

Before the Victorian Public Service Board financial management program, we were initially very conscious of our lack of expertise and experience in educating or training aboriginals and realised the need for a strategy for successful implementation of the program. We had also had strong feedback from both participants and the course administrator indicating that some previous training delivered by consultants in earlier streams was not perceived to have met participants' needs because of, at least in part, inappropriate teaching and learning styles.

### Research into participants' backgrounds, needs and expectations

Previous training experience reinforced the fundamental principle that trainers must know their target group, their backgrounds, needs and expectations in respect of the training. It is equally important to know the expectations of their supervisors and employers.

As cultural outsiders we realised the need to conduct extensive research into the target group, beyond what we would normally expect to undertake for mainstream courses. Rather than attempt to gain insights into aboriginal culture, lifestyles and education through the literature it was decided the best approach was to start with the people. This required significant contact with aboriginal public servants in their places of work and their communities. The single most influential strategy in making the course work was to move amongst the Koori community, and to move as many decisions about the course as possible into the hands of future participants who made good use of the opportunity to have a genuine input into how the program would be developed and run.

As an indication of the extent of our research we:

- Stayed for a week (with our families) at a former Koori mission site, now owned and managed by a community group;

- Visited Koori regional co-operatives, Koori cultural centres and business ventures and interviewed managers and staff;
Interviewed a number of potential participants and their supervisors;

- Interviewed funding authorities;

- Examined annual and other reports of relevant government agencies and business concerns.

- Appraised other aboriginal training materials from various DEET, TAFE and consultants programs; (for example DEET's aboriginal training series "Towards Better Management", 1990)

- Collected and examined literature on aboriginal culture and learning styles; (see for example Coombs et al, 1983; Nungalinya College, 1992)

- Took advantage of a visit to the Northern Territory on other business to speak to educators, community members and co-operative managers, park rangers and NT public sector managers to gain further insights into aboriginal culture, financial management issues and teaching strategies.

Some first impressions from the research
The more insights that were gained from the consultative process the more it became apparent:

i) how important this initial research was in increasing our limited and fairly inaccurate knowledge base in terms of Koori culture

ii) the extent to which we would need to modify and adapt our conventional approach to course design and delivery.

The insights gained cannot be distilled into a convenient list of do's and don'ts, but certainly afforded the benefits of:

- being comfortable in interacting with Kooris having had limited prior contact

- knowing and being known by a range of Kooris from different communities and making participants comfortable with us through direct contact prior to the course or indirectly via an astonishingly rapid and wide-ranging 'grapevine'

- gaining credibility and trust through a genuine attempt to make the design and development an inclusive process

- understanding that there is a business culture amongst non-Kooris that comes from connections (e.g. networks of relatives, friends or acquaintances who are bank managers, solicitors, accountants etc., which have tended to be less available to Kooris)

- realising the rich source of financial management examples, anecdotes and cases existing within Koori community groups and businesses with potential for use in increasing the relevance of teaching to Koori managers (for example, Lake Condah tourist venture, Brambruck cultural centre, Koori tours, and emu farming ventures)

- familiarity with and understanding of participants' job requirements and working environment.
perceptions on relative importance of issues/topics, teaching and learning styles relevant to Kooris

recognising the complexities of aboriginal funding, which even for a single project often comes from a range of different government departments from all three levels of government, and the complex accountability networks which exist as a result

understanding that much of the financial management focus in Koori communities and business enterprises was at narrowest focus around how to get access to funds and then basic budget monitoring and control (often done by non-Kooris), and that there was little apparent sharing of ‘best practice’ between communities and businesses.

appreciating that many funding authorities and the Auditor General have viewed a lack of accountability in some Koori programs to be due to inadequate financial management expertise, and this situation affected or threatened future funding. However authorities were often by no means certain about range of outcomes desired for Koori programs which they fund, or how to measure success in these programs

being aware of the potential conflict between a participant’s expectations that focused on the practical benefits from the training, and expectations of supervisors and participant’s sponsoring agencies which in terms of wanting completion of the ‘optional’ assessment to gain formal academic award

highlighting the need to ensure the delivery is interesting and relevant to Kooris as many participants have neither experience nor inherent interest in the area of financial management

appreciating the role and importance of relationships within and between Koori communities and the strong internal political dynamics and tension operating, and the realisation that the views and attitudes can vary widely within and between communities. An example is whether the funding for a building program is best spent on a tourism facility with the potential for future community income and employment or to immediately improve existing community accommodation

realising that in any political scenario - be it a Koori community group or a public sector agency program - decisions are not likely to be solely based on ‘accepted’ financial and resource management criteria that financial management courses promote

understanding that the bottom line with many potential Koori participants is that they are willing to vote with their feet if a course is not delivering the goods.

appreciating that whilst the literature reinforced in a general sense the impressions gained from personal contact, the depth and intensity of the personal responses is what stayed with us and gave us the directions and priorities which are outlined in this paper.

Placing the learning experience in context

Contact with participants highlighted the characteristic of strong Koori involvement in community groups and projects, and reinforced the need to actively sell the value of financial and resource management training in terms of multiple benefits in being able to better justify, attract and maintain funding for projects, and manage and control with better information. Our strategy was therefore to constantly emphasise the worth of each component of the program in the context of
their world view and their own experiences - whether to do with participants' work in a public sector program, or interests in a Koori business venture or a community co-operative.

**Strategies for modifying and supplementing course content**

Whilst having to cover all the necessary areas within the course as specified and constrained by our contractual obligations, the existing resource materials and our own professional judgement, the content clearly needed to be modified to maintain interest and relevance to participants. Some strategies adopted were:

- Highlighting the applicability of financial management competencies to Koori communities in addition to their public sector management roles.

- Reasons were explicitly given for inclusion of content, and the undertaking of cases and exercises in terms of relevance to them, rather than formal course assessment requirements or because it is common practice in business.

- Examples taken from the public sector were either changed to increase relevance or replaced by community based examples. For example a case study addressing 'user pays' issues based on public transport ticketing systems was recast based on revenue earning Koori cultural activities. Exactly the same issues were addressed, but with a much higher level of immediacy and interest, with a consequent benefit to learning outcomes. Other cases used Koori community emu farming business ventures and tourism operations.

- A conscious decision was made to utilise anecdotes and examples from areas that the Kooris had an interest in or strong views on: police, health, housing, education, social security and road safety. For example as an illustration of the political power of good objective documentation the objectives for Fred Hollow's trachoma project were used because of the strong connection to aboriginal society and their quality - jargon free, simple, unambiguous, socially, politically and economically persuasive.

- An interactive approach in financial management training helps to elicit anecdotal examples from participants, sharing of experiences and reinforcement of theoretical content. This was especially important with the Koori groups who saw anecdotes as providing a vital degree of verification to theoretical material. The fundamental approach was to be ever conscious of the need to continually draw on Koori participants' professional and community experiences and interests.

**Strategies for course delivery**

A basic strategy was to recognise the participants' strong oral tradition by emphasis on large or small group discussion rather than individual work. With the increased emphasis on this interactive approach the distinction between presenters and participants tended to disappear, a fact which was commented upon and greatly appreciated in participant evaluations at the end of the course.

Key strategies included:

- Creating an informal learning environment with multiple presenters and an interactive team approach.

- Using a tag-team approach to maintain a level of energy, variety and enthusiasm necessary to sustain a full day which would be difficult, if not impossible, to match as a solo presenter.
acknowledging the importance of humour in maintaining interest and enthusiasm and fun in the learning process; and encouraging a mix of laughing, ribbing, relaxing and seriousness by presenters working as a team. One presenter would often be up-front with the other sitting amongst the group interjecting to add or clarify and sometimes offering a conflicting view or an aside. This mirrors our observation of Koori interaction.

recognising the importance of mutual support provided by group work in problem solving. Group work was used heavily in mainstream courses, and participants to form different groups for different activities. Koori groups were keen for group work, but were often reluctant to change groups, presumably for family, political or other reasons.

stressing that individual success or career path can be aided by the mastery of the material, but also stressing the benefits accruing to communities through applications of principles discussed.

having a flexible approach to the sequencing of and time taken to complete activities. Whilst small group work and interactive whole group discussion seemed to be a better way of building confidence, maintaining, and achieving quality response, some activities take a significantly longer time to resolve than with a more traditional approach, and at times discussion inevitably drifts off the track. However in many cases digressing comments can be used as a catalyst to attend to issues which would have been discussed later. In our view the improvement in outcomes of a flexible approach far outweighs the need to either reorder or modify other parts of the course at short notice. In the final analysis all the planned material had been covered but not in the same order or way as we could have preplanned or anticipated. The benefits of spontaneity and immediate interest far outweighed the disadvantages of a more disjointed operation than planned.

having an intimate knowledge of the material would be essential to enable the management of the required flexibility without unintended omissions or loss of control over content. It was only because we had delivered the material several times that we could confidently respond to the dynamics of the participant interaction.

understanding the need for all groups to be fully heard on completion of tasks, even if this leads to significant repetition in reporting back. In contrast mainstream groups became impatient if reporting back became at all repetitive.

ensuring that interest in topics was engaged at the start by case or illustration, that over the top diagrammatic overheads or verbose overheads were dropped. It was apparent that if interest could be raised at the start of a topic, exercise or case, then it would be invariably kept right through the task.

encouraging mapping/diagrammatic techniques to be built into responses rather than point form written responses. Supplying coloured text as and overhead pens allowed groups to utilise colour, natural shapes and objects (eg trees, beetles and animals) to show groupings, orderings and connections.

appreciating that relatively few participants would opt for the written assessment required for the formal award qualification, but those that did would need significant encouragement and support. Conflicts arise between participants' desire for learning for its own sake and other stakeholders' desire for formal assessment.
The right training environment
The course for the Victorian Public Service Board was conducted in a city training room for three straight days 9-5, like most previous financial management training courses.

Previous financial and resources management streams in the PSM course were run as 9-5 classes either for five days straight or three days in one week followed by two days in the next week.

Koori participants in the PSM course were consulted about their preferred training environment and opted for a five day residential program. Participants found their own venue, an underutilised monastery in a rural outer Melbourne setting - with spartan facilities which many might consider too basic. The feel was right for the group - very much peaceful, natural surroundings with views from all rooms, and staffed with very friendly and down-to-earth people, who were never seen as patronising. Good quality home-style food and casual dining self service was also seen as a great feature of the venue. Apart from the nature of the venue itself participants saw a residential mode as offering a number of benefits including:

- allowing participants important separation from both work demands and the ongoing family and community relationships/requirements
- getting to know participants and presenters better over meals and recreation
- being able to cover the required quantity of material without having to cram it into a 9-5 day. Learning outcomes were seen to be better where a more comfortable pace could be adopted with more frequent breaks, in the knowledge that work could be continued in the evening if necessary.
- allowing participants to "grab a smoke in company without having to go down 17 floors and out on the street"
- providing the possibility of engaging in some form of physical activity during meal breaks (e.g. impromptu chip and put in the grounds of the monastery)

Further Issues

1. Streaming
The case study raises the perennial educational question of streaming. There were Kooris who could have undertaken the course in the Koori program but opted to undertake the course with a mainstream group. They indicated that because they operated in a mainstream work environment they preferred to train in that environment, and they did not want to study as part of a special Koori group. However participants in the Koori course clearly gained confidence and understanding by studying in an environment more focused towards the needs of Kooris.

Whatever the educational arguments about the merits or otherwise of streaming per se, this particular group indicated that streaming where teaching practice does not attempt to adapt to aboriginal culture and learning styles is a wasted opportunity.

2. Increasing aboriginal involvement
There was initially some suspicion and hostility towards what were seen as another group of white consultants profiting from funds designated for Koori development. This reaction is hardly surprising and points to the necessity of genuine Koori involvement in both the development and presentation of future programs.
Previous guest talks by Koori had often been seen by participants as little more than token gestures. In any Koori program we run in the future we will endeavour to ensure that there is a Koori on the presentation team. To this end we have contacted Koori Liaison units at VUT, Melbourne, Monash, Deakin universities to establish a network of interested Kooris with appropriate qualifications and experience. In addition graduates of previous courses may be approached to form part of the team. However there is some concern about the choice of a Koori co-presenter because the political and family interconnections within a given group may mean the group has very strong preconceptions about the person. Such a situation could have a detrimental effect on the group dynamics and the learning outcomes.

3. Assessing the program participants
The nature of the assessment (consisting primarily of research based assignment questions and a work based project) posed problems for some of the Koori participants and was glaringly in contrast to the teaching and learning mode. There is a need to make the assessment less of a barrier to Kooris without compromising (or being seen to compromise) the integrity of the program, or outside perceptions of standards. This is not easily resolved but some options include:

- credit for the quality of participation and discussion

- oral assessment (for example oral exams are a major component of assessment at the University of Florence in Italy)

- validation at the workplace by supervisors (preferably over a longer time frame as effects may not be immediately noticeable). This may require the development of a comprehensive list of competencies as a validation framework.

The assessment problem was exacerbated by a lack of synergy in the process. The PSM course was written by one group of academics, taught by a range of consultants and academics and assessed by yet another group of academics from a different institution where the course is accredited. This was a sore point for many participants from the mainstream groups, but Kooris felt totally alienated by the lack of personal content and actively discouraged from proceeding with assessment requirements as a result.

4. Other techniques
Initial research indicated that direct questioning of individuals was at odds with Koori learning style and might be seen as intimidating or embarrassing. Consequently virtually all our questions were addressed to the group as a whole rather than targeted individuals. As a result the degree of participation was sometimes uneven and couldn't be managed as effectively as we might have wished. Subsequent discussions with staff from MOSA (Monash Orientation Scheme for Aboriginals) has indicated that direct questions are appropriate provided they are open ended (i.e. not seeking a correct or incorrect response or a yes or no answer) For example rather than "what is the budget monitoring procedure at your agency?" a better approach might be "what do you think about the way budgets are monitored in your agency?"

MOSA staff also emphasised the value of presenters taking the time at the start of the program to introduce themselves in terms of who they are. This might include some reference to family, outside interests and personal study experiences, as well as conventional information about qualifications and experience.
5. **Application of these strategies to other education and training**

Many might argue that the strategies adopted are desirable ingredients in any successful teaching program. The reality is that:

- we seldom have the luxury of time and resources for such a focused needs analysis for day to day university teaching or training
- to adopt such a flexible approach to delivery and still ensure coverage of required content requires a depth of knowledge and familiarity with material, that is not always reasonable to expect from people teaching in a number of areas in the university environment.

Perhaps it may well be that mainstream groups are more used to and accepting of traditional educational approaches, and that this continued acceptance takes away the imperative to adopt more appropriate strategies.

6. **Assessing the program**

In the two programs conducted, very positive and appreciative feedback was received on the strategies and approach adopted and on the outcomes for participants. A number of indicators were used to gauge program success:

- our perceptions of participants' confidence, enthusiasm, and quality of responses and discussions over the duration of the course
- frequent unsolicited and spontaneous comments from participants during and after activities noting what had worked for them
- comments made during informal 'wrap-up' sessions, at the end of each day, and at the end of the course
- formal written evaluation sheets at the end of each day, and at the end of the course

While much of this was useful for our own information accountability tends to be assessed by administration predominantly on the brief written evidence from daily and weekly evaluation sheets. While administrators received a positive response from the written evaluations they would have gleaned little of the underlying reasons for success, or for that matter, activities or approaches that did not work. The Koori participants far preferred to discuss such matters than to write about them, and consideration needs to be given to changing the formal evaluation process.

To better understand the specific impacts of the course on each individual, one possible future strategy is for presenters to encourage participants to keep a diary that maps key issues, their reactions and relevance to them.

**CONCLUSION**

The programs we have run for Koori participants demonstrate the need to move away from traditional teaching strategies which reflect much of mainstream institutional culture. From even our limited contact with aboriginal communities and culture, it is apparent that an investment of time and resources in adapting to the needs of aboriginal participants is well rewarded.

Development of the strategies outlined in this paper was largely a matter of careful listening and observing before and during the course and then trial and error as we experimented with different
approaches. In retrospect the strategies adopted now seem extremely obvious, but they were not to us at the time, nor apparently to the presenters of other streams or the administrators of the course. This provided the basic motivation for attempting to document our approach in this way and outlining it at a forum addressing quality in teaching and learning.

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APPENDIX 1

The Corporate and Program Management Cycle

Diagram 1 – The Corporate and Program Management Cycle

Program-performance statements, annual reports, budget and evaluation documents

Executive identifies & clarifies needs & objectives

(minister – secretary relationship & dialogue)

Planning - objectives & strategies

Responsive Delivery of service to needs

Implementation & monitoring

Responsive

Reporting & evaluation

Parliament, parliamentary committees, ministerials, Auditor-General, Ombudsman, Administrative Appeals Tribunal and lobby groups

Clients

Teaching Learning Forum • 8-10 February 1994 • Papers • 307
EMPOWERMENT, EQUITY & ENERGY IN TEACHING LARGE NUMBERS OF STUDENTS

ABSTRACT

One aspect of Teaching in University that we overlook is the role of the social environment. These roles are important in the operation of any institution. The importance of such dynamics is becoming clearer after ten years of tertiary teaching, often with very large groups. These factors are important in the management of teaching, but are rarely discussed explicitly. A teaching environment, particularly one in which students are predominantly female and are in helping (health) professions may be prone to some level of co-dependency. Part of a positive learning environment is the development of independent learning and the avoidance of "learned-helplessness" by clarity and empowerment. We must ensure an environment that promotes equity for students.

This paper explores some of these aspects of interaction and personality dynamics that may occur in such teaching, largely in the light of the author's own teaching experience with both small and extremely large groups. Given a positive working environment, where staff and students feel empowered in their work, universities may and do generate the energy needed to deal with challenge and change.

Current work in Australian Universities is attempting to improve quality in teaching. However, teaching developments and policies are not adequate in providing the environment for quality learning without educators having an understanding of the human interactions involved in teaching. This paper is largely based on personal observation looking at some of the types of interaction that may occur in university teaching. The "culture" we provide (to the extent we have control), is a very important aspect of universities and one we often do not examine closely enough. Some of the issues involved in dealing with students are particularly important in large classes hence the topic of this paper. Many of us also teach and co-ordinate a large number of classes which is a different demand to giving a lecture to 600 students. Issues such as the system being fair for students is very important. The participants (both students and staff) need to have a feeling of control over their individual outcomes or empowerment. All participants need to have energy, energy that comes from clear goals and a system they can understand. I would like this opportunity to explore some of these less talked about aspects of university teaching, particularly in the light of teaching large groups. Let us talk about some of those issues that we normally don't consider.

Perhaps we can consider some of the negative outcomes from the dynamics I am discussing so we can then compare them with more positive outcomes, and how we obtain these. One of the main difficulties for students (and staff) at universities is understanding the system. I once heard a joke at Curtin that students finding a parking spot deserved a degree for their initiative. Students find it difficult following the administration requirements to enrol and fulfilling the explicit course requirements. However, probably even more important for students is an understanding of the implicit university culture. An understanding of the system within a system. Shrewd students quickly learn how the assessment system works. It is interesting to note what type of student ensures you know who they are. We may say we don't want to produce students that are devious and indeed we don't. However, I would much prefer to employ a graduate who was aware of the dynamics between people than an intelligent graduate that was indeed naive. I must also add that these qualities are important for teaching staff as well.

Both staff and students need to be very clear about their goals in their interaction with university. They need to know what is the positive outcome they require. Once this is clear, energy can be directed more appropriately to tasks that achieve a goal. Sounds simple but I find myself teaching students these basic principles time and time again.
One might expect that those involved in our higher centres of learning might all be very confident people who felt very much in control of their lives. We talk about this as "locus of control" where students have a certain degree of control they feel over their life at university. A fatalist on one hand who may think their fate is not within their control or on the other hand a person who feels they have complete control over what happens to them. The role of locus of control and learning is an extremely important issue. We must compare here the role of perceived control and the role of real control (Baker, 1985). Some of these personality factors now clearly associated with health are also fundamental to understanding the learning process.

One response that may occur in people when dealing with a situation (such as university study) that they find overwhelming is the promotion of a helplessness or "learned-helplessness." People may avoid dealing with certain issues (such as operating a computer) by always appearing totally helpless when faced with the particular tasks (eg computing) this promotes the inability to attempt the task by a mental block.

At a recent conference I attended which was largely comprised of female health professionals that taught at university, one of the speakers got up and commented on her talk that many of the participants were co-dependent. This was largely accepted by the audience. It is a serious risk for those teaching to take a caretaking role with students. We must find the balance between being helpful to students and promoting a supportive social environment and taking care of things that are not our responsibility.

Some of the factors required for success in this obviously complex university culture are simple to achieve. Clear goal-setting needs to occur by universities, by university staff and by individual students. The environment must be such that goals can be clearly defined, explicit and measurable. There is some value in defining our educational objectives as competencies rather than a certain volume of learnt material. Academics must be strong in their mentorship role and willing to challenge their students.

Empowerment is important for both staff and students. Staff should always have power over matters for which they are held responsible. An environment of empowered individuals is certainly more energetic than an environment of down trodden ones. Staff must feel confident in their roles. Somehow, as I am considering here factors affecting dealing with students I keep returning to management of the staff. Management styles and structures vary enormously within the tertiary system. This is likely to also reflect the various approaches of different professions. Most important is a sense of equity and some clarity of roles.

As educators we need to take a step back and consider carefully what this system we work in really consists of and what the true aims of the organisations we work for are. Only when our explicit goals are compatible with the strong but implicit goals, will we be able to achieve what we strive for. We should consider whether we wish to have graduates that can master a large amount of remembered material or those that can think of an innovative solution to a problem. Do we want graduates that have clear vision and have strong convictions in their own abilities. I have largely raised issues here. These are explored in a segregated fashion throughout the literature on management, educational psychology and workplace health.

REFERENCES


The author is currently completing a booklet for tertiary instructors entitled "Maintaining quality in tutorial / practical classes with increasing class sizes." This is funded by DEET (Office of Staff Development) and any staff interested in obtaining a copy when completed can contact Linda Slack-Smith on Fax (09) 351 3007 or islaksm@info.curtin.edu.au.
ABSTRACT

The paper will report on the use of student reflection diaries. These were intended to act as a method of continuous evaluation and feedback to the lecturer, being used in a formative rather than a summative fashion. A second reason for their introduction was as a vehicle to help students focus on the main points of the session and their role in that learning.

The feedback received after each lecture gave valuable information as to the effectiveness and perception of the particular teaching style or technique that had been employed. This could then be adjusted or repeated as necessary in subsequent weeks. The diaries allowed for a dialogue to be established at an individual and private level to aid especially the alleviation of anxieties felt by many students.

PREAMBLE

The evaluation of a course is something that generally occurs at the end of the teaching of that course. This summative form of course appraisal has much to offer to the course designer and presenter for the next year but contributes little to the effectiveness of the current course. Students of the course who fill out the evaluation form derive no benefit from the results as their involvement with that particular unit is complete. The use of reflective diaries was introduced into a Year 1 primary mathematics education course in an attempt to:

1. facilitate the collection of effective evaluation data/feedback during a course unit,
2. improve the quality of student learning.

RESEARCH QUESTIONS

How can information be obtained on teaching so that present students will receive some benefit?

Are students aware of their learning and their role in that process?

RATIONALE

(1) **Evaluation of unit**

Evaluation of the teaching is typically done at the end of the unit presentation and although it may give useful information to future course designers and deliverers it is of little consequence to the group who are giving the evaluation. Any changes to the unit will be for the possible benefit of the next group. Often such evaluation, unless carefully monitored, is done in a rushed and often shallow way - boxes are ticked, bland statements are written. There is really no chance to allow for the student to expand or for the tutor to clarify the comments so that a shared, clear meaning may be obtained. Anecdotal evidence suggests that often what is disliked or seen to be ineffective by one cohort of students ranks high on a preference scale by the following group.
It was hoped to achieve a system that had the lecturer as the reflective practitioner and the student as the reflective learner. The idea of using the diaries was to allow the production of a form of cycle or spiral process in which one could continually monitor, evaluate and revise one' s own practice. Adjustments to practice and to teaching style could be made in light of the experience gained from the diary pages. It also allowed the presentation of a model in the University which reflected the principles that were being suggested for implementation in classrooms with primary children.

Students' perceptions of courses are often radically different from that of the tutor and are, in fact, often hidden from that person. For example, and this was a case that occurred, whilst the workload for the mathematics unit was not over burdensome, when taken in combination with other subject demands it became a problem. This was highlighted by some of the students who had this holistic view of their course. One can make informed decisions by taking note of the formative information rather than being locked into one source, for example, summative questionnaires.

(2) **Student learning**

(i) **Student awareness**

A wish to develop a thinking rather than a passive student was the main aim for the lecturer of the course. Experience with previous groups of first year students suggested that many wanted to be "spoon fed" with facts and easy answers which could be copied and at some later point regurgitated onto an exam paper. This was the students' expectation based on experience at school and often in other subject areas. There appeared to be no requirement for them to construct, analyse, debate, question or relate to classrooms and children. It was hoped to change this behaviour and to clarify the goal and the nature of the learning required by attempting to encourage them to think about their own learning in the sessions - what they learned, how they learned and their part in that learning. As with the approach suggested for work in school an active thinking person was wanted rather than an empty vessel to be filled with facts. Students would come to some form of recognition of their own strengths and weaknesses in the subject area as a result of the diaries but this would be neutral and anonymous rather than in a public form. Because every student in the group has experienced education and schools there is often a tendency to assume that they know all about teaching, how classrooms operate and children learn. Students repeat the style of work in classrooms as had happened to them without giving any thought as to why it happened and how effective it was. It was hoped to achieve Kirk's (1986) ideal

"teacher education should be concerned with producing teachers who are critically aware of the complexities of the educational process and of the potential for change".

Students would be expected to relate new knowledge to their existing structures thus constricting their own network of ideas about teaching mathematics.

Siemon (1986) suggests that reflection can transform mathematics teaching and learning as it promotes understanding, provides motivation, increases confidence, leads to more efficient learning and improved problem solving. One of the major factors is that it helps students to see the positive aspects of what they already know. The alleviation of anxiety, fear and negative feelings towards mathematics and to themselves as mathematicians was a major objective of the system to be undertaken. It was hoped to develop some form of metacognition related to their mathematics education knowledge in the sense of attempting to answer the question ...."What do I know and how do I know it?"
(ii) Responsibility for learning
Part of the culture that expects spoon feeding of information also pushes responsibilities for any short comings or failures onto the lecturer or teacher with such phrases as "they were no good so I'm no good". Via the use of the diaries, it was hoped to make students more aware of their own contributions to their learning and how effectively they have engaged in the activities and set tasks for the session.

Entwistle and Ramsden (1983) note that:

"the way students approach learning at university is directly affected by their perceptions of how they are taught; in turn their approaches to studying determine their level of understanding".

Responsibilities for learning lie ultimately with the student. Effective teaching encourages students to learn for understanding so if students are half hearted, narrow, uninterested and reproductive in their approaches then there is an indication that something is wrong.

(iii) Mathaphobia
One of the major reasons for adopting the diary approach was to attempt to identify and monitor those students who experienced anxiety with regard to mathematics. Generally they have also a negative image of themselves as mathematicians. A result of this personal anxiety is often shown in University teaching sessions by the student who avoids engaging in tasks and activities for the session. This may, in some cases, lead to the disruption of teaching when other activities, rather than the task in hand, are seen to be less stressful.

(iv) Personal behaviour
Diaries were designed to help draw student's attention to their own behaviours. Many students are quiet in seminars and don't readily offer contributions to the larger group. Through the diary it was hoped to establish some interaction with these people; to be able to work on individual questions and reactions. They may also serve as a vehicle to direct student's attention to their avoidance behaviours.

METHOD OF OPERATION

Each student was given a copy of a "Reflections Diary" consisting of enough blank pages to use one for each week of the unit. They were asked each week to respond to the following three headings:

I learned ........
I contributed ........
Reflections, thoughts

Time was given, usually ten minutes, within each session. This was an attempt to ensure completion and to undertake the writing while the ideas were still fresh in their minds. Whilst some students chose to use their name others put an identification mark on the front cover so that they would recognise their own diary. This helped to minimise concerns they had that comments could influence their mark for the unit.

Diaries were collected by the tutor who then read the comments and responded where appropriate in writing on the page to the student. Diaries were returned at the commencement of the next session so that they could be read by the student and acted upon as necessary. At times the issues
raised were of such a general nature that they could be dealt with in the whole class situation. The cycle was repeated in each session.

STUDENTS REACTION TO DIARY IDEA

An initial reaction from some students was that they didn't want to complete them. Reasons given or inferred were that they, the diaries, would be used as part of the assessment, grading system. Others saw it as more work and they wished to minimise this aspect and yet others felt threatened by the whole idea and wanted to avoid such stress and anxiety. The majority, however, accepted the situation and the assurances given relating to their use, purpose and anonymity.

RESULTS

(1) Writing Within The Diary
(a) Amount
There was a complete spectrum from those who did nothing at all, to those who responded occasionally to those who responded at length, each week. The majority were in the latter category.

(b) Quality
Most students responded in a thoughtful and detailed way to each of the comment headings. One student, in particular, used the opportunity to engage in a distance conversation with the tutor and offer her overall thoughts and views on the issues of the seminar.

Week 9.
I learned that there is more than one way to do things

I didn’t always understand or appreciate how or why my partner did her calculation - nevertheless it produced a correct solution

that some people have excellent systems to think through calculations.

that you can challenge children to think in a variety of ways by placing constraints on the task

REFLECTION

The past few weeks have had some very meaningful learning experiences. It’s wonderful to have the opportunity to do the things that we’ll ask children to do. I feel insecure about generating the ideas, activities and materials that will provide the necessary learning experiences myself. This inadequacy will fade over time but from this "novice maths teacher" end of the spectrum, it’s uncomfortable. Any suggestions about ideas, resources to build up a bank of maths learning experiences? I appreciate the help it is to work in partners and groups - also challenging socially to find a way to learn effectively together. I’m sure some observational learning would be a spin off.

Some times the mammoth amount of activities in the limited time on Friday is disturbing. There are some things I feel I’m just beginning to grasp and there’s a shift to the next task. Time really is a luxury it seems, that we can’t always afford. You do a great job considering. I would find it a challenge to move at a mean pace - for the optimum results across the class - guns and snails and those in between being catered for and satisfied.
Some other contributions appeared to be rushed; an almost, "let's put anything down so we can get away" style.
Today we played with straws and other shapes to form 3D objects. Extremely challenging especially the Dodecahedron. Made models of the 5 Platonic solids.
Working this way is especially good as it allows them to develop their skills individually with teacher supervision and guidance.

Initially many of the students misinterpreted the "what did you learn" category and responded very much in the form of what they had done ie. the activity for the session rather than the reasons and learning encapsulated in that activity.

Today I learnt a way to establish shapes by name. I learn how to make some weird and unknown shapes. I think this is a good strategy to teach children about shapes.

This aspect is dealt with in more detail in the commentary section.

(2) Significant issues raised

(A) Student Anxiety

(i) With regard to the unit
I'm beginning to get really worried about the exam.

I'm stressing out about the exam ... it looks like we haven't covered everything.

I can't help feeling megastressed about the assignment to be handed in on Friday.

I learned the correct approach to take for my assignments - thanks.

The maths sessions are very practical but I feel that the content is not being easily visible.

I'm glad ..... has decided to discuss the assignment with us so I will know if I'm on the right track.

Good to go through the assignment, it made it a lot clearer in my mind.

No OHP notes to copy down.

(ii) Anxiety with regard to their ability to do the mathematics involved

It's difficult to remember all the terms and meanings that are referred to in class.

I'm not sure how I will go teaching more complex maths such as fractions, multiplication and division.

What the names of some of the shapes were that I never knew before.

I also confirmed how little I knew about maths.

I found it difficult working things out in my mind....

I'm gaining more understanding of how maths has changed since I was in Primary School.
Numbers scare me...

I felt very uneasy about numbers today.

I can't work things out in my head. I need to write them down.

I hate feeling inadequate and being laughed at especially when I know that I'm hopeless at maths.

(iii) Anxiety with regard to their ability to teach mathematics

I'm not sure how I will go teaching more complex maths such as fractions, multiplication and division.

I would like to see how written maths is taught.

(B) Students perceptions of mathematics

Maths is not just sums and worksheets like I had been taught.

Maths does not have to be taught in a dry manner.

Maths is something to be feared and treated with caution.

Maths teachers never showed me its relevance.

Maths is the dreary, boring, serious, equations on the blackboard.

I learned that maths doesn't always have to be boring and serious.

My negative attitude to maths must slowly turn to a positive one.

I tend to forget maths can be fun due to my "personal fear" of maths.

Swallow my pride by informing you that this lesson was fun.

I didn't walk into my first maths lesson with a very positive attitude... my attitude has dramatically changed.

Maths can be fun and it is not as dreary as everyone thinks.

It was not the typical stereotype ... completing maths problems from a book after watching and not understanding.

Relaxed me and let me realise the fun maths can be.

Helped people relax and feel a little more comfortable with the unit.

Teaching maths is not going to be that bad.

I was closed minded and negative.

Being afraid of maths throughout High School I wasn't looking forward to the lesson.
(C) Teaching Styles used in the sessions

I got a bit confused but with the help of my friends I was able to see the light.

Enjoyed the exercises that we had to do today and the fact that we really had to think about what each aspect of measurement meant. It was a challenge to verbalise each one.

I enjoyed the balance between theory and practice.

Really helpful to hear explanations from other people.

I learned how much can be taught in a non-threatening enjoyable manner in the classroom.

This was a mint lesson.
I love making things and learning at the same time.

I wish we had these sorts of classes when I was at school.

Interesting to see maths as hands on.

I was impressed with the casual atmosphere. This was very conducive to learning.

This was maths in a non-threatening environment.

The practical, hands on experience enables me to develop a clearer understanding of these concepts.

It keeps me thinking and asking questions of myself all the time.

Useful that we had to put it into our own words.

(D) Student Involvement in the sessions.

I despair at the sidetracking.

I felt during some activities many people in my group were not as interested as I was and therefore I felt discouraged for them.

I felt the class did not like the fact that I was good at maths.

I was quiet for the rest of the lesson and felt discouraged to participate. It is sad that the class feels this way.

I didn't really contribute much to the group.

I like the way ... encourages you to talk whether you agree or disagree with what is heard. I feel comfortable in this classroom not afraid to say what I think.

I learnt a lot from listening to others.

Today I contributed to understanding seriation now I understand it better.

I enjoyed the interaction with other students. Maths to me was always an activity where you sat down, shut up and work.

When I was asked to comment I was very reluctant.

So far I haven't contributed much to the group as a class.

(Partner work) enabled me to contribute quite a bit today.
(E) Reactions to the School Visit

I found that to teach year 3 students made many things that I had read about very clear to me. Taking a maths lesson doesn't seem so distant and hard and doing my bit of teaching.

I felt more confident about teaching the subject of maths as a direct result of this week's activity. One-off lessons are so unreal in many respects (but) on the other hand everything is an opportunity to learn.

Not as difficult or as scary as I expected. An educating experience - I learned a lot through observation. Had a most fantastic time, I learned that maths games are fun and easy to do.

I felt more confident about teaching the subject of maths as a direct result of this week's activity. One-off lessons are so unreal in many respects (but) on the other hand everything is an opportunity to learn.

It helped me understand how children's minds work and their concepts of maths. It highlighted how children are at such different levels which, of course, I did know but it needed to be emphasised.

I found it useful doing this activity so early in the semester. (Use of video) was very productive, gave me insight into how others carried out lessons.

(F) Student development in thoughts and philosophy

The game supports the idea that with a little time and effort, primary maths can be made enjoyable, at the same time getting concepts across to the children. Children learn more by classifying themselves than by being taught classifications.

Today's lesson opened my eyes to a variety of ways. Maths need not be expository learning. I've always found it hard to come up with new ways of doing subtraction.

Learning seen as activities to do with children in class, not general principles. This unit is starting to gel. I'm starting to feel confident. I wish I was this switched on in session one.

Clear linkages between teaching and content. The children really didn't understand place value so they needed a lot more work - but the teacher was locked into the timetable and didn't want to allow them time.
COMMENTARY

For many students the idea of completing a unit in mathematics education was filled with anxiety. Anxiety that stemmed from two main sources - the unit assessment and their own, usually negative, perceptions of mathematics and themselves as mathematicians. Passing the unit was the major concern of a great many of the students who measured the worth of the taught content and the reasons for the tasks against the yardstick of "is it in the exam?". The use of the diary actually highlighted the testing concern, possibly another residual memory of mathematics from their school experience and it was able to be addressed explicitly in the next session and be considered throughout the remaining sessions thus helping to quell some of that concern.

A major issue for the lecturer was that of many student's self-labelled lack of mathematical competence, illustrated by comments like "numbers scare me". Some of the group were mathematics specialists and were much more confident about their own ability. The anxiety regarding ability was noted very early in the semester and attempts were made to develop the teaching style further to accommodate and to acknowledge the degree of confidence and competence of various group members. A relaxed, participatory teaching style appeared to alleviate some of the discomfort experienced by many. There was still, however, a reluctance by some to speak in the large group situation or to offer their thoughts in a public forum.

A recurring theme was that of mathematics being seen in a negative way, as something to be feared and that was boring. Much seems to be as a result of the experience gained whilst at school by the individual student. This could possibly be one of the major reasons for so much of the fear. Quite considerable amount of time and effort was spent by the tutor in an attempt to put forward primary school mathematics as an interesting, lively and relevant subject; something that involved children in an active, thinking way rather than in a passive filling in of worksheets. The whole issue of mathematics being feared and being seen in a negative way was the major concern of the tutor and all sessions in the University attempted explicitly to tackle this anxiety and tried vigorously to counter it. Some degree of success can be noted by the general reaction of the students during and by the end of the unit.

Initially I didn't know what to expect from this unit. But it didn't really turn out like I planned. Though I once thought that the unit was a bit vague and not really going anywhere I have learned that there is much to gain from this unit. Unfortunately though this took me all semester to work out - I suppose I'm a bit slow. Yet when revising in these last couple of weeks when revising I have been pleasantly surprised at what I have gained.

Comments from the diaries, or more significantly the essence of them, do not seem to make the students' ability to teach mathematics in the primary school a major issue. Some are concerned that they will not be able personally to do the mathematics that they have to teach to usually older pupils. This again is a reflection of their own mathematics competence as noted earlier rather than an issue about how they might use mathematics in interesting and effective ways with children. The lack of comment may also indicate that at present the teaching of mathematics is not a concern and something that has not been given much thought. Possibly the students think they know what to do based upon their experience of what happened to them in their own school days,

"just sums and worksheets ... equations on the blackboard ... completing problems from a book..."

The teaching style received many positive comments, in fact, almost all students like the "hands on", interactive approach. For many this seemed to "develop a clearer understanding of the concepts" and made it "so much easier to learn". One student was concerned because on a
particularly practical session she had made no notes echoing, possibly, the earlier concern about passing the exam - (if you have notes you can learn them and reproduce them in the exam). The interactions with other students was seen as a useful tool for learning and clarifying one's own thoughts. Some used their colleagues as teachers to help them with their grasp of the mathematical content.

What was seen by some as a relaxed, non-threatening environment also helped to alleviate some of the anxiety and negative feelings. Whilst many students felt the expectation of them to give their thoughts and opinions in the whole seminar group was useful,

"really helpful to hear explanations from other people".

"Today I contributed to understanding seriation and find that I now understand it better".

Others found it a challenge and some students a further reason to be anxious.

"When asked to comment I was very reluctant".

On the other hand some students were explicit and positive in their reaction to the style.

"I like the way ... encourages you to talk whether you agree or disagree with what is heard. I feel comfortable in this classroom, not afraid to say what I think".

There seems to be a general perception that the sessions that are run are "lessons". An interpretation of this is that, even though students enjoy and many find useful the interactive style, they still have a model of learning which sees them as passive receptors of knowledge with the lecturer as the transmitter of this knowledge. In many cases the notion that they would become aware of their own learning and how they were learning is not being achieved. Contribution to their own construction of knowledge through interaction and involvement rather than as a passive receiver of facts is still alien to many but as an idea it gathered momentum with some of the students as the unit progressed.

"It keeps me thinking and asking questions of myself all of the time".

"This unit is starting to gel. I'm starting to feel confident, I wish I was this switched on in session 1".

Some students, possibly those who were afraid of maths and wished to avoid it, found taking part in the activities and tasks much more of an inspiration.

"I felt that during some activities many in my group were not as interested as I was and therefore I felt discouraged for them".

The acceptance of responsibility for learning was difficult for a small minority of the students; the majority saw the opportunity to work for themselves and think for themselves.

There was development in thoughts offered by the students. Some who started by seeing maths as expository learning and work sheet filling.

"The game supports the idea that with a little time and effort, primary maths can be made enjoyable, at the same time getting concepts across to children".
There still needs to be some degree of exposition inferred in the statement but there is an awareness of maths being about activity and enjoyment.

Moving into school for the practice and as part of the unit helped some people reflect upon what had been happening in the University and what was happening in the classroom.

"The children really didn't understand place value so they needed a lot more work, but the teacher was locked into the timetable and didn't want to allow them time".

"I found that to teach Year 3 students made many things that I had read about very clear to me".

If one considers what was not there rather than what was apparent then two things are most obvious by their general absence. Firstly the depth of treatment and reflection and secondly the ability to identify what had been learned.

On the issue of learning what appeared to happen with many students was that in place of nominating the learning or main points of the session they reported the activities that had taken place, for example,

"I observed student teachers in action on a video".

Some began to move towards seeing the learning as the unit developed and this fact was highlighted in each session by the lecturer stating the expected outcomes in a more explicit way.

What could be developed in another run of the reflection diaries is a student who can see the reason for the session, can label the main points and then verbalise, in some way, how these impact on children and schools. This would then begin to achieve the other issue, that of depth of knowledge and reflection, which was identified by Biggs (1988) in his discussion of Deep and Surface learning.

Much of the "comments" section of the Diaries was very descriptive and did not develop in any depth the issue of the person's own practice and their general philosophy. Possibly this was too much to ask of first year students.

DEVELOPMENTS

The idea of engaging in a personal professional conversation with an individual student, albeit on paper, anonymously and at a distance, seemed to work well. Reflective diaries allowed for specific issues to be explored with the student; for the student to pose questions, raise issues or seek clarification in a way that would not expose them to the possible embarrassment of acknowledging this to the rest of the group.

At times more information was wanted or a focus needed to be given to the student's reflection on a particular issue. The use of extra questions upon which the students comment might be a useful vehicle to gain such information especially if they are used as required by the lecturer. Examples of ones that I propose to use on future occasions are listed below:

1. How do you feel in maths education classes at the moment?
2. How can I help you feel better and more positive about maths?
3. What questions occurred/remain as a result of today's seminar?
4. What's the biggest worry affecting your maths teaching at the moment?
5. With what would you like more help?
6. What for you have been the positive points of the unit?
7. How can I help you get more from the unit?
8. How can I help you contribute freely to the large group?
9. What is the most important thing you've learned in maths in this unit?
10. List the main thing(s) that you need to do to improve your own mathematics teaching.
11. What are your main concerns with regard to the mathematics education unit?
12. Comment on the following:
   - What do I already know about this?
   - What have I learned?
   - What still puzzles me?
13. What do you think were the three most important points of today's seminar?
14. Next week is about....... Where should the focus be?

Certainly the two main issues needing attention are anxiety and student acceptance of responsibility for their own learning. The general, interactive, low key teaching style helped but one would want to engage the students in offering their thoughts and observations to the large group much more. Possible strategies would be to declare that this is what will happen in advance to give thinking time so that the person is not "put on the spot". The outcome could be a positive rather than a negative one in this situation.

CONCLUSIONS

The action research style which allowed for, via the diaries, the identification and reflection on issues as they occurred and then to attempt a form of solution was more beneficial than finding out at the end of the unit and being somewhat restricted in what one could do for the group who were leaving the unit.

The intended role as a reflective practitioner also developed and allowed the closer matching of the teaching style and the group. It was an effective way to work with new and in themselves different groups of students within the same institution.

Certainly many of the students, especially the quieter ones, were able to interact with the lecturer and be able to acknowledge their lack of contributions to the large group discussion and their particular needs and requirements.

REFERENCES


LET OUR SOUTH EAST ASIAN STUDENTS RESPOND

INTRODUCTION

The number of overseas students, who study in Australian universities, has grown considerably over recent years. Most of them come from South East Asian countries where they have experienced a different cultural background than that in Australia. Many students are financially dependent on their families and for that reason they are often under quite a lot of pressure to work hard and perform well.

Although the initiative to study in Australia comes from these young people and their families, the Australian universities have accepted them. This means that we, lecturers and tutors, have a responsibility to make them feel accepted by not only supporting them but also by learning to understand their feelings. That is quite a daunting task which we should not neglect or ignore. We have a busy teaching load while not sufficient time can be set aside for research. Yet, all young people need our help.

Our positive attitude towards the South East Asian (SE) students will promote a better understanding between the nations on this part of the globe.

PROBLEMS SE STUDENTS FACE

Ballard and Clanchy mention in their book *Teaching Students from Overseas: A Brief Guide for Lecturers and Supervisors* (1991) the following problems which SE students face when they study in Australia:

* lack of competence in spoken and written English. Attending lectures in the English language can be a traumatic experience, while the many comments 'in red' along the margin of an essay can make them down-hearted. Yet, some students request such feedback.

* homesickness and culture shock. Many come from close-knit family traditions and have never been far away from home. They have not experienced life in another culture either.

* gaps in background knowledge and training. These gaps are a result of the difference between the curriculums of their home-country and Australia.

* difficulties fitting into Australian student life.

These problems are not only felt by the SE students but also by the university staff who must work with them. Thus pressure is on both groups. If the problems are not dealt with or solved adequately, tension will arise with mutual resentment as a result. This must be prevented at all costs.

SOURCES OF THE PROBLEMS

The sources of the problems the SE students encounter can be found in the:

* different styles of teaching and learning;

* different perceptions of the role of teacher and student;

* different interpretation of assessment tasks.
Most Australian students who enter a local university have only just completed high school. For many years they have experienced a transformative style of teaching and learning with the emphasis on analytical and critical thinking. The main aim was to extend the knowledge of the student by the teacher who acted as a co-ordinator of learning. When assignments and tests were given the students were required to show originality and quality of interpretation.

Many SE students have experienced a high school system with a transmissive style of teaching and learning. They were required to reproduce what the teacher, who is the source of knowledge, had taught them. This has also been obvious in tests and examinations they sat.

SOME CHARACTERISTICS OF SE STUDENTS

In the different chapters of their book, Ballard and Clanchy mention many characteristics of SE students. Some will be mentioned and many a lecturer or tutor has personally experienced these characteristics.

Although the times are changing everywhere, many SE countries are still strongly influenced by family traditions and a variety of religions. The following examples will suffice.

* Confucius said, "I do not invent but merely transmit; I believe in and love antiquity."

* In the Islamic tradition, the learned man is distinguished by his ability to recite accurately from the Koran.

* The Taoist says, "A good man does not argue."

* In some Buddhist circles, the position of the teacher is after the monks but ahead of the parents.

Therefore a Nepalese student once said, "I know it is my duty to accept everything my supervisor tells me, for he is the scholar and I am his disciple" (p69).

Many SE students find it difficult initially to call a staff member by his/her first name, especially when she is a female lecturer or tutor. It is looked upon as a sign of disrespect.

When a lecturer asks a question in class, some students interpret it as if s/he is either lazy or poorly qualified. The task of the teacher is to pass on all necessary information unequivocally without confusing the students. If the lecturer does ask a question, some students will not provide the answer for they do not want to run the risk of offending the teacher in front of the class by giving the incorrect response. The quick response by Australian students and their tendency to debate remarks by the lecturer shocks many SE students. They feel that this behaviour is disrespectful. However, the non-response is often regarded as a sign of laziness or disinterest.

Tests and examinations can become a nightmare. Each test, however small, is looked upon as a "stepping stone to success". Often study habits developed by the transmissive style of teaching and learning are incorrect. If these habits do not change, the students will spend even longer hours studying by literally reproducing the text. If this constant revision is not successful, they blame themselves or the lecturer who should do a better job. Often they do not dare to 'face the music' at home so that the lack of progress, which must be tangible constantly, is blamed on weakness in English. It is difficult to get out of this vicious circle.
Marking lengthy assignments is often a tiring task for the tutor. It should be remembered that many SE students do not know what plagiarism is, for "the ability to quote from sacred writings is the essence of scholarship" (p25).

The following quotation from page 47 of Ballard and Clanchy's book gives a good indication of the style of writing of many SE students.

"Their writing can become circumlocutory, repetitive and formalised, and appear to be avoiding the topic. In fact it is often a reflection of the polite forms of address proper between an inferior and a supervisor. For example, it may be impolite, in direct speech, for a younger person to tell an older person what he should think. It may be impolite to move directly to the main point under discussion. It may be impolite to raise objections or to question the views held by those in authority. Such social conditioning will influence the writing style these students use."

**HOW TO SUPPORT THESE STUDENTS**

The above-mentioned problems often happen when SE students enrol in university courses and are expected to follow all lectures and tutorials at once. It is, however, much easier to work with overseas students as a separate group initially. For that reason the Centre for International English at Curtin University is offering a Foundation Studies Program where participating students attend, during a bridging year, a number of courses in preparation for entrance into one of the university courses. They follow classes in English, Mathematics and an option unit which is discipline-specific.

Some of the specific aims for the Mathematics component are:

* To provide a course in Mathematics/Computing which will give students the opportunity to develop mathematical skills to meet university entrance requirements and for continued study in courses of their choice.

* To introduce students to the forms of instruction encountered in an Australian tertiary institution, and the study methods and presentation skills needed to succeed in this setting.

* To provide an introduction to Australian culture and society so that students' understanding of their host country will contribute to their success in an Australian university.

The main aim of the Mathematics unit is that students will "develop a sound knowledge of calculus and algebra and competence in fundamental mathematical techniques and operations, including essential computing skills."

When the SE students arrive in Western Australia their language difficulties are also obvious in Mathematics, while for some background knowledge in basic mathematical concepts is rather weak. To expose them to calculus will be unwise because most of the weaker students will flounder. For that reason a Pre-Foundation Mathematics course has been introduced where the emphasis is on basic algebraic skills using teaching strategies familiar to Australian students such as group discussions, problem solving and investigations where the teacher functions as a co-ordinator.

The emphasis in this course is on mathematics based on contexts. Examples are used from various native countries with optimal use of the calculator. Many questions are asked to which they have to respond, while they are invited to ask questions themselves. Mathematical problems are to be discussed in groups with the aim that all participate. Every week an investigation has to be completed at home. The emphasis of the written report in essay form should not be on
mathematical calculations and the final solution but on a precise and concise description of their thoughts. During class the meaning of mathematical terms is repeated regularly.

**CONCLUSION**

Thus the responsiveness of SE students is developed so that they become more relaxed and will move towards greater independence when they embark upon actual study within a specific discipline area.

What is more rewarding than a comment of a Korean student after the first lesson, "I like your style of teaching."

Lecturers and tutors at Australian universities should set the trend in fully accepting and supporting SE students. This attitude can positively affect the acceptance of these students amongst their Australian fellow students.

**REFERENCE**


Publications about Foundation Studies Program. Perth, Curtin University, Centre for International English.
ABSTRACT

The background to this paper, apart from a long term interest in the changing role of intellectual activity, is that the Faculty has recently and rather belatedly entered into the competition for overseas post graduate students with programs for Indonesia and linkages with China, for essentially financial (and to some extent individual) reasons. Questions are now being raised internally about the ethics of what we are doing and what we might actually deliver. This questioning in turn occurs in the context of a much wider reappraisal of the the role of University education, as evidenced in the recent DEET sponsored report on competencies in higher education written by Simon Marginson. I would like your assistance in thinking about what we might do well in our postgraduate degree programs, with particular thought about the overseas students.

This paper grew from simple beginnings in trying to improve our postgraduate offering and has since been intersected by what seem to be a million cross lines. I shall endeavour to be brief as possible in the midst of all these influences.

INTRODUCTION

"This minor thesis is an attempt to find out whether there is or there is no coherent thought among certain elements to improve TEFL in Indonesia. A try to pursue the evaluation is addressing through four questions,..."

This is a passage from the minor thesis of a Masters student. Each page has exhibited a similar level of expression. It is possible, with considerable work, to put it into a more adequate form. It is not that there are no ideas there.

"James" is from Indonesia and already came with a Masters qualification from the U.S., with a view to doing his doctorate. There have been problems at various levels, not only in terms of assessments previously but also in terms of what is to be done now that money has been accepted for his enrolment; what responsibility the School bears for his success or failure; what is actually being attempted to be achieved. There may be more postgraduate students like James. Under a World Bank supported scheme, the School will receive further groups of Masters students from Indonesia during 1994, in a deal that means a great deal to the School. There are complications for James as well. He is regarded as having a good level of English in his institution, which is struggling to raise its academic standing within Indonesia as well as more generally. Is the University in a position to take such factors into account? A lot depends on what the role of the postgraduate degree is supposed to be.

ESL support is the first and clear step. But the text you see is after academic English sessions. James does not have a conspicuous facility for languages. Should this rule him out? It depends on how much English proficiency is to be seen as a requirement.

But in any case, the problem is more than English proficiency. After the reconstruction of his writing, it emerges very clearly that James has very little conception of what the writing of a thesis
in our context involves. His conception has been that a repetition of reporting government policy and descriptions of actual programs is sufficient. He has thought that his problem was just a problem of language proficiency, which is understandable but does not help.

The next step is to provide assistance with academic genres. There is now some excellent work being done in the area of academic genres (Swales 1990) in which the language, style and structure of academic work is studied and recommendations made for its pedagogy (see also Becher 1987). With some intensive work on these two fronts, James may be assisted in developing a thesis that will be acceptable. Perhaps even a Ph.D. The institution may need to be jogged into providing this kind of assistance, but the numbers of struggling overseas students may end up being pressure enough.

But this is not the end of the question. "James" may get to perform to a standard, but there is room for concern whether this performance will have led to something of value beyond the performance itself. One can imagine that by coaching in the genre of academic work appropriate for his area, a thesis that will pass can be produced. Are our postgraduate programs to be performance hurdles that can be handled in this way, or are they to lead to understandings and skills that will be useful beyond the performance - particularly given the roles that many of our overseas students will come to play in their home countries. The dilemma raised by James, which is not exactly a revelation to most academics these days, draws us into a range of questions, which in the best comparative education tradition, has implications not only for the teaching of NESB postgraduates but also for the quality of the teaching of native speaking candidates.

Firstly, it is difficult to talk of quality without some idea of what the outcomes of the enterprise are intended to be or what outcomes are of actual value. What is of quality under one conception may be peripheral or inimical to quality under another. In a milestone paper, Barnett (1985) decries the lack of theory of higher education and its consequent legitimation crisis. The consequence is that discussion of quality is easily hijacked or simplified.

There is no shortage of literature warning of the difficulties, and sensibilities required, in delivering courses to students from other cultures. Unfortunately, the impact of this has been diminished by the force of the economic and status considerations that have surrounded the more recent recruitment of fee paying students. Consequently, there is also a growing literature critical of the market basis of the expansion into Asia by Universities (e.g. Alexander and Rizvi 1993; Buckbinder 1993). There is even some concern over the buying of overseas qualifications by developing countries as a form of consumption rather than as a clearly rationalised policy in terms of the economic and social benefits to the country. Murphy (1993) argues that there is no evidence that the current expansion of higher education qualifications in developing countries is linked to economic benefit.

But there is little discussion of the challenge provided by a much larger intake of internal and overseas students to our taken for granted conceptions of the role and outcomes of postgraduate study. And just as the value of generalist degrees has been under review (Marginson 1993), so too the value of postgraduate work with its increased intake across the board, will be under pressure to justify itself. Postgraduate work is the pinnacle of University teaching. But conceptions of what is being delivered are not uniform or clear. It is time to get clearer before "bottom line" measures of quality (Trow 1993) in terms of "production measurement" prevail totally and there becomes little point in even considering our own "stakeholder judgements", (Lindsay 1992), about the outcomes and the teaching.

So, three questions are to be addressed here. Firstly, what are the goals/conceptions of postgraduate education that we might work with? Secondly, what problems emerge at Masters level
from the point of view of intake of overseas students. And thirdly, how might quality be achieved within one of these conceptions that emphasises entry to professional practice, with overseas postgraduate students particularly in mind?

The discussion will take place largely within the confines of Education, but not exclusively so and it will be schematic to fit the time available.

One way to start might be to look at schematising the range of conceptions of the goals of postgraduate work that are around:

CONCEPTIONS OF THE GOALS OF POST-GRADUATE WORK

a. Liberal:
   - individual: the pursuit of personal interest at a specialised level.
   - intellectual: a contribution to the discipline.
   - institutional: the maintenance of high level intellectual enquiry.
   - social: a contribution to the better running of society through the build up of knowledge and rational decision making.
   - language: a sophisticated conceptual proficiency in English is required.

b. Technicist:
   - individual: demonstrating knowledge and skills to a particular advanced standard.
   - intellectual: advancing knowledge in the particular field.
   - institutional: setting appropriate qualification levels.
   - social: a contribution to the amount of expert knowledge.
   - language: English for special purposes.

c. Radical:
   - individual: advanced intellectual and social critique.
   - intellectual: undermining the uniqueness of truth.
   - social: working towards changes to power structures.
   - language: cross linguistic input welcomed.

d. Individualist:
   - individual: gaining a qualification for employment.
   - intellectual: gaining the knowledge and skills to get ahead.
   - institutional: increasing faculty success and strength.
   - social: the clever country; economic benefits for this society.
   - language: ESL support to attract more applicants.

e. Postmodern:
   - individual: consuming qualifications that take one's fancy.
   - intellectual: no hierarchical status for qualifications.
   - institutional: multiplicity of courses and points of entry
   - social: freedom of response to the market or personal choice.
   - language: diversify offerings into as many languages as possible.

f. An O/S instrumentalist variant:
   - individual: access to status, wealth and positions of responsibility.
   - intellectual: a rise in the international standing of the country in terms of its level of qualified people.
- social: the economic and social development of the country.
- language: English assistance valued highly.

g. Professional:
- individual: gaining specialised knowledge and skills for the effective exercise of some profession (including general intellectual).
- intellectual: access to a professional community and discourse, and creativity in the conduct of the profession.
- social: use of the profession for the benefit of the society and its members.
- language: communicative proficiency in English and other.

These are not incompatible or exclusive categories, (anything but a definitive final classification) but a possible starting point. The liberal paradigm of University education has been under challenge for some time (and in any case has been a recent invention in this form - see Hunter (1991)). The radical challenges of the sixties and seventies have in turn been replaced by economic functionalist challenges and post modern fragmentation. The technicist and individualist conceptions have always been with us.

These conceptions intersect with each other and other governmental and sectional agendas to develop an institutional form: for example economic functionalism has led to the scramble by universities for full fee paying students from overseas and an increase in local recruitment into the better financed higher degree sector. This in turn has the potential to challenge liberal conceptions of the role of the higher degree and to increase the voice of technicist and individualist responses. There is a consequent interplay of discourses, some surprising self-regulation in faculties, often unexpected coalitions of interests and mechanisms of intervention in the dealings between the universities, DEBT, and various individuals and other government agencies. (Hunter 1991). At the moment the outcome for higher degrees institutionally, and the forms in which the quality of their provision will be assessed, is still under re-formation, I think, but I may be already out of date.

I shall not comment further at this stage. Rather let's move to looking at the dilemmas of the Masters qualification with these issues in mind. While discussion will be restricted to the Masters degree, a similar set of issues arises around the Ph.D. Hockey (1991) indicates the debates between different conceptions of the Social Science PH.D., albeit more restricted ones.

THE MASTERS DEGREE

The large increase in university attendance, the increase of knowledge, the opportunities for faculty expansion and the openings for postgraduate qualifications for students awaiting employment or needing further qualifications outside of academia, have opened a number of possible roles for the degree. The mixes of thesis and coursework combinations has been one response to these changes of role. No longer is the degree likely to be predominantly the start of an academic career in the sense of contributing to the discipline and pursuing some personal intellectual development, mostly on the way to an academic appointment.

It may be seen as a selection process for the better students now that the undergraduate degree passes so many. It may be seen as the top up of knowledge required for expertise now that the amount to be learnt is so expanded. It may be seen as providing a competitive edge for gaining work or promotion in a number of fields. (We are pushing it for Dip.Ed.'s waiting to be employed). It may be difficult to distinguish its goals from the honours year or some postgraduate diploma. But for many overseas students it represents a point of major achievement that is to count as entry
into important roles in their home country as professional experts. While students like "James" may arrive relying on us to turn him into an expert for his institution and his country, the content, array and regulation of Masters courses, or the basis of supervision advice, may seem to lack clear rationale.

Of course many overseas students come with some form of technicist aim, which is understandable but tends to carry unfortunate assumptions and consequences: firstly that knowledge is somehow static, and separated into distinct bits, and secondly that the developed nations have it and all that can be done is to consume it rather than generate it - leading to a form of intellectual dependency. It would be dishonest of faculties not to provide a course in their postgraduate program that focused on an understanding of how knowledge is generated in that discipline, how it has changed and is changing. Without that, too narrow a conception of expertise emerges. This is a point that has bearing not only for overseas students: the HEC (1992) remarked that graduates need a "properly educated grasp of the nature of knowledge, its development, its limitations, its applications, its life expectancy and the hypothetical nature of much of what passes for knowledge."

The problem is to find a rationale that does justice to aspirations from the different quarters within a defensible contemporary intellectual framework.

Swales (1990) has a way of conceptualising the higher degree in a way that cuts across the different categorisations and captures something of our current practice, while perhaps extending it. He talks about higher degrees as the rite of passage into a discourse community. This has some sense of the right contemporary intellectual tone (perhaps particularly for the social sciences and humanities, but not exclusively). It has the further attraction of focusing on entry to a discourse as the generalised goal, with the genre of the thesis/coursework as a mechanism, rather than the performance of the genre as the general goal. The discourse community is defined by the following six criteria.

**DISCOURSE COMMUNITIES**

1. A DISCOURSE COMMUNITY HAS A BROADLY AGREED SET OF COMMON PUBLIC GOALS.

2. A DISCOURSE COMMUNITY HAS MECHANISMS OF INTERCOMMUNICATION AMONG ITS MEMBERS.

3. A DISCOURSE COMMUNITY USES ITS PARTICIPATORY MECHANISMS PRIMARILY TO PROVIDE INFORMATION AND FEEDBACK.

4. A DISCOURSE COMMUNITY UTILIZES AND HENCE POSSESSES ONE OR MORE GENRES IN THE COMMUNICATIVE FURTHERANCE OF ITS AIMS.

5. IN ADDITION TO OWNING GENRES, A DISCOURSE COMMUNITY HAS ACQUIRED SOME SPECIFIC LEXIS.

6. A DISCOURSE COMMUNITY HAS A THRESHOLD LEVEL OF MEMBERS WITH A SUITABLE DEGREE OF RELEVANT CONTENT AND DISCOURSAL EXPERTISE.

(SWALES 1990. pp.24-7.)
To talk this way does not make assumptions about the truth or validity of the enterprises undertaken by the community, although the members may be totally convinced of the force of their narrative. Swales criteria have the advantage of identifying some of the features that would be required for overseas students to become part of a working professional/academic community beyond just passing a degree. They would need to share in a sense of the directions and value of their enquiries, they would need to have a commitment to ongoing discussion and investigation, they would need to be able to have ongoing communication via journals and other forms of contact with each other and with other professionals/academics on commonly shared issues. The provision of quality under this formulation would also certainly place higher emphasis on communicative processes during and after the qualification.

But if one is to enter a discourse community not just as a consumer of the particular conventions of the community, not just a member of the chat line, but as a contributor and expert, it requires one to have an overall sense of the field, to be critical, conceptual, creative, knowledgeable, responsive, open to new ideas and change in the area, all of which has implications for supervision and teaching. The AVCC (1992) identifies "the broadening of knowledge, encouragement of creativity, intellectual stimulation and the exercise of imagination and originality" as the key to higher education. The trick is for this to continue as a set of outcomes during and after the qualification and that is where the membership of the discourse community is of crucial importance.

All this in turn requires a level of conceptual and general and specific language grasp. How much of this has to be in English is of considerable moment for overseas students with non English speaking backgrounds. I will want to argue that a mix of L1 and L2 is the way to go.

To be a bit more specific, I want to illustrate these points by reference to a model of postgraduate professional development for Education. I have not chosen the professional model arbitrarily (Schon 1983). But the defence of that lies outside of this paper. Although it may be worth mentioning that a Scottish study (McMichael 1993) found that postgraduate supervisors broke into two main camps: those that saw it as a means to academic scholarship and those that saw it as an opportunity to develop reflective practitioners. Both can be found a role in a reconceptualisation in terms of entry to discourse communities.

But different discourse communities exist and may come to exist, each with different demands for participation. Each has to be taken in its own right. However the entry to scholarship in a narrow sense is no longer sufficient, and probably never has been, to cater for the requirements of Masters candidates.

THE PROFESSIONAL DEVELOPMENT OF OVERSEAS POST GRADUATE STUDENTS IN EDUCATION

A Masters degree in Education in a developing country is not common and may hold considerable prestige. The holder of such a degree in education may find themselves placed in a number of possible senior teaching, administrative or research roles. It would be nice to think that the content of the degree had prepared them for the tasks that might be faced. But it is probably impossible to predict the content demands with any level of accuracy and the concept of professional practice as the neat application of academic knowledge to practice is in disrepute. (Schwab 1978).

1. One might hope instead that the person, as a result of work in the degree, had developed, as well as a good level of specific and general content knowledge, a range of skills and "academic attitudes" which led them, among other things, to being problem oriented, reflective, critical,
informed, active in seeking information and advice and imaginative in their work. It is this concept of "generic skills" that has been the subject of study by Marginson (1993) in relation to the value of the generalist degree. That report makes the point that there is a fair confusion around the idea of generic skills, despite the general value that academics, and employers under often quite different conceptions, place upon them. Generic skills are not content free. They make sense in the context of specific practices and discourses: Jackson and Page (quoted in Marginson 1993:38), for example, are able to more precisely describe generic competences specific to content in political science and maintain that these require explicit teaching rather than presumption that they will automatically develop. There is a lesson to be learnt: academic support for postgraduates would do well to include explicit exercises in the development of generic skills within the content of the discipline. Examples of actual research undertaken, policy formation and public and genre-specific discussion in the field would be the perfect texts.

Education has no shortage of such resources. Use of them might be made either through set courses or under the umbrella of academic support. But explicit, self-conscious and problem oriented discussion is required.

**ACADEMIC SUPPORT FOR POSTGRADUATES FOR A PROFESSIONAL DISCOURSE COMMUNITY**

1. **ASSISTANCE WITH "GENERIC" SKILLS FORMATION:**
   - CONTENT/DISCIPLINE/FIELD SPECIFIC
   - PROBLEM ORIENTED
   - BASED ON ACTUAL EXAMPLES

2. **ASSISTANCE WITH DISCIPLINARY PERSPECTIVE DEVELOPMENT:**
   - THE DISCOURSE AS DISCOURSE.
   - CHANGING ASPIRATIONS.
   - ACTUAL EXAMPLES OF THE INTERPLAY OF THEORY AND PRACTICE.

3. **ASSISTANCE WITH ENTRY TO DISCOURSE COMMUNITY:**
   - THE IMPORTANCE OF COMMUNITIES OF REFLECTIVE PRACTITIONERS.
   - EXPERTISE IN THE REQUIRED GENRES.

4. **ASSISTANCE WITH THE COMMUNICATION PROCESS.**
   - COMMUNICATION WITHIN THE DISCOURSE COMMUNITY DURING CANDIDATURE.
   - COMMUNICATION POST-CANDIDATURE:
     journals, electronic, etc.
   - ENGLISH PROFICIENCY.

2. One critical part in not overplaying one's hand as an expert is to be aware of the changing nature of one's discipline, as we have already remarked - to be aware of the disciplinary discourse as a discourse.(Becher 1985). The professional development of postgraduates in Education should consequently include a unit that provides such a perspective through the use of examples of the interplay of educational theory and practice over time. In terms of Swales discussion of discourse communities, it is crucial for the entrant to have a sense of the aspirations of the discourse community. It is through a more general perspective on the field that such a sense develops.
3. But in terms of professional practice, that community will begin to include practitioners as the makers of their own community, not just the consumers of an academic discourse. Knowledge is generated in the community of practitioners that includes academic and on site input. It thus becomes the community of reflective practitioners in the area, to use Schon's term. It is to such a discourse community, on a local and international level, that we should be seeking to introduce our post graduates, particularly from overseas. (And in some cases the communities themselves would need to be formed - although our ability to assist here may be limited.)

By separating the genre of the thesis/coursework from the more general aim of introduction to a professional discourse community, we allow that the genre may be entirely discipline based. But the qualification then becomes just the start of a much wider enterprise of entering a community of reflective practitioners. This requires the additional academic support of assisting in the further requirements of entry.

4. Further, it is important to engage with the community in an active way. Our students need to be trained in engaging in communication about the issues of their work from an early time. (Elton & Pope 1983). Most institutions provide for postgraduate seminars, that have their place. But equally most institutions would have more opportunities at their disposal to encourage an increase in the level of communicative activity with and between their overseas postgraduates. It is not hard to see the importance of students from different developing countries getting together to discuss the differences and commonalities of educational theory and practice in their situations. Once the critical direction of the higher degree becomes seen as the entry into a professional discourse community, the rationale of such steps becomes clearer.

It is in this sense that one becomes a professional educational expert/intellectual. It is not inconceivable to begin to teach such things at Masters level. Nothing less is needed by many of our overseas postgraduate students.

In our case the curriculum of the Masters degree needs to be rethought along these lines again. Then we can talk sensibly again of quality. To say it again, professional practice at its best requires a level of problematisation, analysis, judgement, and imagination, backed by investigative skills and breadth of understanding. These skills and understandings need explicit academic support in their development within the faculty. Our overseas postgraduates also need to be given a course that provides some perspective on the discipline itself, so it does not just sit as some immutable given - a course that outlines the development of educational theory and the changes in presumptions, methodology and political embroilment that have dogged its history; its discourse as discourse, with actual examples of the interplay of educational theory and practice. Our students need to have assistance in becoming ongoing members of their potential discourse communities, through encouraging an early sense of communal professional discourse, in setting up their own journals, in having access to our journals, continuing contact after their degree - all in a systematic way. Some institutions will be more advanced along these lines already.

The remaining point is of course the language problems, and that is no small issue. But once we conceptualise the attaining of a higher degree as part of the process of entry to a discourse community, some of the issues fall more into place.
LANGUAGE ISSUES IN ENTERING A DISCOURSE COMMUNITY

1. LEVELS OF PROFICIENCY IN ENGLISH.

2. ASSISTANCE WITH GENRES.

3. ASSISTANCE WITH LEXIS.

4. THE DOMINANCE OF ENGLISH.

5. ASSESSMENT.

a. Proficiency.

Vinke and Jochens (1993) did a study of 90 Indonesian engineers attending an English medium postgraduate course in Holland. Their results suggest that proficiency in English was a factor for students with TOEFL scores below 450. But higher than 460, and difference in the level of English was not the main predictor of success.

While admittedly this was with a largely technical subject matter, there is some plausibility in this being a wider phenomenon. On the one hand it is important to recognise that students do not need to demonstrate native speaker competence before they can be members of a discourse community (unless of course this is one of its determining features). On the other hand it is important to realise that they cannot be members of the community without being able to communicate effectively in it. Swales' criteria for a discourse community allow us to identify two key elements that paradoxically require more than native speaker competence and less than native speaker competence: competence in genre and competence in the specific lexis of the communications in the discourse.

b. Genre.

The best example of this is the one that Swales researches in his book, (op.cit.): namely, the research article. Communication in the discourse will generally require familiarity with the structure and register of some such central means of interchange. Students who have less than native speaker competence can nevertheless be successfully assisted in the operations of such genres. They can even learn to adapt and modify them to their own needs (Swales. op.cit. Pt.iv). We know how to do it; the problem is the level of curriculum planning, determination and resources to do it as an essential element in postgraduate work.

c. Lexis.

Similarly, of course, assistance with the specific lexis of an area is an obvious requirement. But that assistance often requires more than looking things up in a dictionary. Raymond Williams' KEYWORDS provides an excellent example. The lexis of a discourse is often necessarily underpinned by a whole tradition of use and change in use. Knowing how to use the lexis in more than the most elementary fashion requires access to a much broader set of understandings. This is an under-researched area. To understand this is to add weight to the earlier proposal of the importance of a critical overview of the development of the discourse as part of the curriculum of postgraduate work.

I am further convinced that if this introductory material was available in L1, and could be discussed by students in L1 as well as English, we would see a major improvement in quality. But that is still to be tested.
The obvious assumption all along, of course, is that English is the language of the discourse community. In academic contexts this is so not only because we are talking of Australian universities, but also because English tends to be accepted as the preferred academic medium (Kachru 1992). It is also the language in which a number of the discourses have arisen. The very existence of the required genres in the L2 may be unlikely. A certain level of proficiency in English is thus not only important but also generally desired by the students and necessary. It may be very difficult for them to work in the same way in their own language. Asking the students to do some of their work in L1, may not be an easy option, (although some aspects would be easier). But if the dominance of English is to be less than total and imperialistic, then getting the students involved in developing that genre in L1 would be key part of focussing on the content rather than the medium. The lexis can stay the same and be imported into L1, as is normally the case anyway. Encouraging the use of L1 in the program of assistance in developing genre skills would consequently be important.

Finally, once the rest is in place, the possibility of students presenting some part of their assessment in L1 becomes a prospect to be welcomed. This may be translated into English for assessment purposes. Perhaps at least half should still be done in English, for reasons already mentioned. But with this flexibility, the possibility of providing some units offshore becomes a more realistic possibility.

CONCLUSION

I would like to think that the paper has presented the challenge to reconceptualise the nature of the higher degree, particularly as it affects students enrolling from developing countries. (The main point stands in relation to local students as well). In this I have focused on the concept of entry to academic/professional discourse communities and their characteristics. One of the consequences of this viewpoint is that academic assistance for overseas postgraduate students is more than the provision of English language classes. Faculties themselves would need to undertake the responsibility of curriculum planning in the ways I have suggested. Some balance to the thinking of the bottom line might also thus be achieved.

REFERENCES


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Swales, J. (1990) Genre Analysis. CUP.


THE CONTEXT

There is a growing realisation that educational research needs to be conducted in the context in which it is to be applied. As Professor Biggs so aptly explains "it is advisable for quite different reasons, such as feelings of ownership and responsibility, that teachers become at least co-partners in research, if not the prime movers..."1

Little ecological research has been undertaken in the field of legal education in Australia. Developments in the teaching and learning environments in Law Faculties have largely been based on what Ramsden terms "informal theories"2. Informal theories are not based on controlled research but on everyday student-teacher contact and the means adopted by those at the 'coal face' to improve their teaching methods. As Ramsden clearly states, there are advantages to acting on informal theories3. However, there is also the danger of newer teachers adopting the views of the more experienced older staff, without questioning the value of the advice. Urban myths develop, such as the students are 'lazy' and 'won't read the cases'. This can end the discussion on why students are not performing as well as they might stifle consideration of the possibility that there may be reasons as to why the students are lazy and don't read the cases. There is an acceptance that the students must 'read the cases' for them to learn. Thankfully, the nineties have seen a move away from this kind of thinking and there has been a greater inquiry into the learning needs of the students and the effect of the role of the teacher. This is particularly clear at the Queensland University of Technology (the 1993 University of the Year!) and the Law Faculty at QUT.

THE RESEARCH

With the foregoing in mind, I considered that there was a need to 'start at the beginning' to undertake research with respect to law students, to understand what factors actually affected their ability to succeed academically at Law School at QUT. This was undertaken for the purposes of completing a doctoral thesis for an SJD (a professional doctorate in law). Recourse was had to the commonly cited 3P model developed by Biggs, which is reproduced in Appendix 1. The designed study was limited to consideration of the presage and process phases and in particular was limited to considering student characteristics and study approaches. There is a clear need to also consider the role of the teacher. However, this was considered outside the scope of the present research. A number of interviews was held with final year students to consider the overarching research question of 'what are the factors that affect academic success in Law School.' With their comments in mind, and after reviewing relevant literature, a questionnaire was designed. This questionnaire was adminstered to 575 students at the Law Faculty at QUT, across the four years of the law degree. It was administered to full time, part time, internal and external (studying by correspondence) students. Professor John Biggs gave his kind permission to allow the Study Process Questionnaire to also be administered with the designed questionnaire.

The questionnaire was divided into four sections:
1. 'About You' - biographical details
2. 'About Law School' - considering the effect of alienation, satisfaction with their legal education and exam anxiety
3. 'About Law Study' - considering study methods, number of hours of study, motivations to study and career goals
4. Open ended questions as to what helped or hindered students to succeed.

The variety of questions in the designed questionnaire opened up a unique opportunity to reconsider the study approaches theorem to determine if e.g. older students do generally adopt deeper study approaches.

PREVIOUS RESEARCH

There has been an increasing amount of research undertaken with respect to study approaches and study habits over the past decade and the influence of such study approaches on students' academic success.

Preston and Tuft undertook an extensive study to consider if superior college students had superior reading habits. Their study found that the students did not have superior reading skills but had better study habits. They commented that slower reading may in fact be more efficient, with superior students dwelling on the information reads.

Research by Allen, Lerner and Hinrichsen suggests that how study time is used may be a more important predictor of success than the amount of time a student studies and suggest that high school achievement may be an indication of study efficiency.

Study habits have been found to be related to academic success. Loftman found that poorer students relied more heavily on published law summaries and that better students more consistently reviewed their works. Together with class attendance, these study characteristics had the highest correlation with the grades received. These particular styles of study habits could be said to reflect surface (use of published law summaries) and deeper (review) learning techniques.

Weigel and Weigel report that a knowledge of study skills is highly related to academic achievement in male, but not female students. In fact, this was found to be a better predictor than ability measures. Conversely, Brown found that, although study habits and attitudes were positively related to grades, their relative predictive value was less than that of past academic achievement and ability.

Early studies have found clear evidence that holistic approaches to study result in better performance than atomistic approaches. Students with an holistic approach to study used elaborating techniques such as making summaries and underlining. Svensson considered that atomistic approaches, which fail to consider the subject as a whole and to engage in higher order thinking, created problems in higher education where "memorisation of the many books, articles and lecture notes is an impossible, as well as unnecessary, task." Watkins has undertaken a number of studies on student approaches to learning. He considered the effect of deep and surface approaches to learning across differing Faculties. He found significant differences, such as surface learners being less influenced by their interest level in the Arts Faculty than in the Science Faculty. However, more consistent was the influence of the grade sought to be achieved. Deep learners were more highly affected by this goal than surface learners. Deep learners were also more concerned about the amount of time available for study and the quality of the work undertaken and were more likely to involve their own opinions in their studies. These findings are consistent with the reported characteristics of deep and surface learners. Biggs explains clearly the characteristics of such learners. He points out that an approach to learning has two components being a motive and a related strategy. The motive of a
surface learner is to avoid failure but not to work too hard. This leads to a study strategy of focussing on selected details and reproducing information accurately. The deep learner, however, is motivated more by an intrinsic desire to satisfy their curiosity about the subject. This leads to reading widely, discussing and reflecting on the study material to maximise understanding.

Watkins found that a surface level approach correlated with lower grades, but at the same time a deep level approach was not strongly correlated with high grades19. In fact Watkins' study found that students who completed their course at the Australian National University tended to change over the years to adopt a less superficial approach20. This is consistent with his earlier study that found that a large majority of students changed their study habits from school upon entering University21. However, Brown reports that this change in study habits might in fact be detrimental in that he found that students had poorer study habits after college than before22. This may reflect the need for a more flexible assessment program that encourages deeper learning23. However, this might require higher resourcing in the University area as assessment that encourages such deep learning, such as assignments, is generally more time intensive on the part of the teacher24.

Ramsden et al. comment that it is the educationalists' goal to encourage deep learning. Ramsden and Entwistle found that academic progress was related to strategic study approaches (achievement study approach) combined with high ratings on deep study approaches and low ratings on surface approaches25. They considered that study skills courses might improve student study approaches and, in particular, that changes in teaching could move students away from surface learning towards deeper study approaches. This was consistent with the finding that "departments with highest mean scores on meaning orientation (deep learning) were perceived as having good teaching and allowing freedom in learning."26 However, in later research Ramsden et al. found that, after a study skills intervention program, surface learning correlated more positively with academic achievement than deep learning27. Ironically, Ramsden et al. report that motivated teachers who introduce study skills programs might be inadvertently encouraging surface learning as students develop more 'efficient' methods of study28. Conversely, Biggs recently found that appropriate study skills training led to a deeper approach to learning29.

Studies have found that older students are more likely to adopt a deep approach to learning and that male students are more likely to be surface learners30. This study considered these relationships.

THE SPQ

The Biggs Study Process Questionnaire (SPQ), which was administered to the students, is backed by many years of research and applied use. Ramsden and Entwistle have also developed a similar questionnaire (approaches to studying inventory). Professor John Biggs kindly gave his consent to the SPQ being used for the purposes of this study.

Biggs emphasises that there are two elements to a study approach being the motive and the strategy. His research and that of others31 have elicited three main learning approaches known as surface, deep and achieving (or reproduction, meaning and achievement). The characteristics of surface and deep learners are discussed above. Achieving learners are motivated by a competition for high grades and to achieve this such students optimise their time and efforts32. This means that an achieving approach could lead to deep or surface learning strategies as the context demands. It stands to reason that this type of student could be influenced more easily by the teaching ethos of a Faculty and particularly the style of assessment required by a course.
The SPQ elicits six scores being a motive and strategy rating for each of the surface, deep and achieving learning approaches. There were a number of factors that this study considered:

1. are there sex differences in the use of each approach
2. do older students have a different approach to younger students
3. do post graduate students have a different approach to undergraduate law students
4. are there certain motivators that link with certain study approaches
5. are there certain study habits that link with certain study approaches
6. do students in different years have different study approaches
7. do part-time and full-time students have different study approaches
8. do students with different levels of satisfaction with their legal education have different study approaches
9. do more anxious students have different study approaches to less anxious students
10. do alienated students differ in their study approaches to other students
11. what is the link between academic success and study approaches

Consistent with earlier findings, it was expected that students adopting achieving approaches would be more successful in Law School. However, it was expected that after achieving students, surface learners would fare better in Law School. The reason for this is the same as why surface learners are expected to be more satisfied with their legal education. Due to resource difficulties, Law School assessment is largely exam based, which gives students little time to display in-depth knowledge. The way law is taught encourages students to 'apply the law' to novel situations. However, this requires an acceptance that the law is the law and that it can be applied like a mathematical formula, which is a style of higher order rote learning. Assignments, when used, are restricted in word length, marking is done on a marking scheme basis as there are a number of teachers marking the same piece of assessments, which encourages marking on a quantitative scale rather than a qualititative basis. The reason for this is perceived objectivity. However, the effect may be to encourage surface learning.

THE RESULTS

Achieving and surface study motives both formed part of the overall regression formula and were factors in many of the sub groups' regression formula. Regression analysis provides a variance percentage related to the dependent variable. This means that the factors that form the variance percentage together account for a certain percentage of the dependent variable. In this case, the dependent variable was G.P.A. Overall, the factors in the questionnaire accounted for 28% variance of G.P.A. Achieving study motive, on its own, accounted for a large 6.18% variance of G.P.A. Achieving study strategy also had a positive effect on G.P.A. accounting for a variance of 1.03%. Conversely, surface study motives had a negative effect on G.P.A. with a variance of 1.26%.
Surface study motive had a negative correlation with G.P.A., whereas achieving study strategy and motive had a positive correlation with G.P.A. Correlation analysis does not indicate a causal link but merely that a relationship in a certain direction exists. For instance, if the level of surface study motives increases, there is a greater than chance likelihood that G.P.A. will go down.

Surprisingly, study approaches did not feature as factors in the discriminant analysis between bare passing and better students. Discriminant analysis provides a list of factors that discriminate between one group and another. Therefore, it cannot be said that, as a group, better achieving students are more likely to exhibit achieving study approaches than poorer achieving students.

Overall, law students differed from students in other disciplines by being more surface oriented and less into deep learning. However, similar achieving study approaches scores were obtained.

Female students had significantly higher achieving study strategies than male students. Part time students had significantly lower surface study strategies and motives and achieving study motives than full time students. This is surprising in one sense, as it would be expected that, as part time students have less time, they would tend to be surface learners. However, this is consistent with the other data which indicates that part time students are more driven by intrinsic interest than full time students. Consistently, external students, who are generally a more mature student group, had higher deep study strategies than internal students. Surprisingly, there was no variation across the years in study approaches. It was expected that surface and achieving learning would have been encouraged in the Law School system.

Older students generally had deeper study approaches, with younger students tending to surface study approaches. However, having undertaken a previous degree had little effect on study approaches. This latter finding is contrary to previous research.

As expected, to pass as a motivator to study was linked with surface approaches, while interest or self satisfaction linked with deep study approaches. Consistently, to get good grades as a motivator to do well linked with achieving study approaches. No particular keys to learning correlated with surface study approach. However, consistently, cramming had an inverse affect on deep study approaches, with revising lecture notes, reading text books and seminars being positively linked with deep learners. Similar keys to learning correlated with achieving approaches, as did study guides and making summaries. Better study habits tended to correlate with deep and achieving study approaches.

Anxiety and alienation had significant positive correlations with surface study approaches. This is consistent with the factor analysis which supports the view that anxiety, alienation and surface study approaches are in fact the same concept. Factor analysis enables one to discern whether certain items are in fact measuring the same concept, such that one question of the group might satisfactorily encompass all the questions in the same factor. The fact that surface study approaches (both motive and strategy) appear to be the same concept as alienation and anxiety (as defined in the questionnaire) is significant. The alienation scale was seeking to measure a concept that is highlighted by a disengagement and disinterest in the learning process. In the overall regression analysis, this accounted for 4.58% variance of G.P.A., having a negative effect. If this is added together with the effect of surface study motives, a large negative 5.85% variance of G.P.A. is accounted for.

Conversely, anxiety (which was mainly defined as exam anxiety in the questionnaire) had a negative effect on deep learners, but deep study approaches had a positive correlation with satisfaction. Achieving study approaches also positively correlated with satisfaction. This gives the overall impression that surface learners have negative attitudes (alienation and anxiety) to their
learning environment, whereas deep and achieving learners are more satisfied with their legal education. This is consistent with the literature on alienation and satisfaction. Notably, however, anxiety had a positive correlation with achieving study approaches, indicating that some level of anxiety can in fact have a motivating effect.

The expected highly significant positive correlation with G.P.A. (which was used as a measure of success) with achieving study approaches is worthy of further comment. What is of interest is, what are the characteristics of the achieving learner? If this could be isolated, could students be selected that would prima facie perform better? A secondary, but as important, question also arises. Does a Law School wish to encourage the characteristics of achieving learners, or are there some aspects of the surface and deep study approaches that are considered worthwhile, or even necessary, in the law student. For this comparison, the items that correlated with each study motive and strategy were determined. There was no single common correlating factor across the three study motives and strategies other than achieving study strategy and motive. This in itself is consistent with the theorem that achieving study approaches adopt both deep and surface strategies. The correlated items were divided into five major categories:

1. Motivations to study
2. Attributions for success
3. Motivation to enter law
4. Study methods
5. Other factors

The correlations appear in Appendix 2. The correlation results have remarkable consistency with the study approaches theorem.

The factors that correlate with surface study strategy and motive are consistent with the theorem on the surface study approach, in that such students are motivated by a desire to pass rather than interest in the subject matter, and find lack of organisation a hindrance. It is also consistent that alienation and anxiety should correlate with a surface study approach. It is interesting that such students were motivated by money to enter law rather than a desire to help the community or other matters such as a desire to teach and that a surface study approach reduces with age.

The motivations to study for deep learners are almost exactly the inverse of the motivations for surface learners being interest and self satisfaction. The keys to learning for deep learners are 'deep' strategies such as reading text books and seminars. Even hindrances are of a 'deep' nature such as lack of access to library resources, with an inverse relationship to matters such as too active a social life. Such students appear to have clearer career goals, with an inverse relationship with not knowing what else do to as a reason to enter law. It is consistent with previous research that there is a positive correlation between age and deep study approaches. It follows that there should be a positive relationship between satisfaction and a deep study approach, as satisfaction is one of the fundamental desired outcomes. It can be understood why anxiety has a negative relationship with a deep study approach as the motive to learn is not examination bound. However, the strong relationship with alienation concept does not sit easily. It might be that deep learners have different motivations to the majority of students, leading to a feeling of alienation. Notably, however, alienation is not linked with an achieving study motive or strategy.

The achieving study approach is more analogous to a deep study approach in the area of keys to learning and motivations to study. However, unique features of the achieving approach are the motivation of money and prestige to enter law, and attributing success to hard work and good study habits. Equally, it is consistent with the concept of an achieving study approach that the motivation to do well is to get good grades and be a competent legal practitioner as opposed to pass or family pressure. It was also to be expected that an increase in the amount of study is related to an...
achieving study approach. Study practices of achieving students also indicate a commitment to learning such as missing fewer contact hours and discussing law with students more often. Of interest is that anxiety has a positive relationship with an achieving study approach and a negative correlation with surface study approaches. This is consistent with the view that there can be a level of facilitating anxiety.

WHERE TO FROM HERE?

An overview of the features of surface, deep and achieving learners would indicate that a Law School would wish to discourage surface learning and encourage achieving or deep learning. Presumably, a student's study approach can be determined before entering Law School. It is open to argument that Law Schools might wish to include this factor in an entrance exam, considering the additional negative features that correlate with surface learning, such as alienation, anxiety and lower performance.

Do tertiary institutions, however, necessarily wish to encourage achieving study approaches merely because students with such approaches appear to perform better? Certainly, there can be little question that surface learning would wish to be discouraged in tertiary education. These two issues lead to one possible resolution. Consistent with the study approaches theorem, achieving learners are the great adaptors of tertiary education. Such students will adopt deep or surface strategies as the context demands and are prepared to work hard. Therefore, methods adopted to discourage surface learning which, almost by definition and according to the results of this study, will tend to encourage deep learning should be embraced by achieving learners with relative ease. How do we, then, discourage surface learning?

SUGGESTIONS FOR IMPROVEMENT

One of the keys to this answer lies in the results of the factor analysis which indicates that alienation, anxiety and surface study approaches are the same concept. Previous studies have suggested means to reduce alienation which include encouraging Faculty contact and social integration with other students, to encourage a sense of belonging. This is of particular importance for first year students. (This study found that alienation has the greatest effect in first and second year). A reduction in the students' feeling of alienation should lead to a consequent drop in surface study approaches.

The role of the teacher cannot be overemphasised in molding students' study approaches. Feeling that teachers are generally concerned as to their students' progress and are supportive also assists in reducing feelings of alienation. Gaining a sense of worth is an essential step in the process of gaining a sense of accomplishment and a belief that one can succeed. Law School, like most professional Faculties, has one major stumbling block operating against the students' believing that they can do well. That is that the students all come from a high ability pool and are then thrust into an environment where they may be at the bottom of the academic pile for the first times in their lives. This was indicated in this research, where luck rated highly in the students' attributions for success, which was contrary to previous research findings. Once a sense of success or failure is established, a contrary belief is hard to foster. Thus, first year is crucial. There is a higher need in first year for small class teaching and for assessment that provides valuable feedback as to progress, so that students can see how they can improve and why they have done well.
The Law Faculty at QUT is introducing in 1994 three programs that address these needs in particular. These are:

1. a new curriculum that includes a two week subject at the commencement of first year called Introduction to Studying Law. No other first year classes are timetabled in this first two weeks.

2. a peer-assisted study program for two first year law subjects, which is the subject of a 1993 CAUT grant. Student mentors have been trained to give assistance to first year students in Torts and Contract. The student mentors are paid for their time. This overcomes to some extent the debilitating factor of high student numbers that can thwart the ability to provide intensive teaching.

3. A staff-student mentor program is being introduced for first year students. This program has four key features:
   a. social functions with later year students, so that first year students can 'gossip'
   b. social functions with academic staff so that students can interact with staff on a social level
   c. the availability of an individual mentor, at the option of the students, one hour per week. Staff mentors will mentor up to 15 students each. Mentors will be available to assist students with respect to any University related matter and will direct them to the appropriate University service if necessary.
   d. the development of a register for external students (students who undertake law by correspondence, usually outside the Brisbane metropolitan area) so that students can contact other students in the same subject to form study groups. This will be done for students in all subjects of the law degree.

The staff-student mentor program has been undertaken on a voluntary basis by staff, with some account taken into their teaching hours. The fact that 29 of the Law Faculty's 50+ full time staff are prepared to take on this extra supportive role is indicative of the genuine interest in student needs in the Faculty.

CONCLUSION

Overall, the value of the study undertaken is two fold. First, it reconfirms, by objective means, the study approaches theorem. The consistency of the motives and study strategies of surface, deep and achieving learners is remarkable. Secondly, this research also highlights the very direct effect of study approaches on academic success and some introductory suggestions are made for improvement in the teaching and learning environment in light of these findings. It is clear that tertiary education is an ever changing creature and that the value of the programs introduced must be monitored, and continuing research into the improvement of the student learning needs is required. This study forms but a stepping stone. But at least the river does not seem as wide.

FOOTNOTES

2 Ramsden, Paul, "Theories of Learning and Teaching and the Practice of Excellence in Higher Education" (1993) 12 No.1 Higher Education Research and Development 87.
3 Ibid, for further discussion of the advantages and disadvantages of informal theories.
5 Ibid, at 201.
7 Brown, William F. and Holtzman, Wayne H., A study Attitudes Questionnaire for Predicting Academic Success (1955) 46 Journal of Educational Psychology 75; Brown, Frederick G. and Dubois, Thomas E., op cit.

Ibid. at 433.


Ibid. at 242.


Ibid. at 38.

Ibid. at 39.


This should be contrasted with the findings of Watkins, D. and Hattie, J., A longitudinal study of the learning processes of tertiary students (1985) 4 Human Learning 127.

Brown, Frederick G., op cit.


Ramsden, P. and Entwistle, N.J., "Effects of Academic Departments on Students' Approaches to Studying" (1981) 51 British Journal of Educational Psychology 368.

Ibid.

Ramsden, P., Beswick, D.G. and Bowden, J.A., Effects of Learning Skills Interventions on First Year University Students' Learning (1986) 5 Human Learning 151 at 158.

Ibid.


Such as Entwistle, Noel, Haley, Maureen and Hounsell, Dai, Identifying Distinctive Approaches to Studying (1979) 8 Higher Education 365.


Entwistle, Noel, Hanley, Maureen and Hounsell, Dai, op cit at 373 tested the predictive power of a similar study approaches questionnaire. Students were categorised as low and high achievers. It was found that a high percentage of each group had adopted the expected study approach.

This is still only a class three (3) learning objective out of a scale of six (6) in Bloom's Taxonomy of objectives; Petter, Andrew, "A Closet Within the House: Learning Objectives and the Law School Curriculum" in Essays on Legal Education: Centre for Studies in Canadian Legal Education Butterworths, Toronto (ed. Neil Gold) Higher order objectives of synthesis and evaluation are consistent with deep learning motives. If assessment were geared to such objectives, deeper learning might be encouraged.

This is more particularly the case since the introduction of the Freedom of Information Act 1992 (Qld) which requires the publishing, upon request of marking schemes.


APPENDIX 1

FIGURE 1: THE 3P MODEL OF CLASSROOM LEARNING

STUDENT
Prior Knowledge
Abilities
Preferred ways of learning
Value, Expectations

TEACHING CONTEXT
Curriculum
Teaching method
Classroom climate
Assessment

PROCESS
Feedback

NATURE OF OUTCOME:
Structure
Detail

PRODUCT

Feedback

Meta teaching
Direct effects (e.g. ability)

Meta learning
Direct effects (e.g. time)
## APPENDIX 2

### Study Approaches Profiles

- Female students have a higher achieving study approach compared to male students
- Part-time students have a lower surface study approach compared to full-time students
- External students have a higher deep study approach compared to internal students
- Older students have a higher deep study approach

### Motivations to study

<table>
<thead>
<tr>
<th>Surface Study Approach</th>
<th>Deep Study Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive</strong></td>
<td><strong>Negative</strong></td>
</tr>
<tr>
<td>To pass</td>
<td>Interest in the subject</td>
</tr>
<tr>
<td>Peer pressure</td>
<td>Self satisfaction</td>
</tr>
<tr>
<td>Financial considerations</td>
<td>Desire to be a competent lawyer</td>
</tr>
</tbody>
</table>

### Achieving Study Approach

<table>
<thead>
<tr>
<th><strong>Positive</strong></th>
<th><strong>Negative</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>To get good grades</td>
<td>To pass</td>
</tr>
<tr>
<td>Desire to be a competent lawyer</td>
<td>Desire to obtain a law degree</td>
</tr>
<tr>
<td>Family pressure</td>
<td></td>
</tr>
<tr>
<td>Peer pressure</td>
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### Attributions for Success

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- **Nil**
- **Other Factors**

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## Achieving Study Approach

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This paper highlights some of the experiences of new and relatively inexperienced part-time/sessional tutors which are related to the essentially undefined and unstructured world of part-time teaching. The experiences of these tutors are shaped both within and outside the classroom. They are interrelated and thus have a significant effect on the quality of teaching and learning.

Inevitably, tutors' experiences vary within and between Schools and Departments, and between universities. Nonetheless, there are common needs and some generalisations can be made. This paper will outline the most pressing needs of part-time/sessional tutors based on those highlighted in the Tutor Skills Project and will suggest other ways that such needs can be met.1

The appointment of part-time/sessional tutors is often a decentralised process, with course coordinators selecting graduate or postgraduate students that are known to them, often through supervision arrangements. Given the casual nature of most appointments it is not uncommon for tutors to be unsure exactly what work and what hours will be available until the week before semester begins. Uncertainty is a feature of the part-time tutor experience in this respect.

It is therefore, not surprising that many new tutors have the feeling of being thrown in at the deep end and find tutorials demanding and exhausting. Many find the experience frustrating and confusing. For some, this is compounded by feelings of marginality and limited interaction with other academic staff. The issue of isolation is one of fundamental importance.

Like other new staff, tutors' needs focus on a range of issues. These include the development of teaching skills, as many do not have any teaching qualifications or previous teaching experiences, and part-time/sessional tutors are often bypassed by staff development programs. Consultation between course coordinators and their tutors can vary widely, and indeed there are many reasons why this is so. However, given that there is rarely either general or specific guidelines for the course coordinator/tutor relationship, ambiguity can exist.

The provision of resources to part-time teaching staff whether it be information regarding access to photocopying or obtaining materials for class preparation is often ad hoc. New tutors in particular may experience problems seeking or obtaining such resources. Another factor is a lack of information on School guidelines, rules and regulations. Most have little awareness of their rights and responsibilities as teachers and the rights of their students, nor are they aware of occupational health and safety issues. Still others are poorly informed of pay and conditions. For many, student access and consultation with their tutor can pose enormous problems for tutors who don't have office accommodation or telephones on campus.

The importance of quality feedback to students is unquestionable. The same can be said for part-time/sessional tutors. Yet there are limited opportunities for tutor evaluation and feedback. The tutor tends to measure the quality of their teaching in terms of success in securing further tutoring work. The reality is, of course, that a number of factors may influence who obtains work and who
does not. These include funding, enrolment numbers, personalities and a lack of a structured or centralised network of information may play a part at some time or another.

The arrangements that have evolved over time have provided both full and part-time/sessional staff with a degree of flexibility and personal discretion. However, what is represented as staff autonomy may actually be experienced as isolation by part-time/sessional tutors. It is possible to overcome isolation without eroding a necessary degree of autonomy.

The needs of part-time staff are an important issue given that they often teach the large and very crucial first year classes. They are also very often graduate or postgraduate students and could be the academics of tomorrow. This is a good opportunity for schools and departments to cultivate quality teaching amongst their own people.

The Tutor Skills Project is a good example of what can be done to address the needs of part-time staff. The course went a long way towards addressing many of the concerns and difficulties outlined above. The Tutor Skills Project was funded by a National Teaching Development Grant from the Committee for the Advancement of University Teaching (CAUT). It was designed to develop the teaching skills of new and relatively inexperienced tutors from the School of Social Sciences and Asian Languages at Curtin University of Technology. Fourteen sessional tutors and three experienced staff were involved in workshops held weekly during first semester 1993. These workshops provided the opportunity for the more experienced staff to share their insights, observations and classroom experiences with the new tutors.

The course introduced the links between the theory of teaching and learning, and the actual practice of teaching. Because of the anxiety stemming from lack of expertise as a teacher, many new tutors are overly concerned with content. Many initially believe that large content transmission should produce satisfactory results. Over concentration on content often results in a mini lecture through fear of class silence and the discussion drying up. The Tutor Skills developed an appreciation of the learning process which lessened the emphasis on a one-way transmission of content.

The project involved the tutors in action research and learning to plan, act and reflect; integrating the theory and practice which was very useful from the tutors' perspective. The differences between deep approaches (understanding) to learning rather than surface approaches (memorisation) were raised. By being introduced to concepts such as active learning, rather than expecting independent critical and creative thinkers to emerge as a result of careful preparation and presentation of content, participants began to understand and discuss ways to develop the transition to deeper approaches. They examined ways to assist students to move from dependence to independence as learners by involving students in all aspects of their learning. The session on assessment procedures and how they were not appropriate to learning objectives was very useful. The project sessions also allowed modelling; observing how the project director was getting tutors to participate and tutors subsequently trying out the same things in their own tutorials - in a sense a practice run.

The experienced staff in the project became mentors and their support helped to relieve some of the anxieties of teaching and reduced the isolation suffered by the tutors. Tutors benefited from the opportunity to become part of a structured network that had not previously existed. The mentors as well as peer review provided the tutors with useful feedback which helped them reflect and evaluate their teaching practice. This enabled them to make any necessary adjustments in much the same way as feedback to students aids their learning.

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Such support and awareness ultimately built confidence and aided motivation in the tutors. This allowed the tutors greater personal control by being able to act as facilitator and step back to take a less central role. Tutors also accepted that students need to take much of the responsibility for their learning. For some tutors who had previous experience, the Project confirmed that what they had been doing after several semesters tutoring was on the right track and effective from a learning perspective.

Clearly all tutors have a responsibility to clarify any uncertainty or ambiguity that may arise from the issues outlined in this paper, but a tutor's capacity to fulfil such responsibilities can be enhanced. As teachers we recognise the importance of creating an environment in the classroom that is conducive to student inquiry. We also recognise variations in personality and the importance of the affective domain, and we recognise that student initiative can be enhanced in accordance with the learning environment in which they work. The experiences of new part-time/sessional tutors may not be unlike the experiences of new students. Tutors may be hesitant to ask questions for the same reasons that new students are hesitant to ask questions.

The needs of part-time tutors can be helped by staff development courses such as the Tutor Skills Project with regular follow up workshops. These could involve course coordinators and provide a forum for shared expectations and knowledge. It is evident however, that the objectives of such a project need to be clearly articulated to participants. What role, if indeed any, would such a project play in enhancing the employment prospects of participants? Our impression is that such projects would better equip the participants with teaching skills in the classroom and any positive outcomes regarding future work would be indirect. However, it appears that the expectations of some participants, in this regard, were different and that their failure to secure further teaching was interpreted as failure of the course. This is most unfortunate as all tutors enjoyed the course and benefited from it. Further, the lack of availability of work, as has already been stressed, can be due to many factors which are out of the control of the tutor.

Staff development needs should be isolated from the other structural needs of part-time staff and should be seen as one strategy amongst others. These strategies could include, for example:

- clear guidelines concerning roles and responsibilities with regard to marking and extensions would save a lot of confusion for both tutors and students.
- pre-tutoring meetings which outline desired outcomes while still allowing flexibility would be useful.
- many part-time and sessional tutors do not have an office. Perhaps rooms could be set aside with office hours for part-time staff who do not have office accommodation allowing some element of privacy for the students. An answering service where students could leave messages could also be provided rather than tutors giving students their home numbers to what can often amount to hundreds of students.
- the provision of mentors who are willing and able to show new and inexperienced people the ropes would be invaluable and would go along way to reducing the isolation they often feel.
- access to newsletters and bulletins with information about workshops and seminars is also very important.
- notification of, and invitation to, staff seminars and meetings would also reduce the marginal status of part-time staff.
- a tutor manual
- some sort of closure at the end of the semester providing the tutor with feedback on their work and student progress. Many sessional tutors finish before exams, spend little time on campus and often don't know how their students have scored. It can be embarrassing when meeting them later in the year.
The Tutor Skills Project demonstrated how much can be done to assist new and part-time/sessional tutors inside and outside the classroom. The creation of an environment conducive to enquiry and the sharing of information and experiences can be achieved to address the issue of marginality and isolation experienced by tutors without relinquishing the established degree of autonomy.

FOOTNOTES

1 Both authors were participants in the Tutor Skills Project and had been tutoring for several semesters before beginning the project. Other tutors were first time tertiary teachers. The experiences of both groups have been considered.

2 Pat Bertola and Eamon Murphy have produced a manual Tutoring in the Social Sciences and Humanities: A Beginner's Practical Guide which is based upon the experiences suggestions and comments of part-time/sessional tutors and full-time experienced staff who participated in the Tutor Skills Project.
ROLE-PLAYING: CREATIVE CONFLICT IN THE LEARNING PROCESS

THE METHOD

Role-plays are an active learning strategy which can be used as an addition to the more traditional tutorial or seminar program. They are designed to involve the whole tutorial group as actively as possible and are planned well in advance so as to give the students sufficient time to research their roles. The role-play scenario is designed to teach specific processes and to enable students to put theory into action. It represents participation in a real event or situation, or in an event or situation which could have happened. Role-play differs from theatrical drama in that there are no scripts and because it is a process which requires the students creatively to use their research and their existing knowledge in order to construct arguments in situ. Each participant is assigned a character and each is required to research the character, the intellectual position or argument, and the situation. In fact, the character they have been assigned, or even the event, could be amalgams or even fictitious. However, the position, processes or factors and issues affecting outcomes are not unreal in any sense. Although the structure of the debate may be that participants make a prepared statement initially, the remaining dialogue is created by the students themselves, as they go, and in this sense role-play differs markedly from drama, even of the workshop variety. The usefulness of a role-play is not measured by how well students "perform", but by the types of issues raised and the methods used to deal with them.

Role-playing involves the development of role-model scenarios by the lecturer, formulating both a wide framework and a focussed question or set of questions within which the students will operate, using a combination of primary sources (video, newspaper, government, private, royal, papal and imperial charters and documents, and other printed materials, depending on the area of study) and secondary sources (to provide an intellectual framework).

WHY USE ROLE-PLAYS?

History is a highly dynamic series of social processes and there can be no one perfect way of approaching its study. A variety of approaches drawing on a wide range of intellectual processes of dialectic and argument are useful. In teaching history, at both first year and upper levels, in courses as varied as the history of the Indian Ocean region, medieval European history, and South and Southern Africa, we identified a number of problems which can be grouped broadly into two categories: intellectual and affective.

History as a discipline can present an inherent problem for students since semester by semester it introduces large bodies of new content - both temporal and spatial - as well as constantly increasing the required levels of theoretical knowledge and understanding. For many students there is a problem of retention of material "learnt" in previous semesters or years, perhaps because it was never fully "learnt" or because it had no particular or personal relevance to them. Many
students, particularly at the first-year level, are overly dependent on the tutor for so-called "answers" and find it difficult to analyse critically for themselves. In order for effective learning to occur, students clearly need to be involved, actively, in the learning process, to be engaged on an intellectual level and to understand, actively, concepts and processes.

The study of history can also pose contextual problems for students. It is often difficult for them to conceptualise processes and events in other places and times that have no immediate relevance to them or with which they have no prior familiarity. In this respect, the physical isolation of Perth in particular can pose some difficulties. It is highly likely that few of our students will ever have physically walked around, for example, the old town of a European city so that they might have some physical or spatial sense of medieval realities - and it is even more unlikely that students, even if they are from South Africa, will have spent any time in a black township or an informal settlement.

In a role-play, the students are able to practise and apply the theories that they are reading and hearing about in a course. The pressure on them is not to get every individual "fact" correct during the role-play, but rather, to continually debate from the position of their character in the socio-political context of the period, drawing on the full extent of their knowledge. This necessarily involves them thinking rapidly, using responses that are both created and imagined, based on their existing knowledge.

It is often difficult for students to confront and analyse positions or ideologies which they do not support or with which they are unfamiliar; it can be just as difficult for tutors to demonstrate that there is no final "answer". Role-plays can cast students in roles which oppose their preconceptions and assumptions and question their own values, thus encouraging them to deal with issues on other levels and in different ways. In a traditional teaching situation it is often difficult to encourage all students in a group to do this. We have found this to be a very useful strategy for students to confront issues such as political conflict and discrimination.

Our empirical observation indicates the necessity of students being engaged on an intellectual level and on the level of the affective domain if they are to be able to completely immerse themselves in, and be engaged by, a course. To be engaged is to acquire a degree of reflexivity and awareness of the learning processes that are being undergone. Engagement in this sense implies that the student is able to "frame" significant elements of socio-cultural action, is sufficiently discriminating to be capable of recognising what is "significant", is able to set up processes of inclusion and exclusion, is able to be introspective, is able - as part of a group - to construct "a bordered space and a privileged time within which images and symbols of what has been sectioned off can be "relived", scrutinized, assessed, revalued, and, if needs be, remodelled and rearranged."

To be engaged is to be an active participant in the learning process, to move beyond memorisation of material to active use of material, to a process of discovery of meaning and understanding. In comparison to solely listening or reading, in other words to passive involvement, a role-play enables the student "to involve the whole person - intellect, feeling, and bodily senses - it tends to be experienced more deeply and remembered longer." Emotions and feelings are an important factor in teaching and learning, and the encouragement of deep learning techniques through interesting classes, clear strategies and detailed feedback are necessary and indeed actively sought after by students.

It is not always easy for all students in a tutorial group to be involved in a discussion. A further problem is that of some students being poorly prepared. These can combine to contribute to marked difficulties in constructing a dynamic in which even the quiet, shy student can participate.
equally with others who are more extroverted. With strong support and encouragement (both beforehand and quietly during the debate), a role-play involves low risks to those who are shy or nervous. It is, for example, a much less threatening situation than the student-led tutorial, which can be devastating for some students.

PRELIMINARY FINDINGS

After several semesters of working in this way with history students at Curtin we are able to produce some preliminary results. We would argue, both from observation and from student feedback, that a number of factors of interest can be identified.

1. Adopting another persona or mask frees up the student, empowering them, giving them protection and complete control. It is a safe situation in which students can fully extend their cognitive skills. Few of the students taking part in the heresy debate, for example, have naturally extroverted or dominant personalities. Further, most knew each other only tangentially, from lectures, and had never been in the same tutorial group together, yet they were able to use their personas very effectively to argue particular positions. We realised that this was going to be an important factor for students quite early in our experimenting with role-plays when we role-played the Inkathagate funding scandal in South Africa. A third year female student, who had reluctantly acknowledged that the only times she had ever spoken in tutorials had been when she had been compelled by the assessment process to "present" a tutorial topic, was allocated the major role of Pik Botha, the South African Foreign Minister. Some of her fellow students were sceptical even that she would appear for the debate - she swept in some minutes late and spent the next hour and fifty minutes patronising newspaper editors and opposition politicians, playing the dominant role in the defence being mounted by the government (to the visible irritation of a male student playing the Minister of Law and Order who clearly had thought he would be able to dominate the government side of the debate), and actually, at times, making a rather better fist of the case than Botha himself had been able to do in real life.

2. Communication and negotiation skills are enhanced. When a position is challenged, the student has no recourse but to argue her/his way out of it. While the enhancement of skills is quite evident to the tutors however, the respondents to an anonymous questionnaire were more modest about claiming that their verbal skills were improving since only 17.4% strongly agreed and 30.4% agreed that this was the case, with 39.1% remaining neutral, 4.3% disagreeing and 8.7% strongly disagreeing.

3. Students are constantly having to extrapolate from their existing knowledge, using what they know to extend and defend their positions and arguments: they are very aware that they can be challenged by any other participant at any time. When asked in the first questionnaire whether role-play debates have a faster pace than seminars, 43.5% strongly agreed, another 43.5% agreed, and 13% were neutral. No one answering the questionnaire disagreed.

4. The atmosphere is very hyped up, but very relaxed too, with the students constantly reassured beforehand that what is important is their participation, not any mistakes of content they might make. They are very aware though that the constraints of particular positions and characters are part of the exercise. When questioned about the relative stresses of tutorials and seminars, 30.4% strongly agreed that role-plays are more stressful, 26.1% agreed, 21.7% were neutral and another 21.7% disagreed. When asked whether the stress was more positive than negative, 21.7% strongly agreed, 52.2% agreed, 17.4% were neutral and only 4.3% disagreed.
In preparing for a debate the participants must, if only to protect themselves, research the other potential positions as thoroughly as possible. As part of this process, they read widely and move with more ease between primary and secondary sources. When asked whether the research they have done for role-plays has made it easier to understand the role of sources in constructing history, 39.1% strongly agreed, 34.8% agreed, none disagreed, and 26.1% were neutral, and asked how useful they found using both types of sources, 47.8% strongly agreed that this was useful, 43.5% agreed, none disagreed and 8.7% were neutral. The value of primary sources in particular was recognised by almost all respondents, 43.5% strongly agreeing that such sources gave them a more immediate feel for the period or the problem, with a further 39.1% also agreeing, 13% neutral and 4.3% disagreeing.

If the scenario is chosen carefully, the students will be able (spontaneously or with forethought) to engage numbers of other issues and questions from the course: in the heresy scenario for example, the central medieval question of the location of authority in society, whether in secular or religious government, is used a number of times, as are other central issues such as gender, coercion and control, poverty and social inequality.

The students are in control of the interaction in the debates and if the argument goes too far off course, the students themselves bring it back into line. The heresy debate shows this very clearly when, for example, the student playing Frederick II insists on discussion of the underlying issues. This debate had time limitations imposed by the outside commitments of various participants, and ran for an hour and a quarter without any intervention by teaching staff before the student playing role of Pope Innocent III called for final summations. The students thus have the opportunity to exercise a great deal of independence.

Participants become aware of the constraints governing, for example, political action. When asked specifically whether they found the process helpful in understanding why people have made particular decisions or acted in particular ways, 43.% strongly agreed, and a further 39.1% agreed that this was the case. 13% were neutral and 4.3% disagreed. In this increased awareness of other positions, it is useful in the development of critical thinking about the various mixes of thought processes and influences that inform attitudes and actions.

Conflict, as played out in these debates, clearly provides an edge which sparks participants into more intense, sharper, responses than they normally would commit to in a regular seminar. When asked whether there is a more charged atmosphere in a role-play than in a seminar, 73.9% of respondents to the questionnaire strongly agreed, 21.7% agreed, 4.3% were neutral, and no respondent disagreed. Our empirical observation bears out both the liveliness and the depth of the interactions during these debates. As Victor Turner found in his experiences of role-playing with anthropology students, there are times when the debates can take on sudden and unexpected significance for participants. Elements of a character or a position can resonate with the participant's own experience and can produce unexpected results. We have endeavoured to encourage a process of rethinking by the students of their existing positions and in the allocation of roles have experimented with assessing participant's own positions and then allocated them a position as diametrically opposed as possible in order to allow them to see as much as possible of "the other". While the question of the affective domain functioning in this way was not specifically evident in observation and a number of students also have raised it in discussion either in class or individually. It is clear that the affective domain can become very significant in the role-
playing process, at least in part because of the highly-charged and fast-paced nature of the debates, but also because of the intellectual content of the arguments. Both elements interact to create an atmosphere in which the ambiguities and inconsistencies of intellectual positions become self-evident and inescapable. Male students given female roles not surprisingly often find themselves frustrated by the structural constraints they discover, while other students have found themselves having to radically rethink positions because of the challenges posed to them by this process. An example of this is the student who strongly held the position that reform in South Africa by 1992 had gone as far as it ever should go. Two weeks after a role-play in which one of the elements was the suppression of black political activity after the 1960 Sharpeville massacre, he came into class and made a cogent and convincing argument for the continuation of the reform process and moreover for the continuation of international pressure in the form of sanctions. Further, in a somewhat unexpected display of reflexivity, he argued to the seminar group that what was important was not his new intellectual position (which he recognised involved a change of political position) but the process he had undergone: that his rethinking and working through his original position was what was important.

10. At times the verbal conflict has become very intense, verging on the physical (and the adjudicator must be aware of this potential) but by ensuring that this, as a problem, is raised in the preliminary discussions so that everyone is aware of it. Further, by structuring the debate to have a definite concluding phase, the conflicts can be, if not resolved, at least given a cathartic and ritualised quality which removes them from the personal or affective domain, and which enables the participants (particularly on later reflection) to integrate them and see their usefulness.

11. The importance of laughter: it is clear that the students are enjoying themselves but the laughter serves another function as well: jokes and laughter are often used to defuse issues which are particularly worrying. An example of this from the heresy debate is the role of Simon de Montfort who is, from time to time, accused of being a mass murderer or, even more pointedly, the "babykiller". Simon de Montfort also had been a character in a previous role-play (on the justification of the early-13th century commitment to increased crusading activity, particularly against the Cathars in southern France and against Islam) so the students in the heresy debate were all familiar with his role as leader of the armies of the Christian north against the heretical south and the ruthless way in which the civilisation of the south was destroyed. Similarly, the role of Dominic as Inquisitor in southern France was also exaggerated by various participants, with references to "grilling heretics" and so on. Students have made it clear in discussion: a) that they appreciate the opportunity to see historical events and people as "real"; but that they find "reality", particularly violent reality, difficult to handle at times. This is an aspect of the construction of history that we intend to pursue in future role-plays.

Having now had feedback from students and having constructed a number of role-play exercises, we are able to begin to identify particular factors which are important for the success of the method:

1. Careful planning of both the topic and the scenario (which can be either factual or semi-factual) to give a) a biting central issue to which everything in the debate can refer back as, for example, in the debate on Inkathagate which had a central theme of clientelism through government funding, or in the heresy debate, the central problem of how to define heretical beliefs and behaviour; and b) a solid framework of characters within time and space, within
which there is ample room for the participants to manoeuvre, both intellectually and psychologically;

2. providing adequate starting points in terms of primary documents and secondary interpretative material, and encouraging students to use these as a jumping-off point for their own research into their character and others;

3. tutors/adjudicators giving a sense to students that it is possible and that they will not intervene or interfere unless absolutely necessary: it is the students' debate and the tutors will demonstrate their confidence in the students' capacity to run the discussion by staying in the background;

4. a trial/hearing format seems to be favoured by students as a means of focussing debate, initial position statements which serve to contextualise the debate are heard, then free-for-all debate on matters concerning the "judge" and her/his advisers, followed by final summations, a brief consultation for the bench and the judge's final decisions; and

5. linking various positions in the initial scenario so that students are thrown together to develop similar positions or positions that can be linked in defence. Through cooperative work of this type, learning relationships as well as good social relationships are developed. In the questionnaire we asked whether participants had got to know other students, 27.3% strongly agreed and 45.5% agreed, while 22.7% were neutral and 4.5% strongly disagreed, and when asked whether they had discussed other aspects of their work, 9.1% strongly agreed, 59.1% agreed, 18.2% were neutral, 9.1% disagreed, and 4.5% strongly disagreed. In discussion, the same proportions were evident, but there was also an element which was not measured by the questionnaire which was a widely-expressed enthusiasm for the development of such relationships outside the formal tutorial/seminar setting. On a campus which historically has had very much a nine-to-five feeling, with very large numbers of students and few physical focal points at which students have congregated, it was perhaps significant that a number of the students involved in these exercises have been aware of a change in the nature of their social and learning relationships with some at least of their fellow students.

Although it would be premature to make definitive statements comparing role-plays with ordinary tutorials/seminars, it is already clear that participating students and staff alike recognise that:

1. topics can cover much wider themes than in regular tutorials, but also allow much more depth of coverage and discussion;

2. there is much fuller participation by students;

3. the intensity of engagement with the material and interaction in the debates indicates that students retain more of the content for longer, and that they develop some skills more quickly;

4. while 69.6% of respondents to the questionnaire strongly agreed that role-plays are more entertaining than seminars, and another 17.4% agreed (with 13% neutral and no one disagreeing), and while 87% of respondents strongly disagreed and 8.7% disagreed (with 4.3% neutral and no agreement) with the proposition that role-plays were more boring than seminars, these exercises are not, and should not be seen as, entertainment. They are utterly absorbing for anyone privileged to watch them - but this derives from the intensity
and speed of the interaction between the students and the remarkable sense of control and
empowerment that they bring to the process. The students themselves recognise that they
are engaged in a creative intellectual process which expands their capacities. When asked
whether they think they will remember more from the role-plays they have participated in
than from seminars, 47.8% strongly agreed, and a further 34.8% agreed with 8.7% neutral
and 8.7% strongly disagreeing. Tutors are perhaps even more aware of this factor, since it
is clear from seminar discussions that topics raised in role-play debates recur and are used
again in various ways in other contexts.

When given open-ended questions asking them to list the three things they liked most and least
about role-playing, the respondents to the questionnaire were in general highly positive. We had
been discussing throughout the semester whether or not, as a general rule, a mark should be
attached to the exercise, and a number of students took the opportunity to argue against it being
part of the final assessment, usually on the grounds that for the shyer, quieter students, or for
participants with so-called "minor" roles, there might be disadvantages. The most common
comments were that the role-plays allowed intense involvement with the characters and problems,
made participants more assertive, caused much deeper preparatory research to be done, were more
fun, were a variation from "the often monotonous nature of many 'normal' tutorials/seminars" and,
almost unanimously, enabled much more interaction between students.

A more complete assessment of the usefulness of the method will only be possible when we have
completed another round of role-playing exercises, but the final words here should surely be the
province of the students, one of whom wrote, anonymously:

I really learn the topic, I enjoy myself and I'm losing the jitters I used to get before classes.
I have more confidence since the role playing and I have more fun learning.

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of Performance. N.Y.: PAJ, 72-98.

FOOTNOTES

1 V Turner with E Turner, "Performing ethnography," V Turner, The anthropology of
performance (N.Y., PAJ, 1986) 140.
3 Turner, op.cit., 143, where the interesting phenomenon that "... participants were almost
shocked into recognizing buried aspects of themselves." is briefly discusses.
CRITICAL THINKING SKILLS
A META-MODEL FOR COGNITIVE DEVELOPMENT IN MANAGEMENT EDUCATION

ABSTRACT

The paper presents a model for the critical questioning of organisational practices and theories. PATP represents PHILOSOPHY, ASSUMPTIONS, THEORY AND PRACTICES. The aim is to develop skills of questioning through Interesting, Important to Critical. The paper presents the model using two contrasting philosophies of organisation, F W Taylor and Stephen Covey. The paper presents the educational setting of MBA seminar, a series of presentations by International and Professional experts. Following each presented seminar is the Critical Questioning Session. The student co-author presents the student learning process through the "Case of ISO 9002". He applies the approach outside of the MBA seminar setting, showing an extension of his learning. As a meta-model, the application should span cultures and disciplines with the aim of "making sense" rather than "adding on".

INTRODUCTION

There is an intuitive attractiveness about "good thinking" and "good questioning". As a thoughtful person going about everyday life, the need to challenge 'givens' about products and services is essential. Faced with the constant bombardment of information and ideas one is exhorted to adopt by the media, the ability to assess and make appropriate choices becomes a basic requirement for good domestic decisionmaking. If the thinking or questioning ability is not honed and developed, very often the main thing at stake is the household purse and the feeling that the best deal was not made.

In the management of people the risk is a little greater. As Konosuke Matsushita, founder of Matsushita Electric said "We are beyond your [managers think and workers do] mindset. Business, we know, is now so complex and difficult, the survival of firms so hazardous in an environment increasingly unpredictable, competitive and fraught with danger, that their continued existence depends on the day to day mobilisation of every ounce of intelligence" Pascale 1990:27. Nowhere is the need to do this more pressing than in Human Resource Management. At the end of every taken-for-granted theory which informs equally taken-for-granted practice dangles a human being. Theories of management abound. The hapless employee may equally well be a recipient of Scientific Management (Taylor 1929), McGregor's Theory X or Theory Y (McGregor 1960). They may be treated as Steven Covey would wish by managers who are principled and caring. (Covey 1991). They may be treated by managers who operate on the basis that people should be empowered (Wellins, Byham and Wilson 1991) and allowed to participate in decisions which affect their working lives. (Brewer 1993). There is a probability that they may be treated to one approach after the other and this is a particular danger with Fad-oriented managers. (Kanter, Stein and Jick 1992).

If one were to ask the question "are managers always aware of their lack of critical discrimination concerning the theoretical frameworks they use? the answer would probably be "No". As Beck and Whiteley (1992) say about international management teaching there tends to be an 'add-on'
approach to existing theories. Why is this a problem? The answer lies in the organisations of the future as we enter the Postmodern era.

Management education matches itself with the requirements of the future where there will predictably be more complexity and individualism than previously encountered (Peters 1992). Also, there is little doubt that even managers who are in the Public Service or small domestic businesses will have to "think global" just to stay in business (Moran, Aaruis and Stripp 1993).

Managers and students will need to develop "making sense of" skills, meta-skills, skills with enough universality to rise above indigenous cultures, values, mores and conventions. In particular, the manager of the future will need tools and techniques for diagnosing and analysing their own and employees' interpretive frameworks.

Reflecting on the solid foundation of Australian Human Resource Management, one can see by this quotation, again from Matsushita, that managers would not have to concern themselves with the way the workforce intuitively interpreted their, management's theories in practice.

The contrasting notions of [traditional] scientific management (as set forth by Frederick Taylor early this century) and the modern thinking underlying Japanese management amplify this point. Taylor once wrote "Hardly a competent workman can be found who does not devote a considerable amount of time to studying just how slowly he can work and still convince his employer that he is going at a good pace. Under our system a worker is told just what he is to do and how he is to do it. Any improvement he makes upon the orders given to him is fatal to his success" Pascale 1990:27.

Contrast the requirements made of the 'traditional' manager and the manager of the Postmodern era. The postmodern manager is in the business of forging strategic alliances with individual employees from a wide range of functions, temperaments and levels of formal education. This means that it does matter, and very much so what the employee thinks his/her theory in practice represents. It is necessary then for the manager and the student of management to be able to separate daily practices from the theories upon which they are predicated. It is also necessary for the manager to recognise the assumptions underlying the theories. And essentially it is vital for the manager to be able to trace daily practices, theories, and assumptions to their philosophical statement about the true nature of work, management and employeeship.

The PATP meta model allows a manager to take a set of practices, either observed or designed, and trace the origin back to the philosophical stance or value system of the practitioner.

It is likely that employees are also more adept than we realise at inferring the assumptions and philosophy of managers from their day-to-day behaviour, style and work designs. They may not have the jargon or the elegant way of expressing it but it's a well known fact that workers live in a "relative" world. They see how they are approached, spoken to, or involved in decisions relative to other people. This constant quest causes a continuous diagnosis and appraisal by employees of others' practices, working theories, assumptions and eventually, philosophy.

The PATP model is featured below:

- **P** philosophical statement
- **A** assumptions this spawns
- **T** theories of management which are appropriate
- **P** practices, structures and systems which relate to the above
Two examples illustrate this point.

PHILOSOPHY

Taylor's view of the nature of work and the worker is predicated on the 'reality' of the mechanistic paradigm. A hint of "Machiavelli's (1515) hard view of persons "because of Man's rebelliousness and uncooperative behavior, he must be strictly and ruthlessly controlled..." (Lippitt 1982:24) is evident by Taylor's philosophical 'laws' captured by Lippitt (1982) when he says that:

"The employee is (1) a constant in the production equation, (2) an inert adjust of the machine prone to inefficiency and waste unless properly programmed,(3) by nature lazy, and (4) his main concern is self interest. Secondly, the truth as Taylor saw it was that humans at work are basically rational/economic beings." (ibid)

ASSUMPTIONS

The assumptions which might follow from these philosophical views might be to rationally give up all decision making and essentially human characteristics for money. These might include the basic decisions to sit stand move around in a particular way, pause, stop or even break monotony by passing the time of day with a workmate.

This philosophical stance might reject assumptions that intrinsically humans are the authors of their own destiny. It might assume that humans will give up their desire to help each other and seek interdependent relationships, even be 'comrades in adversity' (Revans 1980). The mechanistic paradigm to which organisational allegiance must be paid would assume that workers would embrace efficiency logical human structures and systems. Strictly differentiated functional relationships would be arranged around the needs of machinery and control mechanisms between humans.

THEORIES

The theories of management which would follow both the philosophy and assumptions would include some of the structural designs and systems for which Taylor was famous. Authoritarian management required tall structures of management. Many hierarchies separated managers from workers and workers from decisionmaking. Communication would be Top-down. Men (women were not taken into account as being significant) would be directed. Reward systems were monetary and were in direct proportion to outputs. The 'psychological contract' (Lippitt 1982:217) would not be recognised as an important or even necessary activity to need attention. The worker must be tightly controlled, externally motivated (economically) and divested of all social and psychological interactions unless specified as part of a scientifically designed set on movements.

PRACTICES

Daily practices are not too difficult to imagine. They included close supervision. Decisionmaking was exclusively a managerial prerogative. Time and motion study was practised to seek ever increasing accuracy and standardisation in the way workers completed their tasks. The emphasis was on specialisation so that as little discretion as possible was left to workers. Recruitment was to strictly assessed standards. Selection was based on knowledge and skills. Jobs were designed around machinery. Motivation was synonymous with wage payment systems. What we have seen at the practical level is the manifestation of management theory, assumptions and philosophy.
The first use of the model is to alert the manager to the need to critically question daily practices so that the crucial part of all is the philosophical statement which is being made with every new day and new slice of reality which is constructed as the work climate.

From this it is possible to ask some searching questions. Do I really believe that employees have intellects waiting to be liberated? Do I really believe that my role is a facilitator rather than a director? Do I really believe in educated autonomy or is it a fad which I would do well to acknowledge and treat lightly? The answer lies in the evidence of actions and the inferences which lie beneath them.

The second example begins where the worker begins- in everyday work practices.

**PRACTICES**

In this work situation results are specified but the means of achieving them are left to the discretion of the work team. Guidelines are given and reinforced but the procedures for following them are flexible. Resources are brought to the attention of the workers and this includes outside resources and networks. Communication can be top-down bottom-up sideways or circular. The worker feels encircled by information and not at the receiving end of the hourglass with supervisor in the middle. Involvement in design and standard-setting is very common here. Mutual agreement is sought to determine the difference between acceptable, abysmal and excellent performance. Results are assessed on a variety of things including judgement, experimentation and output. What sort of By this time readers may have deduced that they are following the philosophy of Steven Covey (1991). His philosophy is that "our effectiveness is predicated on certain inviolate principles-natural laws in the human dimension which are just as real, just as unchanging, as laws of gravity are in the physical dimension...they are the laws of the universe that pertain to human relationships and human organisations... [they include] fairness, equity, justice, integrity, honesty and trust..." Covey 1991:18.

**THEORY**

These practices reflect a theory of self-supervision as opposed to close supervision. The theoretical paradigm is the agricultural versus the mechanistic paradigm. That is to say that organisations are living growing things made up of living growing people. The theory of organising would include a rejection of 'fixing' by replacing non-working parts. Instead, structures and systems would be in place to help nurture employees by producing conditions for growing and enabling. Such conditions might include win-win agreements between workers and management in a climate of mutual accountability. They would prescribe self-supervision. They would provide helpful structures and systems to enable empowerment. And would the preceding set of assumptions about workers 'fit the theory? 

**ASSUMPTIONS**

The assumptions underlying such theory and practices are that human beings at work have the knowledge, skill, desire to succeed provided they are given the opportunity. The assumption is that they can be trusted, given that their experiences show that the trust has been well placed and is deserved. The assumption is that workers will make a psychological contract with the organisation (usually represented by management). The contract will be a way of thinking and interacting such that the stakeholders are in each others mind's and are out to win the goals agreed for the organisation. Mutuality will be a basic assumption in the sense that the sometimes conflicting needs of various groups become conditions of empowerment. Clearly, the Taylorist assumptions
would not fit the self-supervision and empowerment theory whilst the humans will succeed given the opportunity. What sort of philosophical statements would the empowering assumptions fit?

**PHILOSOPHY**

Principles are the paradoxical essence of highest humanity and the foundations of effective leadership. The true reality of organisational life can be likened to the Agricultural Model and its set of key organising principles. These principles, "unlike values" are objective and external. They operate in obedience to natural laws, regardless of conditions.

*The only thing that endures over time is the law of the farm: I must prepare the ground, put in the seed, cultivate it, weed it, water it, then gradually nurture growth and development to full maturity.*

In this sense, Covey's philosophical framework is also a meta-model to which his assumptions must pay allegiance.

**THE MODEL IN ACTION**

Given these two brief examples, the management student is able to apply the PATP model to management literature.

Part Two of this paper recounts an MBA student's description of a presentation from the U.K. on Quality in Higher Education. The presentation was followed by a critical questioning session where the objective was to present questions which were 'critical' as opposed to 'important' or 'interesting'.

The event was a scheduled MBA Seminar. A presentation by an expert speaker, took the form of a formal session of around ninety minutes. The students reconvened immediately following the seminar. They formed groups of around four to five members on an opportunistic basis. Each group presented the group's best question and defended as critical, rather than important or merely interesting. The class argued and questioned the group in plenary and finally passed judgement. Critical/Important/Interesting? Initially there was a fairly high level of scepticism about the whole PATP process, especially as there was no written component and indeed no other assignment other than to attend and participate. "How do we prove that we are distinction level?" was a question which took more time in the first such session as the formal presentation.

After three more sessions and three more 'pitting the wits' to achieve a 'critical' vote the seminar programme was over. Such was the enthusiasm for the model and the process that students have asked to continue in their own time. (The MBA Seminar must be taken in the last section of the MBA). They have elected to form an alumni group within the MBA Seminar class of 1994. This group will mentor the first group through the somewhat murky waters of the first sessions and should become more agile in:

(a) discerning questions which are at the philosophical level and other levels;
(b) learning to 'match' organisational rhetoric with the reality of organisational structures systems and relationship designs.
CRITICAL THINKING, A WORTHWHILE LEARNING EXPERIENCE
A CASE IN HAND...ISO 9002

A seminar was conducted as part of the MBA program at Curtin University. This was an ideal opportunity to apply the above model for developing our sense of critical thinking.

Sandwell College, in the United Kingdom took the initiative to implement a comprehensive quality assurance system for education and training (QASET), based on the industry standard of quality assurance ISO 9002. In so doing, the QASET was customer oriented and thus targeted the local industry. The academic staff, on the other hand, was given some flexibility in the actual procedures to be used, upon feedbacks from students within a set of guidelines.

The QASET was found to be a valuable approach to incorporate standard practices across the various schools of the college. The system was deemed to provide a more controlled but effective operation with approved standards of quality for all courses conducted across the various schools.

The success could be measured not only on the perceived acceptance of the quality assurance standards of the academic staff but also by the fact that over 100 colleges have been committed to the use of the QASET. Furthermore, there are prospects for other institutions elsewhere to take up the idea of incorporating the concept of quality assurance in their education system.

Having retained the benefits that such a system ensures a unifying quality of education with good practices, the obvious question was "when will the quality assurance system be introduced to Curtin University?"

Our enthusiasm was short lived once we undergo a questioning attitude to the applicability of such a concept at Curtin University. In critically evaluating the issues of quality as we seem to understand it, we stratified our questions into the following: interesting, important and critical. Some of the questions are as follows:

(a) Who owns the quality standards and who are the stakeholders?
(b) Who are the customers?
(c) What is the real purpose of quality and how does it relate to education?
(d) Is quality defined by one vision or has there been any attempt to adopt a shared vision?
(e) What is the purpose of measuring and ensuring quality in the education context?
(f) Can the staff be empowered for ensuring quality?

APPLICATION OF THE MODEL

In practical terms, one could argue that the quality assurance standards ISO 9002 has been proven in the industry and therefore applicable to the education arena. The theory, on the other hand, supports the view that quality can be achieved through a mechanistic approach of control, feedback and finally measured against some forms of quantitative criteria. Such "scientific management" practices entail a rigorous procedural platform whereby conformity is enforced after the various stakeholders have presumably adopted the basic quality concern for the good of the organisation as a whole. Thus the goal is met, in offering a product of high quality to the prospective customers (the students).

Critical thinking can be applied to different situations as a means to assess the fundamentals and the core values of a given situation. It became natural to adopt an inquisitive mind to an assignment on data communications with the following terms of reference:
(a) the minimum cost of transferring data using one of two methods (manual and automated); 
(b) whether to lease or adopt a dial-up option based on the break-even concept; 
(c) the choice of a network topology based on various costs (installation, access charge and transmission charge).

The above seems to be straight-forward given the theoretical foundation that cost is the product of a performed quantity (e.g., distance) and an average unit cost (e.g., cost per unit distance travelled). Common practices would suggest that a decision for the above, is directed towards the least costly alternative. A minimised cost will undoubtedly increase overall profit.

At the philosophical level, a few questions needed to be asked:

* What is the rationale behind "cost as a measure for the optimal solution"?
* Is the world as simple as that?
* What are the factors which would justify a cost analysis as a common basis for decision making?
* What are the values for a quantitative analysis and is it justified in all circumstances?
* As a learning mechanism, what would one wish to get out of this assignment? Is a positivistic attitude enough for a rationale decision?
* Would one wish to extend his or her knowledge, skills and attitudes beyond cost or monetary values of the real world?

It became apparent that a mere quantitative cost analysis was not sufficient to satisfy a meaningful learning experience. In consultation with the lecturer, the scope of the assignment was extended to incorporate the following:

(a) express the basis of the terms of reference, i.e., focus of the decision on a quantitative basis (figures provided for calculation);

(b) specify the assumptions both explicit and underlying on which the solution was to be functional;

(c) analyse the results (calculation for each option), which was related to each of the assumptions and the extent to which a solution was applicable;

(d) conclusion and recommendations which essentially suggested the option (based on calculations as per terms of reference) and how the scope of the decision could be extended to incorporate qualitative measures. In particular, an apparently less attractive option may be worth considering based on value added benefits not inherent in the best option (based solely on cost analysis).

THE LEARNING EXPERIENCE

The ability to calculate the most cost-effective solution (on application of the theory) was not the main challenge. It was obvious that the best option in one instance, may not be the most appropriate one in another instance. Therefore an optimal solution is really in context with the reality of a given situation. Both the assumptions and the relevant factors must be clearly stated. In particular, cost justifications only one aspect. Reliability, flexibility, maintainability and the
ability to adapt a configuration to a given situation, are imperative for an optimal and acceptable solution to be effective. Furthermore, quantitative analysis is not an end in itself but is an input for a more appropriate sensitivity analysis. The choice for a suitable configuration in the data communication area, is more involved and therefore required additional skills other than the ability to calculate the best cost-effective solution.

CONCLUSION

The conclusion is that the worthwhileness of critical questioning in an organisational behaviour setting is beyond question. The PATP model helps the critical questioning process by taking questions from the practical level through the hierarchy to the philosophical level which is usually where the critical nature of questions lies. By using contrasting philosophies, students are able to build discrimination skills. From there, as the paper describes, these can be transferred to other areas of activity. The next step would logically be to test the model in cross-cultural situations as an aid to the teaching of cross-cultural management.

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INTRODUCTION

The gradual introduction and accumulative use of information technology (IT) in primary schools over the past 15 years is a significant educational innovation. However, the success of this innovation has not been consistent nor particularly pervasive: research has shown that for these schools the integration of IT into the curriculum is still a goal rather than a reality (Jackson, 1987; Jackson, et al, 1988; Haywood and Norman, 1988; Prideaux 1989; Cox and Rhodes, 1989). It is not so much that the technology has not been deployed successfully (Fowler, 1992), but rather that there are substantial variations in teacher uptake of this technology (Haywood and Norman, 1988; Somekh, 1989; Rhodes and Cox, 1990; Plomp, et al, 1990).

For Cox and Rhodes (1989), barriers to the IT innovation are similar to barriers to educational innovations in general and these are well documented (Stenhouse, 1975; Stenhouse, 1980; Bolam, 1976; Fullan, 1982). However, it is also recognised that the introduction and use of IT in schools is associated with further and perhaps unique problems (Haywood and Norman, 1988; Griffen, 1988). The uniqueness of IT as an educational innovation may be characterised thus:

- IT for schools is based not only on an educational ideology (i.e. having a specific epistemological, pedagogical and organisational basis) but also on the provision of hardware and software - that is, those adopting the innovation will be required to learn a new technology as well as new teaching programs, methods and strategies associated with the technology; whilst those servicing the innovation will need to provide comparatively expensive hardware and technical skills as well as educational knowledge (Griffen, 1988).

- IT has received a great deal of support in terms of funding from governments, particularly in terms of the introduction of hardware and software into schools, the direct funding of related in-service and in the funding of advisory and consultant teachers to support the use of these computers.

- IT is a social phenomenon: its establishment in schools' curricula is paralleled by its integration into almost every aspect of work and play and this social phenomenon continues to grow.

- 'Genuine innovation begets incompetence. It de-skills teacher and pupil alike, suppressing acquired competencies and demanding the development of new ones' (Stenhouse, 1975, p 170). Simply because of the technical nature of IT this comment on innovation in general assumes a more immediate relevance to the educational adoption of IT.

There are considerable societal and educational demands on teachers to use IT widely, both personally and as an integral part of the teaching-learning process. In the UK, where the government has legislated for the use of technology in primary schools (DES, 1989a; DES, 1989b; DES, 1990; DES, 1991), there are specific and further professional pressures. The widely recognised problem of equipping teachers with the skills and knowledge necessary to meet these demands is traditionally tackled in two ways: first by the provision of in-service programs.
The delivery of IT courses in ITT ranges from discrete courses to a model of total permeation in which the technology is integrated into the subject specific and general education of students. Many institutions adopt a mixture of both approaches (Robinson, 1993, pp 74-75; HMI, 1988).

Traditionally, the effectiveness of ITT courses in IT is measured in terms of cognitive outcomes as well as changes in attitudes and confidence on the part of students. However, it is important that IT courses are also measured in terms of their success in influencing the uptake of IT by beginning teachers or by students on teaching practices (Wild, 1991; Oliver, in press). That is, IT course effectiveness needs to be assessed by measurement of student's transfer of cognitive skills.

As Oliver (in press) suggests, evaluation of cognitive outcomes alone from an IT course in ITT is not sufficient to reflect the higher order outcomes or to reflect students' attainment of all the course objectives (particularly where the course objectives describe transfer of cognitive skills). There is also other evidence to suggest that cognitive outcomes attitudes and confidence are, taken alone, not accurate indicators of students' or beginning teachers' eventual use of IT in classrooms (Downes, 1993, p 17; HMI, 1988; Handler and Marshall, 1992).

Research has shown that a myriad of interrelated factors are at play in determining the uptake of IT use by student and beginning teachers, only some of which are addressed by the majority of IT courses at ITT level (Wild, in press/b). Such factors include those relating to the student or teacher (confidence, attitudes, experience, age, expertise), the teaching situation (organisational constraints, time investment, support structures, managerial frameworks, fabric of environment), remote players (peer pressures, influence of Head teacher) and resources (availability, quality, type, amount). For a review of this research see Grunberg and Summers (1992).

Wild (1991), has provided a comprehensive study of factors that influence the uptake of IT by student teachers, highlighting the ordinary pressures of teaching practice and the lack of relevant school resources, hardware and software, as being reasons for a 'performance gap' (i.e. a gap between intention and practices). Positive influences include the involvement of children in IT courses, appropriate software being owned by students, follow-up support by the supervising lecturer and role modelling by the supervising teacher.

Concurring with Wild's (1991) findings, Downes (1993), suggests that students working with children as part of their course is an influential factor in IT uptake; Novak and Knowles (1991), suggest that student teachers are positively influenced by structured field experiences with IT; Diem (1989), attributes a lack of teaching methodology for classroom integration of IT as being a decisive factor in determining low IT up-take by students; whilst Davis' work (1992), leads him to outline three factors of influence: (i) providing student teachers on practice with specific responsibilities to use IT; (ii) students working with children in the training institution; (iii) students observing teachers working with children in schools.

Interestingly, both Monaghan (1993, p 157), and Oliver (in press), suggest, respectively, that student teachers' and beginning teachers' uptake of IT is not dependent upon personal expertise in use of a computer. This is also consistent with Dunn and Ridgway's (1991b), findings for student teachers on their final teaching practice, where it was found that students who had taken a course...
in computer studies or computer literacy (i.e. a course aimed at the development of procedural, machine based, skills), were not more likely to use a computer in the classroom than those who had not. For beginning teachers in particular, Oliver's findings (in press), suggest that IT training needs to build in a substantial component related to the methodology of classroom use of IT. For student teachers, Monaghan's (1993), and Dunn and Ridgway's studies (1991a; 1991b), imply the same conclusions.

Wright's study (1993, pp47-48), emphasises the importance of role modelling IT use by lecturing staff; this is supported by Gooler (1989), Davis (1992) and Handler (1993). In particular, Handler (1993), outlines the need for lecturing staff and teacher supervisors, together, to plan for a holistic student learning 'culture' that encompasses the entire student experience, including a discrete computer course, education methods course and a teaching practice component. From a case-study of one institution, McDonald's (1993), work also reflects the importance to plan for a holistic approach to the question of IT training.

Downes, (1993), also considers that it is significant to correctly determine the point in their course when students should be trained in IT. For example, she suggests this should be early (i.e. during the first year) and that in particular, access to work with children should be provided for at a very early stage in the course. Further, she maintains that use with children can and should precede students' personal use of IT.

These and other studies in this area carry loud and clear implications for IT course planning at ITT level: for example, it may be extrapolated that IT courses should emphasise the methodology of classroom use of IT at the expense of procedural and low-level cognitive skills; that supervising lecturers and teachers need to model the use of IT widely; and that the strategy of providing student access to children plays a pivotal role in determining uptake of IT. However, the majority of IT courses currently offered in programs of ITT are not characterised in these ways (Handler, 1993; Carey, 1992; Wild, in press/b).

RESEARCH AT EDITH COWAN UNIVERSITY (ECU)

The remainder of this paper draws attention to findings from a recent investigation undertaken at ECU to assess the uptake of IT use by students having completed an IT course. The results of this research study are reported in detail elsewhere.

THE SURVEY

161 second year BA (Education) primary students replied to a questionnaire based on their experiences of one, two-week, teaching practice. The questionnaire was applied one week following the students' teaching practice. All students undertook the IT course being examined here, during their second semester (first year). That is, there was a gap of approximately, 12 weeks between undertaking the IT course and completing the practice (including a period of vacation).

THE IT COURSE

Primary students of the BA (Education) course at Churchlands campus, ECU, undertook one core unit for IT during the second semester of their first year of study. This unit provided a total teaching time of 26 hours, spread over 13 weeks (i.e. 2 hours per week). The objectives of this unit are primarily guided by a perceived need to provide students with personal skills to use IT. The rationale is that acquisition of such skills necessarily precedes use of IT with children (i.e.
classroom use of such skills necessarily precedes use of IT with children (i.e. classroom use of IT),
(DCE, 1992; Rogers, 1992). The methods used to achieve these objectives emphasise tuition of
students in procedural, low-level cognitive skills in the use of hardware and software commonly
found in WA primary schools. Tuition is given in the form of exercises designed to facilitate
repeated practice of these skills. A small amount of time is given to instruction in classroom use of
IT. All teaching is completed in the form of a lecture followed by skills workshop (where students
undertake completion of set exercises). Evaluation of the unit objectives are two-fold: (i) marking
of completed exercises; (ii) an exam to test students' knowledge of IT use (DCE, 1992; Rogers,

It is suggested that this IT course is typical of most currently offered in programs of ITT (Handler,

RESULTS

Students' experience in IT
Three-quarters of the students reported having prior computer experience. Given that these
students undertook the IT course in their program (i.e. second semester, first year), any additional
experience is likely to have been gained outside of the BA (Education) program and probably as
part of school-based courses or from positions in industry/business. As such, this experience might
be expected to enhance students' procedural skills in hardware and software use (i.e. students'
personal skills) rather than their knowledge of classroom use of IT.

Students' access to IT resources
Almost 50% of students reported having satisfactory access to a computer for teaching purposes.
This figure reflects the wide deployment of technology throughout schools (Fowler, 1992; Oliver,
in pressw) and that for a majority of students, access to hardware would not be a factor inhibiting
IT use during teaching practice11.

IT use during practice
A high percentage of students did not use IT at all on practice (83%), and only a small number
used the computer more than once (7%). However, at the same time, 72% of supervising teachers
were reported as having used IT at least once during the period of the practice and that 39% used
IT almost everyday. Handler (1993, p 152) and Davis, (1992), both indicate a positive correlation
between supervising teacher use and student use of IT on practice; the data here may suggest that
this correlation needs to be reassessed. Furthermore, an even greater percentage of students (91%)
did not use IT for their personal use over the practice period (i.e. for preparation - creation of
teaching resources, record keeping, etc.). Of those students that made some use of IT for teaching,
the most commonly used applications were games (17%), word processing (15%), adventures
(13%) and simulations (11%). A preponderance of games usage is somewhat surprising, given the
lack of attention to this software category on the IT course. The relatively high ranking of word
processing is to be more expected, given that a substantial component of the IT course is devoted
to students acquiring personal skills in this software type (Rogers, 1992; DCE, 1992). However,
students' concentration on games software is reflected on an initial practicum, used IT in their
teaching for 'isolated activities' (Downes, 1993, p 26), (i.e. activities, such as games playing, not
related specifically to the curriculum).

The type of software used by students on practice also point to the pivotal importance of school
based factors12 upon students' experiences in IT use. These factors might include the availability
of suitable software to the student.
Students' non-usage of IT during practice
In attributing reasons for their non-use of IT, students highlighted the following factors: insufficient access to suitable software; a lack of knowledge about classroom use of IT; and a lack of confidence in using computers in the classroom.

Discussion
There are a number of points to be drawn from these findings. The IT course at ECU, under scrutiny here, is primarily intended to equip students with the skills to use IT, reflecting a rationale that considers personal skills in IT necessarily precede classroom use of IT. Furthermore, three-quarters of the students who completed the IT course had additional experience in IT, experience that is likely to have bolstered their personal skills in computer use. However, 83% of students did not make any use of personal work (such as teacher preparation). In addition, where students did record classroom use, games software was ranked as the most common type of IT activity. As such, the IT course here, can hardly be deemed a success. In particular, these results lend some weight to the views advanced by Downes (1993) and Oliver (in press), that personal use does not need to precede classroom use with children and, further, that equipping students with personal skills in IT is little guarantee that they will use IT in the classroom.

In identifying barriers to classroom use of IT, students do not seem to indicate they suffered from a lack of personal skills; however, they do suggest that they lacked knowledge about classroom use and, in addition, lacked confidence to use computers in the classroom. This may be a variation on the Haywood and Norman thesis, that IT confidence inspires IT competence and that, in turn, IT competence promotes IT confidence (Haywood and Norman, 1988). In this case, it is possible that the uptake of IT use in the classroom is undermined by a lack of confidence to use IT in the classroom which is, in turn, related to a lack of knowledge about classroom use of IT (figure 1).

Figure 1 A model for interpreting use and not use of IT in the classroom (after Haywood and Norman, 1988)
CONCLUSIONS

IT course design for ITT needs to address the findings outlined above, as well as those reflected in current literature in this area. Of prime importance is the need to identify course characteristics for IT that are likely to facilitate effectiveness. Based on the work of Renick (1983) and De Corte (1990), it is further suggested that once identified, these characteristics should be related to a coherent theory of teaching and learning. In this context, tables 1 and 2 provide a framework for the design and implementation of IT courses for ITT: table 1 gives the objectives for course design and table 2, provides example strategies to meet those objectives.

Table 1  Needs of IT courses for ITT

<table>
<thead>
<tr>
<th>Objectives</th>
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<tbody>
<tr>
<td>To teach for procedural knowledge (Clark, 1985), (i.e. low-level skills; the ability for students to use the technology - often referred to as personal skills).</td>
<td>s</td>
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<tr>
<td>To teach for deeper understanding, or declarative knowledge (Clark, 1985), (i.e. higher-level skills).</td>
<td>u</td>
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<tr>
<td>To teach for metacognition (i.e. to help build students' understanding).</td>
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<tr>
<td>To teach for affective development (i.e. to help build students' confidence).</td>
<td>c</td>
</tr>
<tr>
<td>To teach for meaning and relevance.</td>
<td>r</td>
</tr>
<tr>
<td>To teach for transfer.</td>
<td>t</td>
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</tbody>
</table>

Table 2  Strategies to meet needs

<table>
<thead>
<tr>
<th>Needs</th>
<th>Strategies</th>
</tr>
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<tbody>
<tr>
<td>u,r</td>
<td>To teach within a coherent structure, where there are common and identifiable themes running through the content (e.g. integrated lesson planning; role of teacher as interventionist; value of incidental learning.</td>
</tr>
<tr>
<td>u,r</td>
<td>Allow time for students to interact at length with the environment, providing time necessary to construct their own knowledge.</td>
</tr>
<tr>
<td>u,r,t</td>
<td>Modelling of desired practice by course leader.</td>
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<tr>
<td>s</td>
<td>Allow maximum of hands-on time to practise basic skills.</td>
</tr>
<tr>
<td>u,c,r</td>
<td>Set all learning in a social context (Vygotsky, 1978); in particular, engineer group processes (Slavin, 1983; Slavin 1989).</td>
</tr>
<tr>
<td>r,t</td>
<td>Explicitly relate (generalise) as much as possible to other areas of student learning (e.g. (i) Education Studies - stages of cognitive growth; constructivist theory; (ii) Communication Studies - theories of skill acquisition in writing and reading).</td>
</tr>
<tr>
<td>u,r,t</td>
<td>Base course content on situation-specific skills and declarative knowledge to engage situational transfer of practice (Clark, 1985; Oliver, in press), (i.e. focus content of course relatively narrowly, to teach principles and approaches).</td>
</tr>
<tr>
<td>t</td>
<td>Provide for student ownership of (i) knowledge; (ii) strategies; and, (iii) software/courseware resources.</td>
</tr>
<tr>
<td>m</td>
<td>Provide opportunity for reflection (against peers and experts) and articulation (i.e. within small groups as a part of a whole class).</td>
</tr>
<tr>
<td>r,t</td>
<td>Provide tasks that are real and meaningful and that can be owned by students (e.g. students undertaking action research or reflective practice with children; using content-free software to create courseware that is directly transferable to school situations).</td>
</tr>
</tbody>
</table>
REFERENCES


**FOOTNOTES**

1 Information Technology (IT) is used in this paper, as it is commonly used in the literature, to denote 'computer education' and 'educational computing'.

2 Initial Teacher Training (ITT) is used in this paper, as it is commonly used in the literature, to denote pre-service education of teachers.

3 Both beginning teachers and student-teachers regard teaching practice as a very significant component of their training likely to impact on later professional practice (Wild, in press/a) and for this reason is an important point of measurement for students' transfer of IT skills.

4 It is in this sense De Corte (1990, pp 78-79) maintains that explicit teaching for transfer needs to be an important instructional strategy within IT course implementation.

5 This performance gap compares to the 'technology use gaps' identified by Handler in her study of beginning teachers (Handler, 1993, p 151).

6 Often referred to in the literature as 'personal skills'.

7 This is one study conducted as part of a range of evaluation studies being conducted by the author into the effectiveness of IT courses at ITT level; see, Wild, in print/a; Wild, in print/b.


9 'Typically, teacher education programs include a single required introductory computer course... These introductory courses generally introduce some tool or applications software, provide an opportunity to evaluate computer aided instruction (CAI) software and perhaps include an introduction to programming, usually BASIC or LOGO... Moreover, the focus is often on the mechanics of computer use rather than on ways to design curricular applications that take advantage of the power of computer technology to bring changes into the classroom and the curriculum' (Handler, 1993, p 148).

10 'Western Australian schools have traditionally had a very high ratio of computers to students. A number of government and Ministry of Education initiatives have seen large purchases of school computing resources...' (Oliver, in press).

11 Cf Downes, (1993, p 29), where it was evident that a lack of IT resources was a significant barrier to students' use of IT with children.

12 Those partially or wholly outside the influence of the IT course.