

synergy

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Teaching and Learning in the Health Sciences

Professor J A Young, Pro-Vice Chancellor, College of Health Sciences

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I am delighted that this issue of *Synergy* has been devoted to the College of Health Sciences. The College is the largest and most comprehensive grouping of health disciplines in any University in Oceania, representing all major health and medical disciplines and professional groups. It consists of the Faculties of Dentistry, Health Sciences, Medicine, Nursing and Pharmacy. The College has committed itself to fostering greater communication, interaction and synergy among its Faculties, and among individual academics and research staff, and is keen to support the development of appropriate College-wide activities that enhance the quality of health and health care to the community.

Those educating tomorrow's health care professionals are faced with a range of challenges. The Australian community has continuing high expectations for increased delivery of health services, which is likely to result in the growth of the resources invested in the health sector. Consumers now expect to be involved in clinical decision-making, with more demand-led care and shared responsibility for care. There is demand for public accountability and cost control in health service delivery which is evidence-based, cost-effective, and internationally benchmarked. Future developments in service delivery will be characterised as multi-disciplinary, providing both continuity and integration of care, with greater focus on prevention and rehabilitation, as distinct from treatment and care. Rapid advances in knowledge and new technologies are likely to lead to innovations in service development and continuous changes in the delivery of health care. New national health priorities are emerging, especially the poor health and poor access to services of the indigenous, rural and remote populations. The rapid increase in the proportion of older people in the general population is another challenge.

The College has responded to this challenging environment in a proactive way. The first goal of the College's Strategic Plan is "to establish a College-wide mechanism to foster educational development and cross-disciplinary developments, and to monitor teaching quality across the College". With this in mind, a College Education Committee has been established to organise College-wide initiatives to improve teaching quality and capacity, and to promote innovative educational programs across the College. Currently the committee is chaired by Professor Joy Higgs and comprises representatives from each of the College's five Faculties.



John Young

The Committee's most notable achievement has been the Inaugural College Education Conference, *Ed-Health: Collaboration for Quality Learning*, which was held from 12 – 13 November 2001 on the Mallett Street Campus. The conference provided a forum to celebrate and showcase teaching and learning within the College; promote collaboration and sharing across the College in teaching and learning; promote and report on research into teaching, learning and curricula within the College; address educational issues facing the College; and facilitate educational outcomes and developments within the College. Nearly 200 members of staff and postgraduate students attended the conference and the feedback received suggests that it was highly successful in achieving its aims.

This special edition of *Synergy* features abstracts and papers of some of the presentations at the recent College Education Conference. They provide thoughtful contributions to teaching scholarship within the health sciences context, which I am sure will be of benefit to all academic staff of the University.

Educational challenges for the College of Health Sciences

*Emeritus Professor Ann Sefton,
Faculties of Medicine and Dentistry*



Ann Sefton

Introduction

Education in the Health Sciences takes place not only within universities, but also in the health care system itself. Staff in the College of Health Sciences are grappling with issues common across all faculties and colleges. With reductions in financing, classes are larger, fewer staff are available to teach and many of those recognise that esteem is based more on their research; there are new pressures to commercialise. In addition, the student population is changing, as they enter with more diverse backgrounds and expectations. Increasingly, they have significant commitments in paid and unpaid work, and seek applicable knowledge.

Within the community, both the population and the practice of health care are changing. Hospitalisation is shorter, providing fewer opportunities for continuity of care and student learning; investigations and treatments are more specialised, requiring higher levels of technical knowledge and skills. Information technology is crucial, for the storage and retrieval of data, for instrumentation and for management. Increasing pressures on health care workers in the community are also making it difficult for them to offer intensive supervision and mentorship for students.

The consequences for staff are that their workloads are increased, with the associated stress. Both patients and students are less likely to be seen as individuals, and pressures of time may limit effective communication, with the result that their needs may not be met. With the challenges of increasing

knowledge, ongoing learning is mandatory throughout professional life. Thus there are new demands for information literacy; the understanding of complex scientific, ethical and other issues; the appropriate application of new techniques and treatments. New educational approaches challenge the teachers.

The College has shared concerns, but many strengths, so that we can see these issues as opportunities as well as threats. I will consider four issues in particular.

Professionalism

Across the diversity of careers represented within the College there is agreement in defining health professionalism. Ethical and professional behaviours, knowledge and skills are combined with a central concern for the patient. There is an emphasis on reflective practice and the capacity to self-evaluate. Intellectually, life-long learning is accepted as essential, along with a concern to practise in an evidence-based framework. Other issues include a commitment to educating and training the next generation and an increasing emphasis on teamwork and professional communication.

How can we help students to develop as professionals? We can model appropriate behaviours, align curricula with the desired outcomes and encourage reflection by the use of journals and the like. We must expect high standards that are explicit to the students (and to colleagues) and we must assess and reward appropriate behaviours. That latter is a major challenge, and we can work together creatively to develop defensible strategies that are valid, fair and transparent.

Inter-professional teamwork

Interprofessional learning is currently an issue of international interest. Health professionals in general share a concern for their patients or clients in the context of their families and communities, a respect for other professional contributions, an acknowledgment of the importance of effective communication, and the need to limit error and misunderstanding. The knowledge base of the different practitioners is distinctive, enriching the outcomes, but making teamwork challenging. Although the boundaries and roles of the different health science professionals can be identified, at present there are few opportunities for shared learning.

Where can interprofessional teamwork develop in a geographically distributed College? I suggest that the best opportunities will come within teaching hospitals and in community settings. Students from different health professions learn basic clinical skills together, in community or special settings. In senior (clinical) years, patient-based conferences, workshops and ethical or professional sessions for a range of students can be mounted in clinical teaching sites. Imaginative possibilities include shared placements (in community settings, including rural), or even (as in Linköping), senior students could share the running of a ward.

We need not limit our thinking to undergraduates. By adopting a flexible, transferable approach to higher degrees, we can share expertise and enhance the variety and educational quality of coursework programs. The new on-line Gerontology program suggests possibilities for rural/remote health, clinical education, public/community health. Such collaborative enterprises between the health professions enhance understanding of their different roles and viewpoints.

Maximising resources

Can we collaborate across the College to maximise our financial, physical and human resources and enhance staff/student satisfaction? Resources are somewhat unevenly distributed across the College, and sharing would be appropriate, despite

the geographical spread. Opportunities exist for sharing expertise in the basic medical sciences, clinical skills, ethics, health care delivery, evidence-based clinical practice, IT and information literacy, collaborative research and in education. Options that might be explored include college-wide departments to service all faculties, loose coalitions and registries of interests/expertise, joint appointments, combined degree offerings (eg BMedSc/Nursing) and educational research collaborations. It is worth evaluating critically, but with an open mind, all such possibilities.

Coping with educational change

One of the major challenges for teachers in the College is to cope with the need to develop appropriate educational strategies. Student expectations are changing; there is a perception that novel educational ideas pose the threat of higher workloads and decreasing time for reflection and development. Timely access to relevant educational information is not easy. Yet we must define and meet new goals for the changing conditions of practice, embrace methods to support self-directed and reflective learning, and meet some of the new challenges (information technology, inter-professional cooperation). One hope for the future should lie in the development of evidence-based education. We also need to evaluate on-line education and exploit the effective elements so that the students gain skills and confidence.

Conclusion

The commonality of educational interests within the College make it essential to explore ways to maximise educational resources by sharing expertise and skills. By working together, staff and students will gain a greater understanding of the different health professional roles and contributions.

Emeritus Professor Ann Sefton's educational interests are in integrated curriculum development, flexible learning and education of health professionals. Her research interests were in neuroscience - in a former life! Ann is a recipient of a local Excellence in Teaching Award and an Australian National teaching award.

Addressing quality issues in Health Sciences curricula

Professor Jocalyn Lawler, Dean, Faculty of Nursing



Jocalyn Lawler

Introduction

I am going to highlight briefly in this paper some of the areas of tension that arise when, as professional disciplines, we are educating for a workplace that is itself under severe strain and where the same rationalist management sentiments are eating away at our beliefs about the central purpose of a health care system.

In nursing, there is a 'crisis' nationally and internationally. Recruitment is growing more difficult in many countries (particularly in those where socioeconomic improvements for women have occurred). The commitment of the nursing workforce to stay in the health system is being strained and there is growing concern about the exploitative effects of aggressive international recruitment – or 'poaching' of nurses from less developed nations to work in places like the UK and the USA. There are no emergent signs of a readiness to address the underlying causes of the current workforce difficulties in nursing beyond an intense effort to increase supply and some efforts to attract nurses back into the workforce. There has been no obvious willingness to address core workforce or workplace issues, nor any attempt to examine how the distribution of resources in health care affects nursing. In this context, we in the Faculty of Nursing have to simultaneously prepare new graduates to enter this industry and recruit existing professionals to commit to graduate study.

How the Faculty of Nursing approaches its quality agenda has direct implications for the health care system and vice versa. There is no internship in nursing and often little assistance to new graduates in the workplace, despite funds being made available to the health system at the state level to support new graduates. New registered nurses are expected and required to 'hit the ground running' when they start their professional careers. During the three years that we have them as undergraduate students, our efforts must be focussed on using our time wisely and well to help them practise safely for their entry into the workforce.

Undergraduate nursing recruitment

When nursing was introduced to the higher education system in 1985 in NSW the Faculty of Nursing, in the form of its two predecessor institutions (the Institute of Nursing Studies in the former Sydney CAE and the former School of Nursing at Cumberland) was allocated the largest single quota of new undergraduate places. This single factor accounts for a number of the difficulties with which the Faculty now struggles and which it must resolve. And much has changed in the health and education systems since 1985.

The Faculty has been expected to continue with a large annual intake of new undergraduates, in part because the NSW Department of Health expects us to continue to supply workforce at previous levels. This is difficult to achieve, because, among other things:

- nursing still recruits about 90% women;
- the number of men choosing nursing as a career has been stable at 10-12% for the last decade;
- many more occupations are now realistically open to women;
- there have been affirmative action programs to increase the number of women in traditional male fields;
- the nature of nursing work is growing more intensive and complex which raises the minimum level of academic and other abilities needed for success.

However, because of the way that university funding mechanisms operate, reducing student load results in reduced income and then the need to reduce staff. This situation has resulted in much publicised industrial trouble, which the media reports in sensationalizing terms. None of these matters contributes to a climate in which quality issues can get a fair hearing and the underlying causal issues are subsumed by the rhetoric that makes good headlines and feeds what Cohen (1973) called 'moral panics'.

Some relevant data

Until 2001 the Faculty's annual intake of new undergraduates consisted of approximately 50% who had completed high school (selected on the basis of a minimum UAI) and 50% from other people (eg. mature age entry) who held a first degree or had partially completed a tertiary course or a trade qualification. Nursing has always been a means of upward social mobility and it has allowed people without formal qualifications to study and become independent. But where quality measures affect us when we are benchmarked and where shifts in performance affect income, maintaining a relatively open admission policy may have serious consequences for the Faculty.

For these reasons and for our own information the Faculty examined the

performance of its undergraduate students and ask the following questions.

Do the performances of undergraduate nursing students differ according to the admission route and if so in what way?

The pass rates and distribution of grades shows that, in general, students who completed high school do better than those who have not. Those with a UAI outperformed those who did not complete high school.

Is the UAI a good predictor of success in nursing?

Our analysis showed that for students with a TER ≥ 85 there was a zero failure rate and that Year 3 students (the most clinically intensive) in 2001 performed at a very high level.

Students who had a TER of ≥ 75 also showed a similar pattern of performance with average grades of Credit or better and a negligible failure rate in each of the first two years of the course, with the failure rate rising to 5.9% in Year 3. These data are excellent for a quality agenda. The performance of the students whose UAIs fall in the marginal area below the cut-off of 72, that is, with UAIs in the range 69.00 to 71.99, performance drops sharply. In this group, 15% had an average grade of Fail, 61.5% had an average grade of Pass (many of whom scored a neat 50%), 23.1% had an average grade of Credit and none scored an average grade above this level. However, the 2001 class of Year 3 students in this same UAI range level showed even poorer performances; 33.3% were showing an average grade of Fail and the remaining 66.7% achieved an average grade of Pass. In effect, these students 'get stuck' in Year 3.

What is the minimum level of entry ability for success in nursing?

On the data available to us there is a pattern that shows, in general, the lower the UAI the more the student will struggle and the more pronounced that pattern will

be in the senior year. If the Faculty of Nursing was to make a decision about its annual undergraduate intake only on the basis of the type of performance data reported here, it would set the minimum UAI at 75.00 or thereabouts, and the consequences of such a decision would be felt widely. The size of the intake would drop, income would fall, industrial action would inevitably follow and the University would be open to criticism. However, we cannot ethically and knowingly admit a student simply for the sake of filling a quota, now that we have examined how different student groups perform. We must also consider the public interest and the reputation of the University if we were to graduate nurses who are not safe to practise.

What do we know about the performance of students who are admitted under the flexible entry program?

The Faculty is continuing its analyses of the performance of those students who are admitted without having completed high school. This is a very mixed group and what our data show is that in 2001, the proportions of these students passing all units of study attempted across Years 1 to 3 were, respectively: 58.2%, 57.60% and 52.20%. These are not good data for any Faculty's quality performance measures, but there are some excellent students in this group. For example, students admitted as mature age applicants perform better as each year's pass rates are examined. In Year 1, only 54.9% pass all units attempted, and many discontinue at this time. Of those who progress to Year 2, 70.8% pass all units attempted and by Year 3, 90.9% pass all units of study attempted. While these performance data are excellent, the numbers are small, so we win on quality over time, but lose on quantity.

As a result of these data, the Faculty is reviewing its flexible entry program and working progressively to get a better and more predictive picture of the attributes that contribute to success in nursing at the Bachelor of Nursing level.

Concluding remarks

The challenge for the Faculty of Nursing is to find a balance between meeting expectations with respect to workforce supply while maintaining its standing in the university sector with respect to quality. The analyses that we are undertaking will help us to make wiser and more valid decisions about admission policies, to identify those groups (such as mature age students) who may need particular kinds of support in their first year, and it will inform many aspects of our teaching program. It will not help us, however, with the politics associated with a nursing shortage, except perhaps to better defend ourselves against claims that we are behaving irresponsibly.

Jocalyn Lawler teaches in the field of the nature and origins of nursing knowledge and practice, particularly as these relate to the hidden and taboo aspects of illness and nursing. In 1999, Jocalyn was appointed Dean of the Faculty of Nursing. She holds an Associate Diploma in Nurse Education and a Master of Education (Hons). Jocalyn chairs the Faculty's Academic Practice Committee, which is concerned with broad issues in academic quality, staff and courseware development as well as Faculty policies for course delivery.

Addressing the Needs and Expectations of External Stakeholders

Professor Hal Kendig, Dean, Faculty of Health Sciences

Faculty of Health Sciences and Professional Diversity

The ten Schools of the multi-professional Faculty of Health Sciences, located on the Cumberland campus, have educated the vast majority of allied health professionals for the state. We offer a diverse and large number of courses (more than 60) mainly due to the large numbers of postgraduate offerings.

In understanding health science education, it is important to consider the variations and the commonalities across the professions that provide coherence for the College. Most importantly, we share a common value base and a common purpose to improve the health and well being of individuals and populations. Areas where the health professions diverge include:

- Generic attributes, skills, and workplace context;
- Knowledge base/s and University history;
- Public expectations and constituency groups;
- Resource bases and service systems;
- Interrelationships of professions.

In understanding the commonalities and differences between the health professions it is essential for us to work together to be more responsive to the needs of our external stakeholders.

The Field of Health and External Stakeholders

Education needs to be based on a clear understanding of the broader field of health, as perceived by the general population at large, as well as by health practitioners. As

acknowledged by the Faculty of Health Sciences' Strategic Plan (1999 – 2002), this broad context is defined by the following features:

- Continuing high expectations and growth;
- Increasing consumer involvement, demand-led, and shared responsibilities for care;
- Multi-disciplinary; greater prevention and rehabilitation as well as acute care; focus on populations as well as individuals; delivery in the community;
- Health service delivery that is evidence-based, cost-effective, accountable, competitive, and continuity and integration of care;
- Continuing poor health of the indigenous population;
- Social change including rapid population ageing and increasing economic, ethnic, and family diversity;
- Rapid advances in knowledge of influences on health, technologies in practice, and health services;
- Increasing international demand in the Asia-Pacific region;
- Continuing pressure on government provided health resources.



Hal Kendig

We need to be responsive by anticipating the rapid changes that are occurring in the health field. It also is important to shorten the time gaps between the availability of new knowledge and its applications by the health professions.

The education and health sectors relate to Australian society more specifically through a network of external stakeholders. First amongst these must be the Governments that fund health and regulate services and hold direct responsibility for providing many of them. The divided responsibility between the Commonwealth (for directly funding education) and State Governments (for directly funding hospital and many other health services) has created serious anomalies. Political contradictions, for example, can have significant influence on the availability of nurses. On the positive side, governments can generate new opportunities for professionals to work in emergent fields such as aged care and rehabilitation.

One of our most important audiences are the employers, with whom our graduates will pursue their careers. Perhaps the greatest tension exists in the demand for our students to have both immediate practical skills and middle-term adaptability capacities. In three or four years it is very difficult to educate graduates who can assume a full professional workload immediately.

The tensions between established and emergent viewpoints are found within professional bodies and between professionals themselves. Senior professionals who were hospital-trained many years ago have experience-based wisdom but they may have a limited understanding of the new evidence-based approaches that recent graduates know and use. There is great potential to advance health care when the experience of the established professionals is complemented by the energy of our graduates.

Accreditation is an important avenue for relating the professions to educational programs. For example, the process of gaining accreditation for our new Master of Occupational Therapy, as a graduate entry course, has enhanced the skill expectations of the profession across the country. External advisory committees continue this productive interchange on an ongoing basis with a focus on the core competencies required for professional practice.

Our most significant stakeholders, of course, are members of the public and they are represented largely through consumer groups and various peak bodies. As we enter into public debates over resources, it is essential that we present as advocates for the people whom we serve, rather than for ourselves.

Conclusions

The growth of the health care field over the coming decades, driven largely by rising expectations and an ageing population, will present enormous opportunities and challenges for professional education. The Faculty of Health Sciences has responded by initiating a range of education reforms which take account of the changing health care context. While we health professionals in the College each have our own particular missions, there are also opportunities for us to work closely together for our mutual benefit.

Finally, I wish to raise one of the most important and difficult challenges ahead, namely our advocacy and involvement with the broader public and interests beyond the University. Australian society is our fundamental constituency and the public and politicians must be convinced that knowledge and education are necessary for economic development and, equally, for health and quality of life. Academics and health professionals can play a critical role in presenting new ideas, arguments and evidence to further the public debate on education and health priorities.

Previously Professor Hal Kendig served as Director of an Australian Research Council Key Centre in Teaching and Research in Gerontology at La Trobe University. The Centre aimed to closely connect research-based knowledge to the education of health professionals and applications to practice and policy. A full version of the paper, including references, is available by e-mail from: h.kendig@fhs.usyd.edu.au

Responding to changes in Pharmacy Practice

Lorraine Smith, Faculty of Nursing,
Dr Ines Krass, Faculty of Pharmacy

The Pharmacist's role is changing. In response to community and healthcare system demands, pharmacists must now take a holistic view of health care and their patients. This is reflected by a shift in focus in the pharmacy from 'product' (or 'prescription') to 'patient'. This shift requires today's pharmacists to acquire an understanding of the range of human experience during periods of ill health, as well as interpersonal communication both within and between professions.

In response to this changing practice, the Faculty of Pharmacy has introduced a new unit of study for its first year students – Social, Behavioural and Professional Pharmacy. The development of this unit of study during 2001 was the result of a collaboration between two faculties, Nursing and Pharmacy. We brought together our respective backgrounds in health psychology and pharmacy practice to make this unit of study relevant to pharmacy but with a focus on the patient perspective.

Educationally, we wanted to design a foundation unit of study that underpinned a cohesive programme of learning, and provided a logical progression to units of study taught in subsequent years. We felt it vital that the content be grounded in the healthcare milieu in general and pharmacy practice in particular, rather than as a generalist foundation unit.

In the Social and Behavioural (S&B) strand of the new unit of study we sought to provide students with a broad perspective of health and illness and to encourage a view of the patient as a whole person. By

the completion of the unit of study, students would have a basic understanding of the links between psychological, social, behavioural and physical aspects of illness and injury, and acquired knowledge of the theories and models of health and illness.



Lorraine Smith

The potential application of these theories and models to patient outcomes and pharmacy practices was also addressed. This was achieved not only within lectures, tutorial discussions and reading material, but also through the assessment tasks that were set for students. Students were required to interview a friend or family member who had experienced a significant health event (with some important caveats and criteria!). The focus of the interview was the individual's experience of taking medications, coping with their illness, their relationships with their healthcare professionals and on how their illness affected their relationships with other important people in their life such as family and friends.

These data were then pooled with another student's data and displayed in poster form as a representation of one or more of the theories and models addressed in the lectures and readings. In preparation for the poster, time was spent in tutorials preparing and practising the interview schedules with



Ines Krass

an emphasis on constructing questions that would tap the conceptual issues the students had been learning. We held a poster fair at the end of the semester to encourage students to showcase their work, as well as to share their ideas and learning.

We designed the Professional Pharmacy (PP) strand to introduce students to the professional aspects of pharmacy practice. The various healthcare professional roles, pharmacy practice activities, patterns of prescribed medication and verbal and written communication were covered. An externship programme, including visits to other healthcare professionals, formed part of this strand. We required students to engage in interviews with both pharmacists and other healthcare professionals, and to undertake observations and data collection in the pharmacy.

The assessment tasks for this strand involved students giving group reports and presentations concerning their externship experiences. Students decided for themselves the format of the presentation and not surprisingly, their repertoire of creative expression was extensive and included demonstrations and role play, video, PowerPoint presentation, posters, and a TV panel show.

We were keen to obtain student feedback on this new unit of study, not just because it is a university requirement, but also because we wanted to gauge the success of the new approach. We realized that despite our best efforts we might not have achieved our original goals entirely. Student feedback was very positive. Over 80% of the students surveyed reported that the two strands provided relevant content. They also valued the 'whole-person' approach to healthcare that had underpinned the unit of study.

Students particularly enjoyed interviewing a friend or family member about their illness. Although these students are only novices, the experience of hearing first-hand people's stories provides a meaningful framework for developing their knowledge of medicines and medicine use in the following years. Similarly, the externships

were overwhelmingly popular, including the visits to other healthcare professionals.

Students also made some constructive and valid criticisms in their feedback. We did not anticipate the amount of written and verbal information they needed to prepare the poster for the S&B strand. Students also felt that the lecture material for the PP strand needed more integration.

Recently, we met with other unit of study co-ordinators to review the introduction of the new unit and its likely impact on their programs. Subsequently, we developed a plan to streamline the content and build on the knowledge and skills acquired in this first year unit of study.

What makes a successful collaboration? On reflection, our experience in the design of this unit of study has highlighted for us some critical elements. Willingness to share ideas, mutual acknowledgement of disciplinary expertise, a common goal, creativity, flexibility and a desire for motivating and engaging students in their learning have all contributed to a successful and rewarding partnership in pharmacy education.

Lorraine Smith teaches health psychology, developmental psychology and therapeutic communications in the Faculty of Nursing. She is currently completing a PhD on models of student achievement motivation and stress.

Dr. Ines Krass is a senior lecturer in Pharmacy Practice in the Faculty of Pharmacy. She has a postgraduate diploma in Education Studies (Health Education) and has developed several courses within the pharmacy curriculum including courses in communication for pharmacists and therapeutics. She is a member of the First Year Course Experience working group.

Ed-Health Conference Abstracts

Comparison of two methods of training of undergraduate pharmacy students in asthma knowledge, confidence and skills

*Dr Sinthia Bosnic-Anticevich,
Faculty of Pharmacy*

This study compared the impact of an evidence-based asthma health promotion program (the Adolescent Asthma Action or Triple A Program) with an asthma problem-based learning (PBL) case on asthma knowledge, confidence and skills of final year pharmacy students.

A parallel study was conducted in which final year pharmacy students received asthma education either as part of their usual undergraduate PBL curriculum (Control group) or as part of the Triple A program (Triple A group). Prior to the training, all students completed questionnaires assessing their baseline asthma knowledge (AK) and asthma confidence and skills (AC&S). Eight tutorial groups, (approximately 16 students per group) were then allocated either to the Control or Triple A groups. Both Control and Triple A groups completed their training in 3 x 1 1/2 hour sessions, at the end of which students completed follow-up AK and AC&S questionnaires.

In all, 117 students completed the study. There were no statistically significant differences in students AK scores (mean=22.4, sd=4 and mean=21, sd=3 respectively) and the AC&S scores (mean=20, sd=7 and mean=18, sd=4 respectively) in the Control and Triple A groups at baseline. Although both models of training improved the AK and AC&S scores, greater improvements were seen in the Triple A group with respect to both AK scores (mean=26, sd=4 and mean=23, sd=3, p<.05) and AC&S scores (mean=25, sd=4 and mean=21, sd=4, p<.05).

An evidence-based asthma health promotion program which trains students as Triple A Educators is more effective than PBL in improving asthma knowledge, confidence and skills in final year undergraduate pharmacy students.

Outside the Square: Using the humanities to extend nursing students

*Rosie Chelliah Gould and Wendy Gray,
Faculty of Nursing*

How much easier it is to teach and assess those aspects of the nursing curriculum that deal with the science of nursing than those that deal with the art of nursing. Nurses' daily work involves moral and ethical dilemmas, requiring them to hold opposing and competing feelings and thoughts. How do we as teachers prepare nurses to be able to acknowledge that liminal space of uncertainty as they engage in the human, social and ethical aspects of their profession?

Conflicting emotions around issues of loss, death, illness, anger - and caring not acknowledged and appropriately expressed - remain unresolved, and these feelings provide kindling for the slow smouldering fires of burnout and depersonalisation. One of the ways nurses cope with these internal and professional ambiguities is to close down emotionally, to rationalize and deny their existence. The experience of articulating such dilemmas and feelings is therefore an important aspect of nurse education. The humanities can provide a means by which many of the complex issues confronting contemporary societies may be explored and dealt with vicariously by nursing students.

In the unit of study *The Human Experience in Literature, Art and Film* students explored how contemporary literature, art and film speak to nurses regarding the humanistic and aesthetic aspects of nursing. Themes and ideas arising from a selection of books, viewing films and art were analysed. By reflecting on these themes and ideas, nurses gain insights into various human experiences and in so doing better understand the lives and experiences of the people they nurse.

Ed-Health Conference Abstracts

Clinical Pharmacy Practice Program: from Student evaluations to course changes

Dr Tim Chen and Dr Parisa Aslani, Faculty of Pharmacy

Since the Bachelor of Pharmacy program was extended from 3 to 4 years in 1997, the new fourth year has become predominantly clinical in focus. One of the 4th year subjects, Clinical Practice, based on principles of patient-centred and self-directed learning, emphasises the integration of theory and practice and application of skills in authentic practice settings. Students spend 5 to 10 hours each week in a variety of practice settings (eg hospital and community pharmacy, aged care facilities and specialist clinics). The aim of this study was to identify potential areas for improvement in the Clinical Practice course. A qualitative student evaluation, combining self-completion questionnaires and focus groups, was conducted.

Data revealed a positive attitude towards the placements. Most felt that their clinical knowledge and professional skills were extended, and they enjoyed being part of an interdisciplinary health team. However, many preferred longer placements. Some felt that the assessment should be more tailored to the practice. Consequently, several key changes were made to the program. Most placements were extended from 6 to 12 sessions, allowing students to gain a deeper understanding of a particular site. This reduced the number of sites visited in 2001. As not all sites were conducive to sourcing cases for medication review (the core assessment activity) flexibility was introduced by encouraging students to negotiate alternative topics for up to 30% of their assessment with the course coordinator. A formal de-briefing tutorial was introduced mid-way through the semester, to gain feedback and encourage reflection on the positive and negative aspects of the program. Detailed student evaluation has resulted in significant positive changes to the programme.

Working Together: a Rural placement program for dental students

Dr Deborah J Cockrell, Faculty of Dentistry and Medicine; Professor Keith Lester, Faculty of Dentistry; Professor David Lyle, Department of Rural Health, Broken Hill.

In an effort to address concerns about the rural dental workforce, the Faculty of Dentistry and the Department of Rural Health of the Faculty of Medicine, jointly developed a Rural Placement Program (RPP) for dental students which was implemented in 2000. This project represents a true collaboration between the Faculties, the Australian Dental Association (NSW Branch), NSW Health (Oral Health Branch) and the Dental Board of NSW. Currently eight of the twenty participants (40%) from the 2000 program are working in rural areas. The students made a substantial contribution to dental care during the program; the clinicians involved were favourably inclined towards employing new graduates and appreciated the opportunity to become involved in dental education.

In 2001 the RPP was expanded to provide 24 student places. Of the successful applicants, 23 stated that they were "not familiar at all" with rural Australia. A similar evaluation of RPP 2001 demonstrated that the aims of the program were achieved again, and the number of students reporting a high interest level doubled. During the placements the students provided a comprehensive range of treatment for 135 patients. The RPP offers the students the opportunity to develop learning outcomes and to self-assess on completion of the program. The RPP has increased the students' awareness of dental health issues in rural Australia, and has resulted in a greater appreciation of rural workforce issues, Aboriginal health needs and public sector funding.

Ed-Health Conference Abstracts

Towards a conceptual model that informs interprofessional curriculum and research across the health professions

Fran Everingham and Lynne Harris, Faculty of Health Sciences

The curriculum framework is the metaphysical home of the curriculum. Around this platform accumulates information upon which decision-making is made. It consists of a compilation of materials that represent the various sources from which the curriculum is derived and as such portrays the overarching features of a curriculum. The conceptual basis of the curriculum is frequently shown as statements of competencies, audit-like outcomes statements and lists of content. Such materials do not have the capacity to illuminate the interconnectedness of knowledge that can be portrayed using models. While models can be criticised as reductionist, their strength is in rendering comprehensible the complex.

We have developed a conceptual model that juxtaposes the three fundamental knowledge domains used by practitioners across the health sciences: *professional knowledge* including reasoning, assessment and intervention techniques unique to a particular profession; *basic foundational sciences* that underpin the professional knowledge base and support methods of inquiry; and *interprofessional perspectives* directed to both collaborative health care and research. Each of these is understood by the process of reasoning that is engaged and the purpose for such cognition.

The model takes what is common to all three domains, inquiry, and relates this to evidence-based practice. Implications are drawn concerning inquiry-based learning as *connected* learning that firstly fosters the possibility of integration of the various disciplines, then enables the move to interdisciplinary learning and research.

Paediatrics and problem-based learning: Preparing the physiotherapy professional

Adrienne Hunt, Genevieve Dwyer and Dr Roger Adams, Faculty of Health Sciences

A new unit of study (UOS) in paediatrics was introduced into the Bachelor of Applied Science (Physiotherapy) in 2000, and presented in a PBL framework. The changes were made to better equip graduates with confidence and competence specific to paediatric practice. Wider challenges in the workplace require a graduate to be flexible, team-oriented, responsible and creative in applying learning to new situations (Hunt et al, 1998). In PBL, the process of learning is emphasised as much as content knowledge. For this UOS, case studies were designed so that the broad range of paediatric clinical challenges faced by a future graduate would be addressed.

Students completed evaluations on various dimensions of their learning: meeting the learning objectives of each of 6 problem cases, changes in learner characteristics, overall preparation as a physiotherapy professional, the value of the associated website, and student assessment (integral to the learning process). The results were very positive. Some modifications were made to the unit for 2001 and the student cohort received a written summary of the evaluation results and the changes. In August 2001, focus groups will be conducted to probe particular aspects of the unit. These have been scheduled at this time, to allow an informed reflection, as students have undertaken two clinical placements since the completion of the UOS.

Ed-Health Conference Abstracts

The role and teaching of Biomedical Sciences for students of Health Science professions

Jennifer Lingard, Faculty of Health Sciences

The study of Biomedical Sciences provides foundation knowledge for all clinical practice. The study of body system integration and dysfunction together underpin clinical reasoning and develop problem-solving skills and, as a result, these studies tend to be concentrated at the beginning of the students' course. However, incoming students usually do not have clinical experience and a sense of the "bigger picture". It is a challenge to present such material in a relevant manner to pre-clinical students so as to increase their motivation for learning.

These issues become more acute when superimposed on other aspects of adjustment to University education, some of which have been explored by researchers in the Faculty of Health Sciences who have surveyed students in relation to 'The First-Year Experience'. The 'front-end loading' of basic material in the curriculum may seem logical, yet it also compounds the twin issues of perceived relevance and the first year experience.

We now focus more on how to encourage problem solving and we bridge the gap for the students with case studies and clinical reference material. This approach stimulates discussion both of potential additional strategies for increasing clinical relevance and the use of Biomedical studies for the development of other generic skills.

Sharing resources between faculties within the College of Health Sciences: curriculum development and implementation

Professor Ann Sefton, Faculties of Medicine and Dentistry; Professor Michael Thomas and Dr Debbie Cockrell, Faculty of Dentistry

In 1997, the Faculty of Dentistry reviewed its curriculum and developed appropriate goals and principles based on a thematic structure. Major concerns were to ensure that graduates be better prepared for changes in dental practice, with a focus on broader clinical knowledge and skills, problem-solving and the sophisticated use of evidence in decision-making. A review of the problem-based medical curriculum introduced in 1997 demonstrated considerable congruence of the aims of both groups. The Faculty of Medicine made available its well-documented curriculum processes and materials for the first two years, enabling dental staff to determine specifically the elements to be retained and those to be omitted or altered. All but four of the 70 medical problems have been retained, and both groups of students now attend most of the supporting lectures and practicals. Computer-based learning resources have been incorporated into a new dental educational website. Students share much of the written integrated formative and summative assessment as well as the processes of evaluation. Distinctive dental elements include web-supported skills sessions at the United Dental Hospital, an "oral relevance" resource on the website and one four-week oral biosciences block at Westmead. For five weeks, all dental and some medical students study haematology (year 1) and cancer (year 2) at Westmead. The sharing of goals, strategies and materials has brought medical and dental staff and students closer together. In the future, it is hoped that both students and staff will understand the other profession better. Meanwhile, scarce resources and expertise are used more effectively.

The many faces of collaboration

Erica Sainsbury and Andrew McLachlan, Faculty of Pharmacy

An extensive body of literature attests to the benefits which can accrue through the use of learning collaborations between students. Collaborative approaches are common in all levels of education, including the tertiary sector. However, the concept of collaboration need not be limited to interactions between students in traditional formats such as group work, group projects, and tutorial discussions. We have developed a range of modes of collaboration in our teaching, and in this (Ed-Health conference) session we will share some of the forms which have proven productive. Using a number of case studies situated within the teaching of Pharmacy, we will demonstrate multi-level collaborations involving students, academic staff within the faculty, practicing professionals, other Faculties within the College, and organisations within the profession of Pharmacy. The primary objectives of this session are to engage participants in critical reflection about the ways in which they currently incorporate collaboration into their teaching, and to stimulate ideas for new avenues of cooperation and collaboration.

Acknowledgements

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Kim McShane
Editor, Synergy

Synergy is up-dating its look!

With this issue of Synergy (No. 17), we complete our round of the University's Colleges.

Future issues of Synergy will alternate between being generic and theme-based. The next issue of Synergy will also have a new style and format! Please consider contributing a paper before the deadline for submissions.

Key dates and themes for up-coming issues of Synergy

Issue 18

Online Teaching & Learning
Submissions due: 23 August 2002;
distributed October 2002

Issue 19

(generic issue - papers on teaching and learning from all disciplines invited)
Submissions due 14 February 2003;
distributed April 2003

Issue 20

Diversity and Inclusive Teaching
Submissions due 22 August 2003;
distributed October 2003

Submissions

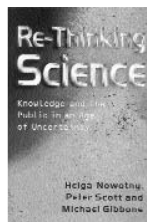
Synergy is an ideal forum for publishing early and on-going research into teaching and learning at the University of Sydney. A number of our Synergy authors have had published in refereed journals full versions of papers that were originally sketched up for Synergy. We invite articles that will foster debate and critique, book reviews and reports on research into innovations in teaching and learning. We prefer to publish either short pieces (of 500 words) or longer papers (of up to 1000 words). Academic referencing and citation are not necessary for papers published in Synergy. Please e-mail your draft paper (attached as a Word or .rtf file) by the relevant deadline to the Editor at: synergy@itl.usyd.edu.au.

ITL Bookshelf

In each issue of Synergy we review selected teaching and learning publications, including higher education research journals, which will be of interest to members of the University community. Materials reviewed in this and past issues of Synergy are available in the ITL's Resource Room (Level 3, Carslaw Building, F07). University of Sydney academics are invited to visit the Resource Room and to consult with staff on their particular needs and interests (eg. research questions, appropriate journals). This issue's Bookshelf reviewers are Angela Brew, Rob Ellis, Kim McShane.

Higher Education

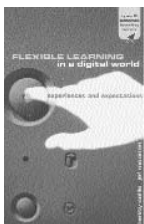
Re-thinking Science: Knowledge and the public in an age of uncertainty.
Nowotny, H., Scott, P. & Gibbons, M. (2001).
Cambridge, UK: Polity Press.



The relationship between science and society has become problematic. Science speaks to society by providing a flow of ideas and conceptualisations of the world; but society now 'speaks back' to science. Industrial bodies, governmental research agencies, funding councils and universities are all working within the conditions of what the authors call 'Mode 2' society, where there is "a high degree of uncertainty, there is no clear-cut direction, but many competing ideas, theories and methods, and no one is in overall charge (p. 115)." The authors argue that segregated, tightly-knit scientific communities with strong shared beliefs, and where scientists communicate almost exclusively with each other, are opening up and becoming more integrated within society. AB

Online & Flexible Learning

Flexible Learning in a Digital World.
Collis, B., and Moonen, J. (2001).
London: Kogan Page.



Collis and Moonen provide a sound introduction to flexible learning in terms of the implementation of flexible approaches to learning and the supporting technology. The authors are internationally recognised and work as Professors in the Faculty of Educational Science and Technology at the University of Twente, the Netherlands. Betty Collis is especially well regarded and acknowledged as a pioneer in the area of flexible technologies. Chapter 5, entitled "Pedagogy - making a U turn" presents a novel twist on the process of embedding flexible learning activities in curricula. RE

Scholarly Journal

Higher Education Research & Development (HERD) Journal.
Taylor, P. (Ed).
HERDSA and Carfax Publishing, Taylor & Francis Ltd.



Are you writing up an innovation in your teaching? Reflecting on the impacts of assessment policy on a curriculum which must acknowledge and include diverse groups of learners? Perhaps you have a conference paper on collaborative learning practices and international students? HERD journal is the ideal peer-reviewed forum for publishing scholarly research into practical, theoretical or discipline-specific aspects of your teaching. Many of the papers reflect a student learning focus, and book review articles, review essays, and critical notes/reflections will be considered for publication. Papers from specific disciplines or other specific contexts are welcome. For more information on HERD journal, including contents pages, please go to: <http://www.tandf.co.uk/journals>. Staff in the ITL are available to advise and support you in preparing a paper for HERD journal and other higher education research journals. KM

Would you consider writing a brief book review for our next issue on *Online Teaching & Learning*?
 Please e-mail your Synergy review to us at: synergy@itl.usyd.edu.au

SYNERGY

Synergy is a forum for informed critical debate on teaching and learning at the University of Sydney. Views expressed by contributing authors are not necessarily shared by the editor or the Institute for Teaching and Learning. SYNERGY is edited by Kim McShane in consultation with the Director and staff at the Institute for Teaching and Learning.

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Feedback and contributions

Readers are invited to respond to this issue of Synergy with comments and suggestions in the form of a short critique or a letter to the editor, for publication at the editor's discretion. Readers' responses will help to shape future issues of the magazine. If you would like to contribute an article please contact:

The Editor Synergy: Institute for Teaching and Learning, Carslaw Building, F07, University of Sydney
 NSW 2006 Australia, phone (02) 9351 3725 fax (02) 9351 4331 email: synergy@itl.usyd.edu.au

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Copies of Synergy are circulated without charge to all members of academic staff at the University of Sydney. It is also available on annual subscription externally. Please contact the editor if you want a subscription.

synergy

Conferences, workshops &
Information on ITL projects, workshops and seminars is available at the ITL
Homepage: <http://www.itl.usyd.edu.au>

2002 CONFERENCES

STLHE 2002

'Fostering the Spirit of Inquiry'
Society for Teaching and Learning
in Higher Education
June 12-15 2002
McMaster University, Hamilton,
Ontario, Canada,
<http://www.mcmaster.ca/learning/stlhe2002/>

BUILDING LEARNING COMMUNITIES THROUGH EDUCATION

Central Queensland University
June 16-19 2002
Yeppoon, Qld
<http://elvis.cqu.edu.au/conference/main.htm>

ED-MEDIA 2002

World Conference on Educational
Multimedia, Hypermedia &
Telecommunications
June 24-29 2002
Denver, Colorado, USA
<http://www.aace.org/conf/edmedia>

HERDSA 2002

'Quality Conversations'
Higher Education Research &
Development Society of Australasia
8 - 10 July 2002
Edith Cowan University, Perth, WA
<http://www.ecu.edu.au/conferences/herdsa/>

6TH PACIFIC RIM FIRST YEAR IN HIGHER EDUCATION CONFERENCE

'Changing Agendas - Te Ao
Hurihuri'
8 - 10 July, 2002
University of Canterbury,

Christchurch, NZ
Further information from
z.holbeck@qut.edu.au

EARLI SIG (Assessment & Evaluation)

'Learning Communities and
Assessment Cultures: Connecting
Research with Practice'
European Association for Research
on Learning and Instruction
28 - 30 Aug 2002
The University of Northumbria, UK
www.northumbria.ac.uk/assessment2002

PROFESSIONAL DOCTORATES 4TH BIENNIAL INTERNATIONAL CONFERENCE

'Research Training for the
Knowledge Economy'
29 - 30 Nov 2002
The University of Queensland,
Brisbane, Qld
Further information from
z.holbeck@qut.edu.au

AARE 2002

'Problematic Futures: Educational
Research in an Era
of...Uncertainty'
Australian Association for Research
in Education
1 - 5 December, 2002
The University of Queensland,
Brisbane, Qld
<http://www.aare.edu.au>

ASCILITE 2002

'Winds of change in the sea of
learning'
8 - 11 December 2002
UniTech, Auckland, NZ
<http://www.unitec.ac.nz/ascilite/>

ITL PROGRAMS & EVENTS

FIRST YEAR COORDINATORS' MEETINGS

The ITL continues to convene the
First Year Coordinators' Meetings
every eight weeks for staff who have
responsibility for first year units or
programs, or for those interested in
improving the learning experience
of first year students. The next
meeting will be held on Wednesday
8 May, 1-2pm in Carslaw Seminar
Room 354. For further
information, contact Tai Peseta at
the ITL on (02) 9351 4657 or
email tpeseta@itl.usyd.edu.au .

ITL RESEARCH & DEVELOPMENT SEMINARS

ITL Meeting Room,
Carslaw Bldg. Rm 354
Thursdays, 4.00pm - 5.30pm

23 May (Res)

Kim McShane & Mary Peat:
*Students Study Preferences in an On-
campus and Online Chemistry
Module*

6 June (Dev)

Rob Ellis & Jenny Gage: *Learning
through Case Studies*

**Please send details of conferences
on aspects of teaching and
learning for listing on the
Noticeboard to:**

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