

# Achieving meaningful learning in health information management students: the importance of professional experience

Anne Marks and Jean McIntosh

## Abstract

Learning is a complex process, not merely a transfer of information from teacher to student. For learning to be meaningful, students need to adopt a deep approach, and in the case of vocational students, to be given the opportunity to learn experientially. Health information management is a practice profession for which students are educated through theory at university and professional experience in the workplace. This article discusses how, through the process of experiential learning, professional experience can promote reflective thinking and thus deep learning, that is, the ability to integrate theory and practice, as well as professional and personal development in health information management students.

## Key words (MeSH):

*Information Management; Medical Records; Education; Professional Education; Learning; Cognition; Professional Practice.*

## Introduction

The process of learning has been the subject of substantial research over the past few decades. Educationalists have come to view learning as being far more complex than a simple and straightforward transmission of information from teacher to student (The Hong Kong University of Science and Technology 1996).

## Vocational learning

The ultimate aim of vocational education must be to develop in professionals the ability to apply what they have learnt in the classroom to practical situations; that is, to integrate theory and practice (Wong 1995; Spouse 2001; McAllister 2005). Reflection is a learning strategy that has been identified as facilitating the integration of theory and practice (Scanlan, Care & Udod 2002; Ruth-Sahd 2003; Lachman & Pawlina 2006). Thinking reflectively will effectively enhance professional competence (Wong 1995; Whitehead 2000; Epstein & Hundert 2002; Ruth-Sahd 2003). Promotion of the professional student's ability to reflect should, therefore, be central to professional education (Schon

1987; Maudsley & Strivens 2000). A learning strategy that helps make meaning of theory in practical situations is highly relevant for health information management students, because their education is directed to preparing them to practise as managers in 'hands on' healthcare settings.

The theory of a professional subject, as taught in class, cannot truly convey how to deal in a practical sense with real world situations (Grealish & Trevitt 2005; Robertson 2005). Thus, what can be learnt about management outside the workplace falls far short of the ideal. Even an experienced management practitioner, when teaching in the classroom setting, can at best give only isolated examples. Simulated situations, such as role play, designed to initiate inquiry and understanding, can be useful in teaching management (Turner 1996). However, some students feel self-conscious and uncomfortable enacting role play and think it silly (Barkley, Cross & Major 2005); thus not all involved in role play may derive the desired benefit from it. In respect of what is written about management, Mintzberg, in his seminal work (1975), makes

the point that throughout management literature are found terms such as 'plan', 'organise', 'coordinate' and 'control'. These terms tend to conjure up an incomplete and in some cases, false, picture of the actual daily grind of managerial work. More recently, other experts in the fields of management (Bessant, Mavin & Bryans 2002) have reiterated that there is far more to effective management than is presented theoretically. Hohmann (1999) contends that to 'grow' managerial skills, the potential manager needs to be put through learning experiences that test ability. Hohmann (1999) emphasises that 'to get better at anything, you have to try, fail, reflect, regroup, and try again, until you succeed', and '...with enough practice and experience you will improve your performance until you can perform skillfully'.

### **Learning through experience**

It has been proposed that learning through experience, termed 'experiential learning', enables a 'deep' or meaningful approach to learning (Kolb 1984; Robertson 2005). A recent case study provided research evidence to support this view (Percy 2001). In turn, the amount of knowledge gained through experience is shown to be related to the deep learning style (McManus et al. 1998; Martin, Stark & Jolly 2000). The deep approach to learning is one in which the intent is to understand the meaning of what has been learnt (National University of Singapore 2005, Robson n.d.). Critical reflection, which is integral to deep learning (Lowe & Kerr 1998; Robson n.d.), is held to be the key factor in learning from experience (Lowe & Kerr 1998; Simpson & Freeman 2004).

### **Health information management and the role of the Health Information Manager: the University of Sydney's approach to learning**

At the University of Sydney, NSW, the School of Health Information Management offers several coursework programs. In three of these programs students are required to undertake professional or practical experience as units of study. Of the three programs, two are at undergraduate and one at postgraduate level. The two undergraduate courses cover four years full-time. They are the Bachelor of Applied Science (Health Information Management) Pass and Honours courses. Honours students complete the first two years of the pass course and branch into the Honours course in Third Year. The postgraduate, Master of Health Information Management course is one year full-time. The four-year undergraduate courses commenced in 2005 and replace the old three-year pass and four-year Honours courses which finish at the end of 2006 and 2007, respectively. Thus students in Third Year in 2006 are, respectively, the final year students of the old three-year pass course and Third Year students completing the old Honours course.

As pointed out in the Health Sciences Faculty Handbook (2006), the undergraduate and postgraduate courses are designed to prepare specialists in the management of patient and facility-related health information. These specialists are, as Health Information Managers, required to analyse the information needs of a variety of users, and to design, plan, and implement systems to meet those needs (Health Sciences Faculty Handbook 2006). As such, they are key members of the health care team. Professional experience, through which the students learn how to put the theory they learned in class into practice, has been made a component of the

undergraduate and postgraduate courses. This is to ensure that health information management students are equipped for the practical world of the professional Health Information Manager.

**Experiential learning in health information management students**

Episodes of professional experience undertaken during the health information management courses are termed clinical placements. Undergraduate students do not undertake clinical placement until Second Year. However, students in First Year are introduced to a clinical placement environment by means of a number of visits to hospital medical record departments. These visits take place for one day per week over five consecutive weeks during Semester I. This off-campus visiting is a component of the Health Informatics A unit of study. During the visits, which are organised by the lecturer in Health Informatics A, the students are exposed to fundamental procedures of the medical record department. After their first clinical placement in Second Year, undergraduate students who are continuing in the Pass course undertake two more placements, one in Third Year and one in

Fourth Year. Students branching into the Honours course for their Third and Fourth Years undertake their final placement in Third year. Postgraduate students complete just one clinical placement. Clinical placement takes the form of field-based activities at selected learning sites where health information is managed. Learning sites include hospitals (usually their medical record departments), community care centres, research units, and Departments of Health. Placements may be undertaken anywhere in Australia or overseas. Two or more students may undertake placement at the same site at the same time, but it is preferred that students are placed at a site by themselves

**Duration and timing of placements and activities of focus**

Table 1 shows the duration and timing during the academic year of placements from 2006 onwards, together with examples of activities focused on during placement. This information is presented by student status (undergraduate, postgraduate) and undergraduate seniority.

Table 1 shows that the initial undergraduate placement is much shorter than the two later

**Table 1: Clinical placement programs for HIM students at The University of Sydney, from 2006 onwards**

STUDENT STATUS	DURATION & TIMING OF PLACEMENT DURING ACADEMIC YEAR	EXAMPLES OF ACTIVITIES FOCUSED ON
Undergraduate Second Year	One day/week over five consecutive weeks; during Semester II	Exposure to non-traditional roles of the Health Information Manager by visits to: NSW DOH*, clinical application units, NSW STARTTS**, The Cancer Institute, clinical trials centres.
Third Year new course (Pass & Honours students)	10 consecutive weekdays; during Semester II	Skill-based competencies: business communication skills – writing business reports; documenting medico-legal procedures; preparing agendas; taking minutes at meetings.
Third Year old course (Pass & Honours students) and Fourth Year new course (Pass students only)	10 consecutive weekdays; during break between Semesters I & II	Management of the medical record department; human resource management; quality assurance; casemix; clinical coding; data management, i.e., management of information systems such as the computerised Patient Administration System (PAS); clinical trials (if specified as a learning objective).
Postgraduate	Five consecutive weekdays; at end of Semester II	Same as for Third Year old course and Fourth Year new course, with addition of the various roles of the Health Information Manager

\* New South Wales Department of Health

\*\* NSW Service for Treatment and Rehabilitation of Torture and Trauma Survivors

ones and that it focuses on the differing roles of Health Information Managers in the various types of healthcare facilities. It is seen (Table 1) that the Third Year Pass and Honours students of the new course will focus on skill-based competencies during their placement. Pass and Honours students are not differentiated during placement. No students will undertake this placement in 2006.

The most advanced clinical placement for undergraduates includes exposure to the various functions and complexities of health information management, as well as experience in database use and coding (Table 1). In 2006, this placement is for Third Year Pass and Honours students of the old Pass and Honours courses. No undergraduates will undertake it in 2007, and from 2008 it will be for the Fourth Year pass students. It is seen that the postgraduate students undertake a similarly advanced placement but for only five days rather than ten. During the most advanced placement, the students 'shadow' their supervisors. Consequently, the students observe and can assist in everyday situations that require the manager's input. The students also have the opportunity to reflect on and discuss with their supervisor and other health information management staff actual management issues as they arise. In a 1994 survey which investigated perceptions of clinical placement among Sydney University health information management students (Lewis 1995), 88% (16/18) of respondent Third Year Pass and Honours students reported their supervisor was always readily available for discussion.

Because Honours students will not in the future (as they do not at present) undertake placement in Fourth Year, they will not, from 2007, undertake the most advanced placement. In order that Honours students have management experience, it is imperative that from 2007, the Third Year students' placement includes exposure to management issues similar to those addressed during the most advanced placement.

The coordinator of the professional experience program in the School of Health Information Management organises the clinical placements for all students. This is done through negotiating with the chief Health Information Managers at the healthcare facilities, and the placements are

planned some weeks before they are to begin. Upon accepting a student for placement, the chief Health Information Manager must assign a supervisor for the student. The chief Health Information Manager may be the supervisor or may allot this role to another Health Information Manager.

Supervisors are responsible for:

- orientation of the student to the workplace
- allotting tasks and activities, giving clear and concise instructions
- answering relevant questions and discussing issues that may arise
- constantly evaluating the students' performance and giving them ongoing verbal feedback
- completing a student performance assessment form at the end of placement, discussing this assessment with the student, and then returning it to The School of Health Information Management

To prepare students effectively for clinical placement, the professional experience coordinator conducts pre-placement tutorials. During these tutorials, the differences between the university culture and the work environment are pointed out and it is explained to students what is expected of them in the workplace situation, especially with regard to professional behaviour. A further aim of the pre-placement tutorial is to inform international students about cross – cultural communication.

The professional competencies listed in the Australian *Health Information Management (HIM) Competency Standards, version 1.0* (HIMAA 2001) are those which the health information management profession requires of its graduates, and which employers may expect of graduates. They include the broad categories of generic professional skills, healthcare delivery, clinical terminology and classification systems, research methodology and statistics, health care evaluation, management, and health information systems concepts and processes. It is required that the curricula content of the HIM courses address these competencies. While it is desirable they be addressed during placement as well as in the classroom, this can only be done in part, due to placements covering such brief time spans.

### **Learning objectives in relation to placement activities and assessment by the supervisor**

For Second Year undergraduate students, the learning objectives and thus type of activities engaged in during placement are mandatory and therefore non-negotiable. However, pass and Honours students undergoing their final placement and postgraduate students undergoing their one placement are required to negotiate their learning objectives with their supervisors before placement begins. Objectives can be re-negotiated during placement. Objectives will relate to the students' personal and professional goals in the context of their career plans. The students can be guided by their supervisors in identifying learning objectives, and can elect activities to focus on during placement, based on the learning objectives. The School of Health Information Management has drawn up a list of placement activities for the benefit of supervisors, indicating the scope of activities that students are required to be familiar with. This list can be used to guide supervisors and students regarding activities related to the learning objectives. In their assessment of students at the completion of placement, supervisors are asked to make special mention of the extent to which students met negotiated learning objectives.

### **Professional and personal development**

Professional experience can promote professional and personal development (Daley 2001). Continuing professional development is the 'systematic maintenance, improvement, and broadening of knowledge and skills, and the development of personal qualities necessary for the execution of professional duties throughout working life' (Professional Development Partnership n.d. a). Qualities of personal development include self-awareness, self-assertiveness, being non-judgmental (Howard 2001), attentiveness, empathetic ability, preparedness to tackle difficult problems, a positive approach to the job in hand, and maturity (Arvidsson, Lofgren & Fridlund 2001). Personal development is strongly associated with deep learning (Kuh 2005), and thus with reflective thinking (Hilzensauer, Hornung-Prahauser & Schaffert 2006), and reflecting on a learning experience promotes professional devel-

opment (Simpson & Freeman 2004; Gustafsson & Fagerberg 2004). Professional and personal development constitute part of the lifelong learning process (Taylor 1999), and lifelong learning is inspired by experiential learning (Kolb 1984). The experiential learning model pictures the workplace as a learning environment that can cultivate personal development through meaningful work (Kolb 1984).

### **Professional and personal development in HIM students**

The student assessments forwarded by supervisors to the School of Health Information Management have demonstrated that clinical placement promotes professional and personal development. The assessments have consistently indicated there are higher levels of initiative, maturity, and professionalism in the Third Year undergraduates and in the postgraduates than in more junior students. It is recognised that such attributes can result from other factors such as age. Building on strengths and addressing weaknesses increases personal development (Columbia University Center for Career Education 2005), as does objective feedback about current performance (Taylor 1999). This highlights the importance of supervisors frequently providing students with ongoing evaluative feedback which should focus both on positive and negative aspects of the students' behaviour and professionalism; through feedback, students are kept up-to-date on their progress. In the 1994 clinical placement survey (Lewis 1995) 67% (26/39) of second- and third-year respondent students reported that feedback was provided by supervisors on a constant basis, and 18% indicated feedback was provided fairly regularly. Growth in professional and personal development requires that students react positively and promptly to evaluative feedback. Personal and professional development relate to the personal and professional goals that HIM students can aim towards during clinical placement.

Self-assessment has also been proposed as a factor that can stimulate students to think critically (Race 2001), and promote professional competence (Reiter et al. 2002). Ability to self-assess clearly requires self-awareness and thus may be considered an aspect of personal

development. Rees and Shepherd (2005) report, however, that some assessors of students consider self-assessment to be a special skill that can be very difficult for some students, and that self-assessment inaccuracy amongst students has been observed repeatedly. Reiter et al. (2002) question whether requesting students to provide negative information about themselves is 'ethically feasible'. Self-assessment is not included in the health information management curricula.

Health information management students on clinical placement come into contact with experienced professionals in their field who may be willing to act as their mentors. Mentorship has been described as a strategy for career development that is centred on guiding and supporting in order to enhance personal and professional growth (Barker 2006; Sword et al. 2002; Professional Development Partnership n.d. b), and competency and productivity (Barker 2006). One form that guidance and support can take is helping students explore professional opportunities and career preferences (Sword et al. 2002). Thus, mentors, as well as supervisors, can assist the achievement of personal and professional goals in HIM students. Differences between the roles of the supervisor and the mentor may be summed up follows:

- the supervisor may guide learning objectives, allots activities, oversees and assesses performance
- the mentor advises, assists, and provides reassurance in all areas of work and the work environment.

The two roles may overlap in some aspects, for example, the supervisor may also advise and assist. In some workplaces, especially those with limited staff, the supervisor may also be the mentor.

A further aim of professional experience is for students to learn how to work co-operatively with colleagues (Ramsden 2003). Interacting well with colleagues has the benefit of improving work satisfaction (Nylenna et al. 2005) and could be viewed as another aspect of professional and personal development (The Organisation Development Company n.d. c; Gordon 2003). The importance of health information management students learning how to develop positive working relationships is highlighted by the

interpersonal nature of the Health Information Manager's role.

### **Post-placement student workshops**

At the University of Sydney, it has been the practice to hold discussion workshops for HIM undergraduates – both Pass and Honours students – after clinical placements are completed. Among students in the same year of study, all placements generally take place at the same time. From 2006, these workshops will be only for pass students in their Third and Fourth Years and for Honours students in Third Year. Post-placement workshops, during which students present a summary of their placement experiences, provide the ideal forum for students to reflect on what they have learned and experienced. They can also share their thoughts and experiences with each other. Through discussion with peers, students are able to extract the underlying significance of their own experiences and learn from the experiences of others (Ellis et al. 2004). The further knowledge that students acquire during the workshops can be integrated into future placements and/or their future jobs as Health Information Managers. Thus, for these students, the process of learning about health information management that is begun in the classroom and continued and enhanced during clinical placement is consolidated in the post-placement workshop.

### **Students' overall views on clinical placement**

Research has shown that health information management students place much value on clinical placement as a positive learning experience. Surveys conducted among undergraduate students enrolled at the University of Sydney or at other, interstate, universities found that the vast majority of respondents considered professional experience a useful or excellent unit of study (Lewis 1995; Westbrook, Callen & Alechna 2000). Another survey (Westbrook, Callen & Tomornsak 1997) reported that graduates from the University of Sydney postgraduate program deemed professional experience the most important subject in their entire course. Satisfaction in a learning experience is an indicator of a deep approach to learning (Ramsden 2003; Tiwari et al. 2006).

Given the invaluable nature of professional experience and in light of students' positive attitudes, it could be argued that ideally, clinical placements for health information management students should be longer than at present. Longer placements would allow more opportunities to address the competency standards (HIMAA 2001) taught in theory during the undergraduate course. However, the supervision of students during placement is time-consuming, and if workplaces are short-staffed, as is commonly the case, it is often only practicable to accept students on placement for relatively short time periods.

### **Conclusion: deep learning in relation to academic achievement**

There is debate about whether deep learning yields better examination grades. Many researchers (McManus et al. 1998; Ramsden 2003; Zeegers 2004) suggest it does, but others contend that the effect of deep learning on academic performance is either non-existent (Provost & Bond 1997; Groves 2005) or at best, very small (Martin, Stark & Jolly 2000). It can be argued, of course, that professional proficiency in the workplace, promoted by a better quality of understanding due to a deeper approach to learning, as observed by Ellis in his study (2004), is more important than high examination grades.

Meaningful learning can be summarised as a continuous, lifelong process founded on knowledge acquired and applied. The essence of meaningful learning is experiential learning. Experiential learning is initiated by professional experience and continues on through professional life. It allows active awareness and involvement on the part of the learner, and promotes understanding of core issues, bringing meaning to them by linking theory and practice. The Professional Development Partnership (n.d. c), asserts that reflecting on a learning experience, and on the knowledge and skills acquired through it and how they contribute to professional performance, is how real benefit is gained from that experience.

Basically, education in health information management at the student level involves learning the theory of management and how to apply this theoretical knowledge to practical situations. Essentials of this education process include stimulation of personal and professional

growth, and critical reflection on the practice of health information management. These vital educational elements are developed during placement and post-placement workshops. It is concluded that these factors work together to advance a deep, meaningful and ongoing process of learning through which professional excellence can be achieved in Health Information Managers.

### **References**

- Arvidsson, B., Lofgren, H. and Fridlund, B. (2001). Psychiatric nurses' conceptions of how a group supervision programme in nursing care influences their professional competence: a 4-year follow-up study. *Journal of Nursing Management* 9(3): 161-171.
- Barker, E.R. (2006). Mentoring - a complex relationship. *Journal of the American Academy of Nurse Practitioners* 18(2): 56-61.
- Barkley, E.F. (2005). *Collaborative learning techniques. A handbook for college faculty*. San Francisco, Jossey-Bass.
- Bessant, C., Mavin, S. and Bryans, P. (2002). *Learning to become a manager: surfacing social learning through management education*. Higher Education Academy. Best Conference: Supporting the teacher: challenging the learner. 8-10 April 2002, Edinburgh. Available at: <http://www.business.heacademy.ac.uk/resources/reflect/conf/2002/bessant/bessant.pdf> (accessed 22 June 2006).
- Columbia University Center for Career Education (2005). *Career development model. Awareness*. Available at: [http://www.cce.columbia.edu/alumni/how\\_we\\_can\\_help/model/awareness.php](http://www.cce.columbia.edu/alumni/how_we_can_help/model/awareness.php) (accessed 22 June 2006).
- Daley, B. J. (2001). Learning in clinical nursing practice. *Holistic Nursing Practice* 16(1): 43-54.
- Ellis, R.A., Calvo, R., Levy and Tan, K. (2004). Learning through discussions. *Higher Education Research & Development* 23(1): 73-93.
- Epstein, R.M. and Hundert, E.M. (2002). Defining and assessing professional competence. *Journal of the American Medical Association* 287(2): 226-234.
- Gordon, J. (2003). Assessing students' personal and professional development using portfolios and interviews. *Medical Education* 37(4): 335-340.
- Grealish, L. and Trevitt, C. (2005). Developing a professional identity: student nurses in the workplace. *Contemporary Nurse* 19(1): 137-150.
- Groves, M. (2005). Problem-based learning and learning approach: is there a relationship? *Advances in Health Sciences Education* 10: 315-326.
- Gustafsson, C. and Fagerberg, I. (2004). Reflection: the way to professional development? *Journal of Clinical Nursing* 13(3): 271-280.
- Health Information Management Association of Australia (HIMAA). (2001). *Health Information Management (HIM) Competency Standards. Version 1.0*. HIMAA, North Ryde, NSW.

- Health Sciences Faculty Handbook (2006). *School of Health Information Management*. Sydney, NSW, The University of Sydney.
- Hilzensauer, W. Hornung-Prahauser, V. and Schaffert, S. (2006). *Requirements for personal development planning in ePortfolios supported by semantic web technology*. Available at: [www.wastl.net/download/paper/1-Know06\\_ePortfolio.pdf](http://www.wastl.net/download/paper/1-Know06_ePortfolio.pdf) (accessed 22 June 2006).
- Hohmann, L. (1999) Coaching the rookie manager. *IEEE Software* 16(1): 16-18.
- Howard, D. (2001). Student nurses' experiences of Project 2000. *Nursing Standard* 15(48): 33-38.
- Kolb, D. A. (1984). *Experiential learning*. Englewood Cliffs, Prentice Hall.
- Kuh, G.D. (2005). *Engaged learning communities: students, faculty, and institutions. Going DEEP to realize the promise of greater expectations*. AAC&U Greater Expectations Summer Institute. Burlington VT. Available at: <http://www.aacu-edu.org/meetings/ppts/GEX2005Kuh.ppt> (accessed 22 June 2006).
- Lachman, N. and Pawlina, W. (2006). Integrating professionalism in early medical education: the theory and application of reflective practice in the anatomy curriculum. *Clinical Anatomy* 19(5): 456-460.
- Lewis, M. (1995). Student feedback on professional experience placements. *Health Information Management* 25(1): 16-19.
- Lowe, P. B. and Kerr, C.M. (1998). Learning by reflection: the effect on educational outcomes. *Journal of Advanced Nursing* 27(5): 1030-1033.
- Martin, I.G., Stark, P and Jolly, B. (2000). Benefiting from clinical experience: the influence of learning style and clinical experience on performance in an undergraduate objective structured clinical examination. *Medical Education* 34(7): 530-534.
- Maudsley, G. and Strivens, J. (2000). Promoting professional knowledge, experiential learning and critical thinking for medical students. *Medical Education* 34(7): 535-544.
- McAllister, M. (2005). Transformative teaching in nursing education: leading by example. *Collegian* 12(2): 11-16.
- Mc Manus, I.C., Richards, P, Winder, B.C. and Sproston, K.A. (1998). Clinical experience, performance in final examinations, and learning style in medical students: prospective study. *British Medical Journal* 316(7128): 345-350.
- Mintzberg, H. (1975). The manager's job: folklore and fact. *Harvard Business Review* 53(4): 49-61.
- National University of Singapore (2005). *Centre for Development of Teaching and Learning*. Available at: <http://www.cdtl.nus.edu.sg/research/learnprofile.htm> (accessed 22 June 2006).
- Nylenna, M., Gulbrandsen, P, Forde, R. and Aasland, O.G. (2005). Job satisfaction among Norwegian general practitioners. *Scandinavian Journal of Primary Health Care* 23 (4): 198-202.
- Percy, R. (2001). *Deep learning: a case study amongst men and women of different cultures*. (Abstract). ELSIN (European Learning Styles Network) 2001 Conference. University of Glamorgan, UK. Available at: <http://www.elsinnet.org.uk/abstracts/2001/3-perc.htm> (accessed 22 June 2006).
- Professional Development Partnership (n.d. a). *Professional Development – How 2 – definition of terms*. Available at: [http://www.pd-how2.org/6\\_5.htm](http://www.pd-how2.org/6_5.htm) (accessed 22 June 2006).
- Professional Development Partnership (n.d. b). *Professional Development – How 2 – mentoring*. Available at: [http://www.pd-how2.org/3\\_3.htm](http://www.pd-how2.org/3_3.htm) (accessed 22 June 2006)
- Professional Development Partnership (n.d. c). *Professional Development – How 2 – reviewing your professional development*. Available at: [http://www.pd-how2.org/5\\_1.htm](http://www.pd-how2.org/5_1.htm) (accessed 22 June 2006)
- Provost, S. C. and Bond, N.W. (1997). Approaches to studying and academic performance in a traditional psychology course. *Higher Education Research & Development* 16(3): 309-320.
- Race, P. (2001). Assessment Series No. 9. *A briefing on self, peer, and group assessment*. Learning and Teaching Support Network Generic Centre. Available at: <http://phil-race.com/files/self,%20peer%20and%20group%20assessment.pdf> (accessed 22 June 2006).
- Ramsden, P (2003). *Learning to teach in higher education*. (Second edition). London and New York, RoutledgeFalmer.
- Rees, C. and Shepherd, M. (2005). Students' and assessors' attitudes towards students' self-assessment of their personal and professional behaviours. *Medical Education* 39(1): 30-39.
- Reiter, H.I., Eva, K.W., Hatala, R.M. and Norman, G.R. (2002). Self and peer assessment in tutorials: application of a relative-ranking model. *Academic Medicine* 77(11): 1134-1139.
- Robertson, K. (2005). Reflection in professional practice and education. *Australian Family Physician* 34: 781-783.
- Robson, J. (n.d.). *Active teaching and learning*. Available at: <http://www.gre.ac.uk/~bj61/talessi/atl.html> (accessed 22 June 2006).
- Ruth-Sahd, L.A. (2003). Reflective practice: a critical analysis of data-based studies and implications for nursing education. *Journal of Nursing Education* 42(11): 488-497.
- Scanlan, J. M., Care, W.D. and Udod, S. (2002). Unravelling the unknowns of reflection in classroom teaching. *Journal of Advanced Nursing* 38(2): 163-143.
- Schon, D. (1987). *Educating the reflective practitioner*. San Francisco, Jossey-Bass.
- Simpson, K. and Freeman, R. (2004). Reflective practice and experiential learning: tools for continuing professional development. *Dental Update* 31(5): 281-284.
- Spouse, J. (2001). Bridging theory and practice in the supervisory relationship: a sociocultural perspective. *Journal of Advanced Nursing* 33(4): 512-522.
- Sword, W., Byrne, C., Drummond-Young, M., Harmer, M. and Rush, J. (2002). Nursing alumni as student mentors: nurturing professional growth. *Nurse Education Today* 22(5): 427-432.

- Taylor, C. M. (1999). Education and personal development: a reflection. *Archives of Disease in Childhood* 81: 531-534.
- The Hong Kong University of Science and Technology (1996). *How do Hong Kong students learn? Implications for teaching*. Teaching-Learning Tips. Issue 13/96 (online serial). The Hong Kong University of Science and Technology, Center for Enhanced Learning and Teaching. Available at: <http://celt.ust.hk/pdf/13-96.pdf> (accessed 28 June 2006).
- The Organisation Development Company (n.d.). *Working Relationships*. Available at: <http://www.orgdev.co.nz/services/relationships> (accessed 28 June 2006).
- Tiwari, A., Chan, S., Wong, E., Wong, D., Chui, C., Wong, A., and Patil, N. (2006). The effect of problem-based learning on students' approaches to learning in the context of clinical nursing education. *Nurse Education Today*. January 25 (in press).
- Turner, D. (1996). *Sixty role plays for management and supervisory training*. New York, McGraw-Hill.
- Westbrook, J. I., Callen, J.L., and Tomornsak, S. (1997). An evaluation of the Postgraduate Diploma of Applied Science in Health Information Management. *Health Information Management* 27(2):74-78.
- Westbrook, J. I., Callen, J.L., and Alechna, N. (2000). A national comparison of health information management students' career expectations. *Health Information Management* 29(4):154-159.
- Whitehead, J. (2000). How do I improve my practice? Creating and legitimating an epistemology of practice. *Reflective Practice* 1(1): 92-104.
- Wong, F.K.Y. (1995). Assessing the level of student reflection from reflective journals. *Journal of Advanced Nursing* 22(1): 48-57.
- Zeegers, P. (2004). Student learning in higher education: a path analysis of academic achievement in science. *Higher Education Research & Development* 23(1): 35-56.

**Anne Marks** MHS (Education), AssocDip (Medical Record Administration)  
 Lecturer & Postgraduate Coordinator  
 School of Health Information Management  
 Faculty of Health Sciences  
 The University of Sydney  
 PO Box 170  
 Lidcombe, NSW 1825  
 AUSTRALIA  
 Phone: +61 2 9351 9057  
 Facsimile: +61 2 9351 9672  
 email: [a.marks@fhs.usyd.edu.au](mailto:a.marks@fhs.usyd.edu.au)

**Jean McIntosh** RN  
 Research Assistant  
 School of Health Information Management  
 Faculty of Health Sciences  
 The University of Sydney  
 PO Box 170, Lidcombe, NSW 1825  
 AUSTRALIA

