

Can ePortfolios assist university students' work integrated learning? Exploring professional competencies in Nursing and Construction Management

Anthony Williams

University of Newcastle

Tony.Williams@newcastle.edu.au

Tracy Levett-Jones

William Sher

Catharine Simmons

Ning Gu

Lynette Bowen

University of Newcastle

Abstract

E-learning has increasingly come to the fore as a means to enhance students' learning, and in particular, learning in the work place. Relevant professional bodies require Nursing and Construction Management (CM) university students to engage in practical/clinical placement experiences as part of their required activities. This paper explores whether ePortfolios have a significant role to play in demonstrating and improving students' skills learnt from these practical placements in relation to their undergraduate studies.

A recently awarded Australian Learning and Teaching Council project entitled 'Facilitating work integrated learning through skills-enabled e-portfolios in the CM and Nursing disciplines' conducted at the University of Newcastle investigates students' work-based learning and assessment within the two disciplines. The project's main aim is to develop a learning framework that will showcase to students how their university courses relate to each other and how the skills and competencies they acquire on campus and during their work-based experiences are integrated to enable them to graduate as qualified professionals in their discipline. A component of the project aims to explore whether ePortfolio platforms and e-learning technologies can both facilitate and support students' learning engagement with their work integrated learning through the demonstration of these skills.

Derived from the outcomes of the project's initial phase, this paper presents the development of a learning framework that encourages reflective learning during work-based activities. It then sets out to explain how this framework can be linked to the use of ePortfolios. The process of creating the framework has so far involved an analysis of competencies from different accreditation bodies resulting in a hierarchy of skill sets within these competencies. It then analyses how different ePortfolios platforms could be used as a reflective online tool for students to help them link the knowledge learnt from their placement practices with the theoretical concepts learnt at university

(Levett-Jones, Fahey, Parsons, & Mitchell, 2006). Consequently, students could use their ePortfolio after graduating to demonstrate the practical experiences they have gained during their degree which would contribute to improving their professional skills in their respective fields. Further literature on students' use of ePortfolios will be taken into account to demonstrate students own views of using ePortfolios for work based learning.

In conclusion, the paper will examine how work based competencies can be documented and demonstrated through ePortfolios to enhance students work integrated learning.

Keywords: *ePortfolio platforms, learning framework, work based learning, Construction disciplines, nursing, professional skills.*

Introduction

This paper presents preliminary outcomes of an Australian Learning and Teaching Council (ALTC) grant to investigate WIL and the use of ePortfolios. The grant was recently awarded to the University of Newcastle to fund a study in the disciplines of Construction Management (CM) and Nursing. The project aims to make explicit connections between what is taught at university and students' learning in the workplace. On completion the project will generate a design brief and specification for a student competency resource on standards/skills for CM and nursing. This resource will be readily transferable to other disciplines. Furthermore, final project reports will document the potential for ePortfolios to enhance industry practices and related theory. A final outcome will be online packages which provide teaching resources to support academics in engaging /incorporating WIL in their lessons. Initially, a hierarchical framework of skills statements that map the competency requirements of relevant professional bodies to the learning outcomes of relevant undergraduate programs has been created to promote these connections. This paper discusses the development of these skills statements. It describes a framework that enables nursing and CM students to connect theory and practice. It then explores the opportunities that Web 2.0 environments provide in this context. Web 2.0 tools enable student-centred approaches to learning and may be supported through ePortfolio platforms (which will also be reviewed within the context of WIL). This project is still in its qualitative data gathering stage, therefore only relevant literature on using ePortfolios for WIL and students' views of using these platforms will be considered.

Background to the project

Rationale

In Australia, the principal method of developing nursing and CM competencies is through work placement experience. CM and nursing curricula are compliance and accreditation driven. It is therefore vital that workplace requirements are integrated with curricula. The bodies (Australian Institute of Building, Australian Institute of Quantity Surveyors, and Australian Institute of Building Surveyors) that accredit CM require students to engage in at least 520 hours (80 days) of industrial placement (AIB, AIBS, & AIQS, 2008). In comparison in the Nursing disciplines, which has one body, the Australian Nursing and Midwifery Council (ANMC, 2005) has proposed that generally between 800 and 1200 clinical placement hours are required

(Levett-Jones, Lathlean, McMillan, & Higgins, 2008). Self-assessment in nursing, is predominately through reflective portfolios, and is one of the methods used to assess the competence of individual nursing practitioners and this is implemented within a quality improvement framework (Levett-Jones et al., 2006). On the other hand, in CM, reflective practice is embedded in the professional development practices prescribed by the professional bodies (AIB et al., 2008).

At the moment the professional bodies that accredit CM do not prescribe quality control mechanisms for WIL. Individual universities interpret, administer and monitor WIL in accordance with their own policies (Williams, Sher, & Simmons, 2009). For instance, Figure 1 shows how the Universities who offer CM degrees require varied numbers of days for student to be on industry placement.

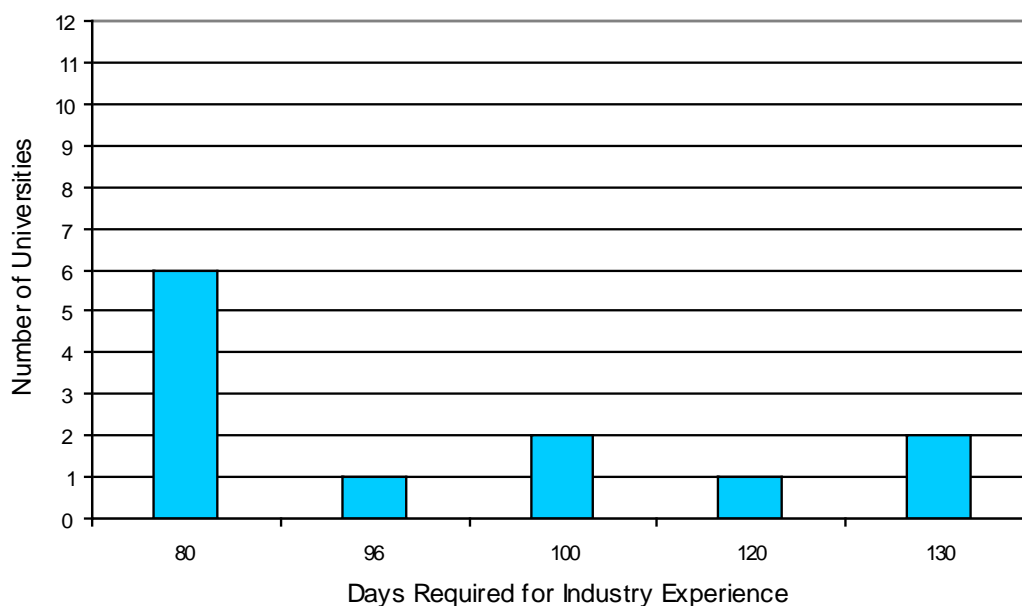


Figure 1: Industrial experience required by universities who offer CM (Feb 2008) (Williams et al., 2009). (Source: University websites, program guides)

The outcomes of the research project will identify opportunities for encouraging and facilitating skill development and evidence gathering during work placement and subsequent employment, in line with lifelong learning practices in both the CM and Nursing disciplines.

Managing WIL in Higher Education

WIL is the term which describes educational activities that integrate theoretical learning with its application in a workplace, profession, career or future employment (Billett, 2001; Patrick, 2009). It is currently popular in Australia and attempts are being made to deliver WIL as part of a broad range of undergraduate programs. WIL activities may be conducted off or on campus. Depending on the discipline area they may be real or simulated and should involve clearly stated outcomes, be explicitly assessed and be delivered through processes that are consistent with quality teaching and learning (Billett, 2001; Billett, 2009). The benefits of WIL are well recognised and have recently been documented in 'the first large-scale scoping study of work integrated learning (WIL) in contemporary Australian higher education' (Patrick, 2009, p. v). A recent report researching issues and opportunities in

construction education in Australia (Williams et al., 2009) similarly indicated that CM students in particular recognise and appreciate the benefits of WIL activities during their studies. In particular, students identified teamwork and being given responsibility as activities that encouraged them to learn and apply knowledge to practice (Williams et al., 2009). The report also found that CM students who complete WIL activities are generally motivated in the work force by their on campus experiences. In the Engineering disciplines, WIL has also been identified as making students more aware of complexities related to professional practice and that students need these opportunities to ground their conceptual knowledge in the real world (Mills & Treagust, 2003; Richardson, Kaider, Henschke, & Jackling, 2009). It is thus important for students to be afforded opportunities to engage in WIL during their studies.

Other studies in engineering have highlighted concerns about the linkages made between programs, industry experience and assessment. Engineering graduates need strong communication and teamwork skills, but these are generally not well developed (BIHECC, 2007). Currently, engineering students graduate with a sound knowledge of fundamental engineering science and computer literacy, but they find these challenging to apply in practice (Mills & Treagust, 2003). Similarly, Richardson et al. (2009) discuss the issues of assessing work integrated learning in engineering programs due to the different way students learn when they are on placement, such as learning informally or sporadically.

On the other hand, unlike CM and Engineering, Australian universities who offer Nursing have varied ways to manage and assess nursing students' clinical placements (also termed clinical practicum). At most universities Australia wide, students have periods of placement each year of their program. To encourage the learning on placements, universities use a range of assessment processes, such as mentorships with Registered Nurses, clinical progression portfolios whilst on placement and the use of labs to trial out skills before going on placement. Unlike CM, a necessary component for clinical placements required by the professional body, the ANMC, are 'portfolio requirements' which are 'collections of evidence that can be used to reveal and stimulate learning and/or provide an argument of competence or performance (Andre & Heartfield, 2007, as cited in Andre, 2010 p. 2). For instance, the 'clinical progression portfolio' is (a recent initiative from a University in Queensland) also provides students with 'room to reflect on what they have learnt each day' (ALTC, 2010, p. 1). Despite these more stringent ways of assessing WIL in nursing (through reflections and the use of portfolios/diaries) compared to CM, there are nevertheless similar WIL issues identified here, in particular issues with students integrating their theory with practice. For instance, Severinsson (1997, p. 1276) identifies this theory/practice issue as a conflict between what is taught to the actual clinical practice and states that 'even if you know 'how to do it', the nursing process (theory) aimed at benefiting the patient is not always possible to implement in reality (practice)'. Severinsson (1997) investigated the importance of 'clinical supervision' of student during practice. Clinical supervision, she argues, allows for ongoing communication between practical experiences and reflecting upon these created an increased integration of practice and theory for students (Severinsson, 1997).

The above literature thereby indicates that industry (building companies and hospitals) and mentors, such as clinical supervisors, expectations of what students learning experiences during placement need to be constantly monitored, supervised and discussed. Such discussions highlight gaps between university and industry expectations and prompt remedial actions.

Developing a WIL framework

In the following discussion, preliminary findings and the development of a WIL framework and related WIL issues arisen from the project are considered.

Aligning the disciplines' competencies

An initial analysis of the competency statements of the Nursing and CM accreditation bodies' skill requirement lists (Australian Nursing and Midwifery Council (ANMC), Australian Institute of Building (AIB), Australian Institute of Quantity Surveyors (AIQS), and the CIOB) was conducted to create a skills framework to align curricula with work skills. The competencies and graduate professional qualities of these two disciplines were mapped and evaluated against each other. It was apparent that there was no uniform set of graduate attributes across the curricula and institutions. Consequently a textual analysis of competencies using NVivo (qualitative research software tool) was conducted. This allowed the research team to identify core areas/synergies and discipline specific competencies.

Table 1 provides a snapshot of two of the competency core areas which emerged from this analysis. The researchers sourced the competency definitions from the professional bodies and aligned these within each of the disciplines and the DEST competency framework for 'employability skills' (DEST, 2006). Unexpected Generic synergies were identified within specific competency domains. These were; accurate data reporting, communication skills, management skills, research and reporting skills, self evaluation, health and safety, ethics, risk management, legal knowledge, up to date knowledge of the field - Industry and Institution changes. Differences between the disciplines competency requirements also surfaced, specifically within the domains of ethics and management skills, with CM requiring more management skills and nursing requiring more ethical skills. This comparison demonstrates where the disciplines diverge and converge allowing the disciplines to learn from each other. It further creates opportunities for the development of a generic competency review for all higher education disciplines.

Table 1: Snapshot of aligning of Competency between the two disciplines and the DEST skills framework (DEST, 2006, p. 10)

<p>NVivo Nodes' Key Competency Alignments Found</p>	<p>Construction Management</p>	<p>Nursing — Registered Nurse</p>	<p>Nursing — Midwifery</p>	<p>Government 'Employability skills framework' (DEST Skills framework 2006, p.10)</p>	<p>Key Competencies</p>
<p>Communication — team communication, conflict resolution</p>	<p>Claims and dispute resolution — know the construction process - communication skills</p>	<p>Communication skills to plan nursing care with individuals and groups</p>	<p>Communication skills to facilitate decision making</p>	<p>Communication</p>	<p>Communicating ideas and information</p>
<p>Management/Leadership skills</p>	<p>Communication skills — writing and oral</p>	<p>Communication — Relationship building skills</p>	<p>Communication — Developing effective communication strategies</p>	<p>Teamwork</p>	<p>Working with others and in teams</p>
	<p>Interpersonal skills — Teamwork</p>	<p>Team communication and collaboration skills</p>	<p>Professional conduct — Knowledge and responsibility of actions</p>	<p>Problem Solving</p>	<p>Solve problems</p>
	<p>Communication skills — leadership, Appraisal/evaluation</p>	<p>Evaluation skills — health outcomes</p>	<p>Management skills — Knowledge of systematic assessment procedures</p>		
	<p>Understanding building management</p>	<p>Project planning and programming skills, procurement knowledge</p>			<p>Plan and organise activities</p>

Another issue, which became known from this exercise, was the extent to which definitions of competency requirements varied between professional bodies, especially in regards to CM. For instance some statements consist of a hierarchy of how a skill will be obtained whilst others have very basic descriptors.

Further qualitative work which is in progress, will supplement this initial competency analysis and competency development. This qualitative aspect of the research includes a review of program placement coordinators and students' views on issues in documenting WIL and competency achievements. It is anticipated that other WIL solutions will emerge during the analysis of the qualitative data in order to develop a learning framework for students which provides them with learning links between theory and practice.

This discussion raises further questions as to how do students in these disciplines demonstrate and document their WIL experiences and indeed, if the intended learning framework developed out of this project will assist them. The project proposal is to further investigate how the use of Web 2.0 and e-learning technologies could be an answer to these questions, to see if these tools can aid students' use of the learning framework.

Using e-learning technologies to document and manage WIL?

Universities have increasingly been studying and implementing e-technologies, particularly the use of ePortfolios (Ayala, 2006; Heinrich, Bhattacharya, & Rayudu, 2007; Reardon & Hartley, 2007). An ePortfolio may be defined as an online program with links to Web 2.0 tools to document learning, assessment and to ultimately present a student's skills, progress and reflections (Ivanova, 2008; Schwartz, 2006). According to the Business Industry and Higher Education Collaboration Council (BIHECC, 2007, p. 41) 'one of the greatest strengths of (an ePortfolio) is that it provides a structured and cost-effective means to encourage students to manage their own career planning and skill development'. However, generic ePortfolios provide little specific guidance on the generic or discipline specific skills that students need to develop. EPortfolios might be 'seen by business and universities to be a practical method for graduates to explain and provide examples of their employability skills' (BIHECC, 2007, p. 4) but there is little evidence of their successful use in CM and nursing. Indeed, recommendation 7 of the BIHECC (BIHECC, 2007, p. 6) report encourages 'more effective integration of employability skills in student e-portfolios'.

The Australian ePortfolio project reported current levels of ePortfolio practice at Australian Universities. Part of this study included the documentation of WIL in ePortfolios (Hallam et al., 2008). Ultimately this project aims to work towards implementing a university wide ePortfolio system (Hallam et al., 2008). Anderson, Rambotham and Tones (2009) also reviewed ePortfolios for nursing at QUT where they used the national competency standards as anchors for reflective narrative and evidence gathering. They analysed students' experiences of using ePortfolios to document their skills and found that the ANMC competency statements were of benefit in shaping learning and reflecting in nursing and within the ePortfolio (Anderson et al., 2009). Similarly Li, Molyneaux & Botterill (2009) studied engineering students' use of the ePortfolio platform *Pebble PAD* to document their vacation employment. Their project involved creating detailed work experience

evaluation profiles and embedding these on the ePortfolio platform so students could attach evidence of their work and relate this to relevant competencies (Li et al., 2009). They found that 'in general, students regard this as a convenient and effective way to complete their work experience evaluation' (Li et al., 2009, p. 338). Other benefits of using ePortfolios to document employment skills these authors identified were ascertaining gaps in skills learnt and improving employability (Li et al., 2009). The discussion above on nursing and engineering's use of ePortfolios for placement suggests that similar benefits about using ePortfolios to document industry experience can be applied to CM students (who, as discussed, currently have no ePortfolio use or assessment of WIL). For instance, CM students could use their ePortfolio to demonstrate the practical experiences they have gained during their degree which would contribute to improving students' acquisition of professional skills in their field.

Some of the limitations of ePortfolios for students' placements are also discussed in relevant literature. For example, Li et al (2009) noted that students found ePortfolios to be a burden if they missed the training sessions. In regards to nursing, ePortfolio issues include limitations on students finding time to document their reflections and skills achieved. For example, the Hospital setting could inhibit ePortfolio use, aspects such as high clinical workload, could potentially impact on the time students have to do their professional reflection (Garrett & Jackson, 2006). Similarly, other general research on ePortfolio use, discusses students' lack of motivation to use ePortfolios to document and reflect on their academic work and work experience (Anderson et al., 2009; Eley, Fallon, Soar, Buikstra, & Hegney, 2009; Hallam et al., 2008; Miller & Morgaine, 2009).

This discussion shows that the reality of managing and assessing students' industry and clinical experiences within ePortfolio platforms can be a complex process due to some of the limitations defined above (such as time barriers and student motivation). Furthermore, the lack of documentation of skills learnt due to students' ad hoc approach of learning when on practical placement (as discussed by Li et al 2009 above) compound the challenges for implementing ePortfolios. The logistics of implementing ePortfolios for WIL and the resulting advantages and disadvantages viewed by staff and students will further be reviewed for the project.

Documenting the skills acquired on placements is a prime focus of the project and will be developed on a continuing basis as more qualitative data is gathered and analysed. The project will create a framework to encourage reflective learning during work-based activities. This framework will then link to discipline specific Continuing Professional Development (CPD) modules and will also align WIL and formal curricula. It will demonstrate and describe how these frameworks may be embedded in generic, 'open sourced' ePortfolio platforms, such as *PebblePAD* or *Mahara* for use in WIL activities.

Conclusion

This paper describes work in progress on an ALTC project which investigates the facilitation of WIL in CM and Nursing. According to relevant literature, students' work-based experience in these disciplines is the key to their learning. Difficulties in recording these experiences were identified. In addition it was found that whilst certain competencies were common to both disciplines there were differences in scope and depth. These were exacerbated by ambiguities in the documentation

provided by some of the professional bodies. Workshops and interviews will explore these issues and should contribute to solutions.

Both the CM and Nursing disciplines will benefit from using e-learning technologies to document students' WIL. Additional challenges presented by these technologies will become clearer as the project progresses. These processes and findings will be documented and should ultimately improve the ways in which WIL administered and managed. They will also reinforce the links between theory and practice for CM and Nursing students and these deliverables may then be transferred to other disciplines.

References

- AIB, AIBS, & AIQS. (2008). *The cooperative accreditation agreement for education providers: Handbook for users* [electronic version]. Retrieved from <http://www.aib.org.au/education/cooperativeaccreditationagreement.pdf>
- ALTC. (2010). Portfolio boosts students' clinical nursing education [electronic version]. ALTC Media release, 24.02.10, 2. Retrieved from www.altc.edu.au/february2010-portfolio-boosts-students'-clinical-nursing-education
- Anderson, D., Gardner, G., Ramsbotham, J., & Tones, M. (2009). E-portfolios: Developing nurse practitioner competence and capability. *Australian Journal of Advanced Nursing*, 26(4), 70–76.
- ANMC. (2005). *National competency standards for the registered nurse* [Electronic Version]. Retrieved from <http://www.anmc.org.au>
- Ayala, J. L. (2006). Electronic portfolios for whom? *Educause Quarterly*, (1), 12–13.
- BIHECC. (2007). *Graduate employability skills: Prepared for the business, Industry and Higher Education Collaboration Council*. Canberra: Commonwealth of Australia.
- Billett, S. (2001). *Learning in the workplace: Strategies for effective practice*. Sydney: Allen & Unwin.
- Billett, S. (2009). Curriculum and Pedagogic bases for effectively integrating practice-based experiences [Electronic Version]. Retrieved 4 December, 2009.
- DEST. (2006). *Employability skills: From framework to practice – an introductory guide for assessors*. Canberra: Commonwealth of Australia.
- Eley, R., Fallon, T., Soar, J., Buikstra, E., & Hegney, D. (2009). Barriers to use of information and computer technology by Australia's nurses: A national survey. *Journal of Clinical Nursing*, 18(8), 1151–1158.
- Garrett, M., & Jackson, C. (2006). A mobile clinical e-portfolio for nursing and medical students, using wireless personal digital assistants (PDAs). *Nurse Education in Practice*, 6, 339–346.
- Hallam, G., Harper, W., McCowan, C., Hauville, K., McAllister, L., & Creagh, T. (2008). *Australian ePortfolio project: ePortfolio use by university students in Australia: Informing excellence in policy and practice*. Brisbane: QUT, Department of Teaching and Learning Support Services.
- Heinrich, E., Bhattacharya, M., & Rayudu, R. (2007). Preparation for lifelong learning using ePortfolios. *European Journal of Engineering Education*, 32(6), 653-663.

- Ivanova, M. (2008). *Learning ePortfolio deployment in social network NING*. Paper presented at the Electronics 2008.
- Levett-Jones, T., Fahey, K., Parsons, K., & Mitchell, A. (2006). Enhancing nursing students' clinical placement experiences: A quality improvement project. *Contemporary Nurse, 23*(1), 58–71.
- Levett-Jones, T., Lathlean, J., McMillan, M., & Higgins, I. (2008). The duration of clinical placements: A key influence on nursing students' experience of belongingness. *Australian Journal of Advanced Nursing, 26*(3), 8–16.
- Li, J., Molyneaux, T., & Botterill, M. (2009). *Integrated a PebblePAD ePortfolio into the vacation employment curriculum*. Paper presented at the 20th Australasian Association for Engineering Education Conference (AAEE).
- Miller, R., & Morgaine, W. (2009). The benefits of E-portfolios for students and faculty in their own words. *Peer Review, 11*(1), 8–12.
- Mills, J. E., & Treagust, D. F. (2003). Engineering education — is problem based or project based learning the answer? *Australasian Journal of Engineering Education*.
- Patrick, C. (2009). The WIL (work integrated learning) report: A national scoping study Queensland. Retrieved from http://www.altc.edu.au/system/files/grants_project_wil_finalreport_jan09.pdf
- Reardon, R. C., & Hartley, S. L. (2007). Program evaluation of e-portfolios. *New Directions for Student Services, 119*, 83–97.
- Richardson, J., Kaider, F., Henschke, K., & Jackling, B. (2009, July 6–9). *A framework for assessing work integrated learning*. Paper presented at the 32nd HERDSA Annual Conference, Darwin, Australia.
- Schwartz, C. (2006). Managing electronic portfolios. In P. Herson, E. Dugan & C. Schwartz (Eds.), *Revisiting outcomes assessment in higher education*. London: Libraries Unlimited.
- Severinsson, E. I. (1997). Bridging the gap between theory and practice: A supervision programme for nursing students. *Journal of Advanced Nursing, 27*, 1269–1277.
- Williams, A., Sher, W., & Simmons, C. (2009). *Understanding construction education in Australia: A review of teaching and learning challenges and opportunities construction management, quantity surveying and building surveying*. Sydney: Australian Learning and Teaching Council, Discipline Based Initiative Grant. Retrieved from <http://www.altc.edu.au/resource-identification-teaching-construction-uon-2009>

Biographies

Brief biographies of the research team from The University of Newcastle, Australia. The team is also in partnership with colleagues from Avondale College, RMIT and UWS for this project.

Anthony Williams

Anthony Williams is currently the Head of School — Architecture and the Built Environment. Anthony has a background in education and design team research, in particular evaluation of portfolios and online data management systems to support

curriculum development. He has also contributed to a range of teaching initiatives in this area, for instance, he has implemented a number of design management projects within student projects both in the normal classroom setting and the 'virtual classroom'.

Tracy Levett-Jones

Tracy Levett-Jones is the Deputy Head of School (Teaching and Learning) in The School of Nursing and Midwifery. Tracy is a creative teacher who uses innovative and authentic teaching approaches that stimulate intellectual curiosity, the capacity for reflective thinking and a passion for nursing. Tracy held a teaching and learning fellowship during 2008 where she examined the ICT confidence and competence of undergraduate nursing students and how they influence students' engagement with online learning approaches.

William Sher

William Sher is currently Assistant Dean (Teaching and Learning) in the School of Architecture and the Built Environment. William has extensive expertise in education research, having lead a National study in Construction Management Education in Australia (ALTC), and three government funded teaching and learning related projects whilst an academic in UK. One of these projects in the UK developed a university wide online database of graduate attributes. Before becoming an academic William worked as a construction-computing consultant, an estimator, a planner and as a site agent.

Catharine Simmons

Dr. Catharine Simmons' academic background is in the Social Sciences. Her Honours and PhD studies looked at imaginative play and the culture of childhood. Her theses explore how children's knowledge of popular culture permeates their power relations, ultimately allowing them to collectively operate their own subculture. Her interests are in curricula development (Primary and Higher Education), knowledge, land conservation and media culture. Catharine has sound experience of conducting research on the issues and opportunities in Higher Education. Catharine has previously managed an Australian Learning and Teaching Council (ALTC) funded project at The University of Newcastle, the final report entitled 'Construction education in Australia: a review of learning and teaching challenges and opportunities'. She is today managing her second ALTC funded project, which considers how university students learn through practice in the workplace and the use of e-learning technologies in the Construction Management and Nursing disciplines.

Ning Gu

Ning Gu is a lecturer in the School of Architecture and Built Environment. He researches in the broad areas of design computing, particularly, in generative design systems, virtual worlds and Building Information Modelling (BIM). Ning has also designed and implemented a variety of collaborative virtual environments and integrated this IT knowledge into his teaching and research.

Lynette Bowen

Lyn Bowen is a lecturer at the Bachelor of Nursing — Site Coordinator for the Port Macquarie campus of The University of Newcastle. Lyn has worked as a Clinical Nurse Consultant in Infection Control and still carries a passion for this important aspect of health care. She has also been employed as Nurse Educator for Port Macquarie Base Hospital. Lyn also has a strong interest in Nurses' professional portfolio development. Her doctorate candidature focuses on the experience of registered nurses who mentor undergraduate nursing students in a rural context.