# From herb garden to wiki: Responding to change in naturopathic education through scholarly reflection

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*Abstract: The study of naturopathy in Australia has undergone a number of significant changes that have impacted dramatically on scholarly and academic practice. Naturopathic education has shifted from apprenticeship style with a charismatic teacher, to several private colleges offering advanced diplomas/degrees with Government accreditation, and into the university system. In the university context, reflective practice and scholarship have been key to effective responses to change. These changes include the introduction of new models of technology and delivery, access to greater resources and collegial networks and adoption of innovative teaching approaches; all of which have had a significant impact on a developing pedagogy in naturopathy. Utilising a ethnographic methodology, interviews were conducted with ten naturopathy lecturers to investigate their scholarly reflective approaches to decision making and pedagogy. Some of the changes to academic practice within this context and the innovations arising are discussed. These innovations, whilst increasingly common in higher education, are new pedagogical approaches within the contexts of naturopathy, a discipline that traditionally has sat outside formal learning structures.*

*Keywords: Reflective decision making, integrative teaching practices, technology innovations*

## I.  Introduction.

This paper reports on a Learning and Teaching Fellowship project at Southern Cross University that investigated how a shift from the private education sector into the higher education sector changed academic practice in the delivery of education in naturopathy Academic lecturers who had moved from the private sector to teach in the university program, reflected on their teaching and discussed the innovations they had integrated into their pedagogy as a result of the changing educational context for the discipline. This project was undertaken with approval of the University's Human Research and Ethics Committee.

### A.  Context.

Complementary medicine is an umbrella phrase that covers a number of different modalities including naturopathy, osteopathy, aromatherapy and different forms of bodywork. During the last decade of the twentieth century and into the first decade of the twenty-first century, complementary medicine usage in Australia and worldwide expanded dramatically (Cohen, 2002). In Australia in particular, one in four members of the public now make use of some form of complementary health care product or service on a regular basis (MacLennan, Myers, & Taylor, 2006; MacLennan, Wilson, & Taylor, 1996, 2002). A surge in the popularity of

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complementary medicine meant that courses of study were increasingly sought after in the decade 1990–2000, and enrolment numbers increased sharply across a range of programs offered by the private colleges (McCabe, 2008). Since 2000, the climate has changed again – courses have closed and student numbers are declining, as the long-awaited professional registration has still not eventuated.

Historically naturopathic education existed outside formal education pathways. There is currently one university degree in naturopathy (as a major in a Bachelor of Clinical Science) and several Government accredited private colleges that offer an undergraduate degree in Australia. This movement into more formal structures has created a shift in academic practice (Baer, 2008). There is however, a paucity of educational research in naturopathy and this paper thus aims to contribute to knowledge of academic practice in the field.

*B. Current context for educational delivery.*

In general, naturopathy education in Australia is currently delivered via different awards. Students can gain either an Advanced Diploma of Naturopathy or a degree (e.g. Bachelor of Complementary Medicine, Bachelor of Naturopathy, and Bachelor of Health Sciences–Complementary Medicine). In 1995 Southern Cross University (SCU) in Lismore, New South Wales (NSW) launched a new four-year undergraduate Bachelor of Naturopathy (BNat) degree. At that time, this was an Australian first. For some time it was the only stand-alone degree of its kind in a university context. It is now subsumed into a Bachelor of Clinical Sciences with a major in naturopathy. Naturopathic curriculum typically has three primary pillars – (1) herbalism (sometimes known as phytotherapy), (2) nutrition, and (3) tactile therapies. It may also include (4) homoeopathy. Curriculum also covers (5) medical sciences – anatomy and physiology, chemistry and biochemistry, symptomatology and pathology, and electives such as reflexology, aromatherapy and other health related topics.

## II. Scholarly reflection and changing technologies.

Reflective practice, as defined by Schön (1983), is about a practitioner considering deeply their experience as a lecturer, and also being coached or having peer review. The opportunity to develop reflective thought is seen as critical with Chickering and Dalton (2006) noting this step as part of the process of integrating in one's thinking processes and the formation of beliefs. As Brookfield (2006) writes, the best teaching incorporates a critically reflective stance and the lecturers in this study were forced into reflecting on their teaching practice by changes in the teaching environment. They reflected on the increase of technology in their programs and impact of more formal and resourced teaching structures.

Technology-based learning and teaching in higher education is becoming almost a taken-for-granted proposition in many undergraduate courses (Adams, 2008; Pajo & Wallace, 2001). The pace of uptake across the sector is both unrelenting and brisk, with studies of all aspects – student performance, satisfaction, anxiety, motivation, participation, equity and lecturer approaches also proliferating (Alavi & Leidner, 2001; Allen & Seaman, 2004; Gray et al., 2009). At the same time, students are becoming more engaged with technology in both their personal and study lives (Chang, Kennedy, & Petrovic, 2008; Lefoe, O'Reilly, & Parrish, 2007; O'Reilly, Lefoe, Philip, & Parrish, 2008). In response to this drive from both students and the higher education sector, lecturers in the naturopathy course sought to integrate relevant, efficient, scalable and reusable technologies.

## III. Methodology.

The scholarly reflections of academic lecturers who taught in the naturopathy program were gathered using interviews and reflective prompts. The approach to the collection and interpretation of data for this investigation was *constructivist* in epistemology and *ethnographic* in methodology. Consistent with a constructivist epistemology, its focus is upon the "world of lived reality and situation-specific meanings" (Schwandt, 1994, p.118), or, in other words, it seeks to provide an understanding of the how naturopathic lecturers responded to the changes in their teaching environment. Consistent with an ethnographic methodology, it "involves first-hand intensive study of the features of a given culture and the patterns in those features" (Gall, Borg, & Gall, 1996, p.607).

This lens was chosen as a methodology of naturalistic inquiry, interviews were arranged and open-ended stimulus questions were designed. These stimulus questions about the BNat were:

1. Within the course in which you were involved, can you identify any changes/innovations you have introduced? For example: field trips, laboratories, observations, new delivery styles, assessment techniques, technological innovations.
2. What do you feel was innovative in the delivery of the BNat?
3. Can you also comment on the extent to which you have engaged in or been stimulated to engage in research in your field of interest?

Ten individual interviews with key academic lecturers from the disciplinary grouping of Natural and Complementary Medicine (NCM) were undertaken in 2009. Interviews were arranged by email, the Learning and Teaching Fellowship project was explained and semi-structured interviews, based on the three questions above, were conducted. Notes were taken and later transcribed for analysis and reporting purposes. A thematic analysis was undertaken and themes emerging from the transcripts were synthesised in order to determine the key experiences, concerns and achievements. What follows is a report on the experiences, concerns and achievements of the lecturers.

## IV. Findings – Case studies of changing academic practices.

A number of key themes emerged pertaining to reflective decision-making and pedagogically driven changes to a range of academic practices. We have chosen to present these themes as a series of modality based case studies, to illustrate changes in academic practice.

### A. Herbal Medicine to wiki.

There is large herb garden at SCU Lismore campus with a covered outdoor learning area (COLA). Classes are conducted where students see, smell and gather herbs for analysis in the chemistry laboratories. Wishing to capture students' insights gained from this hands-on garden work, the lecturer (also known as the unit assessor or UA) introduced the use of a wiki with one page on each herb as an easy to access *Materia Medica*. Using this wiki, students were required to contribute information from the literature and also from their practical observation. To encourage participation the lecturer structured sections for introductory information, additional resources and a glossary. Students contributed according to their nominated area of interest. For example one student, who developed an interest in the herb *senna* and its use as 'ballerina tea' for weight loss, researched the topic and was the prime contributor to the wiki page. Other

students were able to comment on these entries and all contributions – the original students' and any follow-up comments were visible and easily tracked by the UA. A social bookmarking tool was also introduced to assist students in sharing and collecting web resources. The UA's comments illustrate her reflections on the innovative use of the wiki:

> *It appeared that the students were intimidated if the wiki was too pretty and were reluctant to get involved in it as they thought their work may not be good enough. I reworked the assessment so they had to begin at the beginning. The students had to construct the whole thing and work on creating their own pages the way they wanted to without a construct from me (Herbal Medicine UA, 2009).*

Another significant change to practice highlighted by the UA is that when herbal medicine entered the tertiary sector, naturopathy was located in the health sciences. However, herbal medicine has a long history that is deeper and stronger than folklore and pharmaceuticals. The UA thus designed the unit to align the curriculum with its traditions by attaching herbal medicine to the discipline of history. This allowed students to develop knowledge along lines that are more complex than solely adopting a science base. The connection with historical traditions proved useful when the UA was able to make collegial connections with the Smithsonian Institute in Washington DC in the USA. As a consequence of this connection students benefited from exposure to guest lecturers from the Smithsonian Institute. These lectures were recorded as podcasts. The lecturer said of this development:

> *We have a herb garden we can conduct classes in the outdoor learning area and that's been great; it's like being immersed in the herbs. But when colleagues from the Smithsonian Institute (in Washington DC) came to the Uni and gave talks on Socrates as part of their work as historians, suddenly the students were able to see how the growth of herbal medicine has been one long continuum. Up until then I think they had just been thinking about the herbs, now they saw them as part of the history of medicine... and here were two historians talking to them about ancient texts and healing practices. It was a wonderful moment for me as a teacher (Herbal Medicine UA, SCU, 2009)*

*C. Quizzes and podcasts for Nutrition.*

Classes in nutrition are shared with other disciplinary groupings in the university and so naturopathy students naturally mix with students from exercise science, osteopathy and education. Furthermore, the introductory unit in nutrition is a unit available as an elective across all undergraduate courses, and therefore caters for a large cohort of internal and external students. The UA sought assistance from production staff to develop a unit that was consistent across all cohorts and campuses, and which utilised a number of technologies for a broad range of participants, as well as being easy to manage. This has meant changing integrating a range of technologies for flexible learning. The unit now includes wikis for student collaborative work and podcasts of recorded lectures, as well as synchronous audio based interaction online supplemented with the use of an in-built platform for sharing applications (including PowerPoint™, websites, whiteboard and specialist software for dietary nutrient calculations). The UA also identified a need to stimulate reflective practice as part of the student learning, noting:

*I wanted to design an assessment item that stimulated deeper thought through reflective practice, [and] that encouraged students to look into the literature and see how it informed their study of nutrition, so they did more than simply learn how to calculate food values. I saw it as important to stimulate sustained engagement with the materials. Online quizzes combined with a food diary promoted that engagement (Nutrition UA, 2009).*

Audiographic software was used as a teaching tool to reach both external and internal students that, combined with use of podcasts, enabled them to access recorded lectures and go over topics they may have missed or wanted to study further. The technology reinforced student learning, supported successful completion of assessment tasks and extended the reach of the unit. The UA critically evaluated her innovations and concluded that pedagogically, the changes to requirements for student reflection have added depth to the learning process as well as enabling access to a geographically widespread cohort.

*D. Vodcast, blogs, peer review for Tactile Therapies.*

The teaching of tactile therapies primarily requires a hands-on approach. Students learn massage routines through observation and usually practice with a partner in class in a purpose-built classroom that has massage tables and is screened for privacy. In response to student requests for more practice time and thus to facilitate learning outside practical classes, the UA created vodcasts whereby techniques were demonstrated and uploaded to the online unit site. These could be downloaded to an mp3 player for self-paced skill development, revision and reinforcement. An online workbook was also developed containing interactive exercises to promote group work. Reflective practice was developed through use of a weekly blog and participation in the online discussion board. Other assessments such as written case studies, practical examinations and demonstrating an understanding of theory required students to engage with critical thinking and best practice application. Students also participated in supervised practicum work in the university student clinic. There were opportunities for students to work as trainee tactile therapists in the community, not only in places such as hospices and rehabilitation units but also during University-organised community events.

The UA has completed the Graduate Certificate in Higher Education (L&T) and in so doing found the practice of peer review of teaching particularly beneficial to trigger reflective practice and to stimulate a scholarly approach to teaching:

*A colleague from Teaching and Learning came to my classes and observed and offered feedback. I found it tremendously useful. It validated my practice and the constructive feedback informed me on how to enhance the student learning experience. Up until then I had just taught as best I knew how. This really helped me improve my teaching practice (Tactile Therapies UA, 2009).*

*E. Using software in Homoeopathy.*

The subject of homoeopathy can sit uneasily within a university curriculum, as there exists lively debate regarding its validity and efficacy. Homoeopathy has a tradition of being taught along lines that have not shifted a great deal since its conception in 1799 by the German physician Samuel Hahnemann. A major push within homoeopathy teaching was the use of assessment tools

that promote philosophical and reflective practice – key skills required of practitioners. A specialist homoeopathy software program was installed at the university teaching clinic so students could learn to use a tool that made repertorising the *Materia Medica* both swift and efficient (repertorising refers to the calculation of an appropriate remedy through selective symptom matching, which is often very complex and time consuming). The software package was used both in the classroom and student clinic.

*F.   Online cases studies and scenario based learning in Medical Sciences.*

The medical sciences stream included subjects such as anatomy, physiology, chemistry and biochemistry, symptomatology and pathology. Lecturers were active in seeking innovations to enhance engagement with the often dense material of medical sciences. Classes were delivered in fully set-up laboratories designed for use across five undergraduate programs in Health and Human Sciences. Anatomy classes involved not only the use of models as is typical, but were also supplemented by 3D graphic computer based activities and optional activities within the cadaver lab (wet lab). Students worked through activities in rotation with the computer based activities reinforcing the learning from anatomical models and wet lab specimens. Lecturers met together to discuss strategies to make student wet lab engagement more meaningful, to cater effectively to the high number of students rotating through the facility. A meeting like this may not necessarily have happened in private colleges where lecturers attend for their classes only and are usually not employed on a full time basis or located on site.

Physiology classes were delivered using an audiographic interface in order to provide an equivalent experience to students on each of the university's three main campuses. These media rich lectures were also recorded for self-paced learning and revision. Assessment was conducted through a series of online exams and laboratory tests. Similarly, chemistry and biochemistry classes incorporated hands-on experiments and used a series of online quizzes to reinforce key foundation knowledge.

Symptomatology and pathology were taught through two inter-related units. The design of these has changed significantly over time and a detailed report can be found in a previously published paper (O'Reilly & Wojcikowski, 2008). In brief, the units use case based scenarios in a lock step fashion requiring students to submit responses in a series of related steps. They have in the past been provided with feedback on each stepwise submission using a feature of Blackboard™ called Adaptive Release™. From the student feedback and UA's ongoing reflections on how to improve teaching, changes were made for less in-class tutorial hours and more on-line delivery through interactive self-paced case scenarios. The latest version of the unit was designed with Scenario Based software. As a Scenario Based Learning (SBL) design, this is as close to an authentic practitioner caseload as possible and is intensively engaging for students. Design of these units now also facilitates a more automated marking process. As a result of a coherent and scholarly approach to enhancing the student learning via technology-supported engagement, this academic was awarded a VC's citation for excellence in teaching.

*G.  Community-based, case-based learning and computer-based clinical decision making in Clinic and Practicums.*

As part of the medical sciences curriculum, students embark upon case based learning from their 3rd year of study and are also introduced to specialties through guest lecturers such as pediatricians, pharmacists and mental health specialists. The pedagogical design aims to enhance

diagnostic knowledge that is further developed through liaison with local hospitals. Naturopaths are typically excluded from the public health system however the negotiation by the Head of Nursing increased interaction between the university and hospitals in the area, and naturopathy students were enabled to go into palliative care units, rehabilitation units and aged care facilities to give massages. They were also encouraged to work in Aboriginal Health Care units. This increased their opportunity to see other health professional interacting with patients as well as strengthening collegial networks. As part of a commitment to promote collegial relationships and enhance learning, SCU also established an agreement with Bastyr University in Washington State (USA) that allows for exchange for 4th year students.

These opportunities exposed students to the training structures of other institutions. It also brought them into contact with the array of technologies used in the health sector and introduced them to the possibility of incorporation into their own practice. As one clinic supervisor noted:

> *Students are able to make the most of the programs available to augment decision making. For example there is a program called HyperHealth ™ that helps with differential diagnosis. The Natural Standard™ is another program which, when students type in a condition, offers suggestions for vitamin and mineral supplements that they can use to inform their case studies. We have CDs of herbal and nutritional compendiums which they can access... These programs do not replace their decision making. We teach them how to use them wisely and also the importance of keeping knowledge current. They get to see that good quality up to date data is easily available (Clinical Supervisor, 2009).*

The UA for clinical education chose to enroll in the Graduate Certificate in Higher Education (L&T) in order to explore and improve teaching practice. This opportunity to improve pedagogical approaches was seen as significant:

> *I undertook the study in the Graduate Certificate in Higher Education (L&T), and used my study as an opportunity to do a literature review on assessment strategies in clinical assessment. This really informed my practice as Clinical Director and I changed the assessment protocols at the clinic so that testing was more thorough and tested knowledge on all levels. I introduced Viva Voce examinations and problem based learning so that the learning for students was real, immediate and relevant early on (Clinic Director, 2009).*

*H.   Enhanced PowerPoint presentations for Grand Rounds.*

Clinic, practicums and Grand Rounds together form the core practical components of the medical sciences curriculum. Students in their 4th year present assessable case studies to peers, lecturers and invited guests. In this way, students practised presentation skills as well as sharing reflections and insights about practice strategies with peers. This teaching model of Grand Rounds was borrowed from medicine and initiated by the Professor of Natural and Complementary Medicine who holds both medical and naturopathic qualifications. Students also performed role plays and used a number of technologies including PowerPoint™, and IT tools such as hyperlinks within their presentation to provide snapshot videos to enhance their

presentations. Peer review was incorporated into the formal assessment as a strategy to promote student engagement, critical thinking skills and scholarly reflective practice.

## V.  Discussion.

 The Learning and Teaching Fellowship project sought to inquire about the innovations in teaching practices, technology led and otherwise, and to investigate the scholarly reflective decision making activities of lecturers. Whist some of the innovations are standard practice in higher education, integration with the formal higher education/training sector brought change to pedagogy in naturopathic education. These changes were impacted by greater access to resources, exposure to collegial exchange across a range of disciplines and engagement with self-regulatory systems.

At SCU lecturers from the private sector now had access to resources that had previously been largely unavailable to them, such as a large university library with reference librarians, chemistry and computer laboratories. Employment was now primarily on continuing basis thus affording greater continuity, support and availability to students (employment on a sessional basis is generally the case in the private colleges). As academics, naturopathic lecturers were expected and supported to upgrade their qualifications and to embark on research and scholarship and to participate in course and program reviews routinely. Opportunities for collegial exchange, professional development and support for conference participation now existed. The affordances of these resources meant that lecturers were now drawn into a model of supported academic practice and encouraged to develop their scholarly outputs.

Lecturers had to respond to issues such as the resourceful use of educational technology, a diverse student cohort, cross campus teaching, governance issues such as course and program reviews, enforced deadlines consistent with institutional prerogatives, incorporating university Graduate Attributes and the ongoing requirements to upgrade qualifications. This mix of requirement and challenges had impact on the way naturopathy was taught. On the one had it introduced a range of resources and a degree of standardisation, on the other hand the intimacy of the 'cottage industry' was felt by some to be a loss.

The pluses were that the opportunities within the university to advance qualification through engagement with further study, through submissions for grants, awards and/or scholarly publications were all seen as positives by lecturing staff.

## VI. Conclusion.

The findings from this study point to the reflective practices that academics undertook about the introduction of new technologies, innovations and pedagogies in naturopathy. All the naturopathy lecturers interviewed expressed that they had gone through significant changes in their teaching practice as a result of the changes in delivery for the subjects and their exposure to a more involved educational system. This reflective process impacted upon their academic practice as they underwent a process of professional upheaval and reshaping of professional practice. Further investigation into academics' scholarly reflective approaches to decision making, and teaching in the discipline indicated that some chose to pursue postgraduate educational studies and others also deepened their inquiry into disciplinary pedagogies. These changes and shifts in pedagogy have proved positive in bringing the educational culture of naturopathy more into mainstream. The benefits have been more access to resources and collegial inquiry and support, along with upgrading of the skills of the lecturers and deepening of

their professional commitment to excellence in education for neophyte naturopathic practitioners. This can only have a positive impact on the profession, which being unregistered, is vulnerable to criticism from society and other allied professions who may view complementary medicine with caution and reserve.

## Acknowledgements

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