

Quality use of medicine experiential placements for fourth year pharmacy students

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Abstract

The educational principles that underpin undergraduate experiential placements include self-directed student learning, contextual and workplace learning, progression towards life-long learning (beyond undergraduate academia), multi-professional learning, reflective practices, peer teaching and learning.

To support this approach to teaching and learning, the School of Pharmacy, University of Queensland, Australia, has instigated fourth year experiential placements at which the student completes a “Quality Use of Medicine” (QUM) project in conjunction with the placement on-site preceptor.

The placements are self-selected by the students with the proviso that the placement is centred on QUM. The 4-week placements take place twice a year across the world, and it is not necessary for the preceptor to be a pharmacist.

Over the course of eight university semesters, 871 QUM placements have been successfully completed. Feedback from students and preceptors has indicated the worth of these placements in the undergraduate pharmacy course.

Keywords: *Pharmacy education, experiential education, pharmacy placements, quality use of medicine*

Introduction

The goal of pharmacy education in Australia is to produce practitioners who are competent to practice within the national health policy. The National Medicines Policy 2000 is an Australian Federal Government Policy in which the overall aim is “*to meet medication and related service needs so both optimal health outcomes and economic objectives are achieved*” (Commonwealth of Australia, 2000). The four central objectives of this policy are to:

1. Promote “the quality, safety and efficacy” of medicines;
2. Ensure “equity of access” to medicines;
3. Maintain “a viable and responsible pharmaceutical industry”;
4. Achieve “quality use of medicines (QUM)”.

To assist in meeting the National Medicines Policy goal of optimal health for all consumers, the QUM

objective requires that all medicines be used judiciously, appropriately, safely and efficaciously. The National Strategy focusing on Quality Use of Medicine acknowledges that the four objectives of the National Medicines Policy are interdependent, and considers QUM to be the lynchpin which supports and enables all the objectives of the Policy to achieve the best possible use of medicines and improve the health outcomes for all Australians (Commonwealth of Australia 2002).

The National Medicines Policy states that the goal of better health outcomes for all consumers relies on partnerships between Government, health practitioners, other healthcare providers and suppliers, the medicines industry, consumers and the media.

The challenge for pharmacy and pharmacy education is to promote these collaborative healthcare partnerships within the undergraduate curricula, but at the same time not lose core pharmacy principles or the contribution of the pharmacist.

All Schools of Pharmacy in Australia have implemented a four-year undergraduate teaching program. In the year 2000 the School of Pharmacy, University of Queensland (2000), restructured the entire undergraduate program with an emphasis on integration. Within this program, not only is there the traditional didactic and practical material, but there is also experiential education arising from a series of professional placements. During the four years of the program, students experience pharmacy practice via observation or participation at urban community, rural community, or urban hospital pharmacy.

To further foster the QUM and collaborative partnership goals, the fourth year (final year) students further extend their experience by undertaking two placements based around the principle of “Quality Use of Medicine” (QUM) as promulgated by the National Medicines Policy 2000. The students undertake a QUM project in conjunction with the placement on-site preceptor at the placement site. These placements may be undertaken at any healthcare site or related industry, and under the auspices of any healthcare professional (not necessarily a pharmacist), as long as the theme of the placement project is QUM.

Background

Objectives of the QUM placements

In establishing these experiential QUM placements, a number of overlapping objectives were developed in order to promote the following.

Workplace learning

The placements offer an interface between workplace learning and student research, so students, preceptors and the placement site may gain by this experience (Boud, Solomon, & Symes, 2001; Boud and Solomon, 2001; Boud, 2001).

Collaboration between health professionals

The placements are often multidisciplinary, where both the student and the preceptor can gain an appreciation of each other's role in QUM. The students are advised to experience the whole placement site and not concentrate solely on the project.

Education goals

Students are encouraged to choose a QUM placement site and project that reflects their self-perceived educational needs. This emphasis on educational context helps to promote self-direction, self-motivation and deep learning (Ramsden, 1992; McAllister et al., 1997; Boud and Walker, 1998a; Biggs, 1999;

Prosser and Trigwell, 1999). We use reflective techniques, such as the daily logbook, to further add to the experiential education gained by contextual learning (Boud, Keogh, & Walker, 1985; Boud and Walker, 1993; 1998a; b; Butler, 1996; Moon, 1999a; b). Experiential education may also assist these final year students in the transition between university and the workplace, and in encouraging the necessary shift toward self-directed education and learning (Alderman and Milne, 1998; Boud, 2001).

Project development based on experiential content

The students are required to develop a QUM project to obtain skills in development, planning, execution and reporting.

Peer learning and assessment

When the students return to the university campus, they present their QUM projects in both written and oral format. These oral seminars allow the students to appreciate the range of activities at other experiential sites, and to assist and promote their own learning by the articulation of their peers, rather than teacher input (Boud, Cohen, & Sampson, 1999).

Description of the QUM placement and portfolio

The university academics who oversee these placements are referred to as academic supervisors. However, at the placement the person responsible for student activities is termed the placement preceptor. Placement preceptors are instrumental in making sure the students are incorporated into the general workplace activities.

The School of Pharmacy QUM Placements occur during the first four weeks of each semester (150 h) in the final year of the Pharmacy program (Year 4), with the practicum curricula as outlined in Table I.

Prior to the placement, the students are asked to reflect upon their learning and skills in order to consider where they would like to undergo this placement. To this end, these placements and projects are substantially self-selected by the students in order to augment their QUM knowledge. The academic supervisors allocate placement sites based on student request and site availability.

These placements have taken place throughout Australia and at many overseas sites; the preceptor is not a pharmacist at many of the sites. Students have gone to placement sites where the preceptors have been medical practitioners, dentists, nurses, scientists, pharmacologists and other healthcare workers. This encourages the student to begin to establish local and international professional networks, both within and outside the pharmacy profession.

Table I. School of pharmacy (University of Queensland) year 4 QUM practicum curricula.

Year	Duration of the QUM placement	Site of the QUM placement	QUM placement curricula
4	Four weeks (150 h)—first 4 weeks of semester 1&2	Any QUM site where there is an approved placement agreement	Placement experience QUM Portfolio: <ul style="list-style-type: none"> •Written QUM report •Reflective logbook •Oral QUM report •Preceptor feedback •Student feedback

Before the QUM placement can begin, there must be an approved "Placement Agreement" between the University and the placement site. This agreement covers many financial, legal and insurance issues. With regard to these issues, and in light of recent world events, we now must ensure no placement can occur where there is an acknowledged health or safety threat.

Prior to the experiential placement, the students are supplied with a QUM Placement manual. This manual guides the student to develop a "Portfolio of Achievement" at the placement site. This portfolio consists of a daily reflective activity logbook, an oral placement report, written placement report and a student evaluation of the placement site. The manual also outlines the criteria for the quantitative assessment. In addition, the placement preceptors receive a manual to inform them of the student requirements. This manual asks preceptors to give feedback to the School via a criteria-based student evaluation form, which contains a section encouraging the preceptor to make comments about the administration of the experiential placement.

Description of the QUM project

These projects are student and workplace driven. The academic supervisors do not set the theme of these projects (apart from QUM), but are available to both students and preceptors for discussion. The focus at the placement site is for the student to experience the placement through the "eyes" of that health professional. This is particularly relevant at the experiential sites where the preceptor is not a pharmacist. Student experiences at these sites are altered from the traditional pharmacy experience into a multidisciplinary experience. Feedback from students has reinforced the value in experiencing this change in focus.

At the placement site, the students and the preceptors (with academic supervisor support) collaboratively decide on a QUM project that is relevant and useful to that placement site. In the first week of the placement, students are requested to submit their placement project objectives and project plan to the academic supervisors. The academic supervisors review the projects on the basis of achievability during the four weeks, ethical issues and confidentiality considerations. All projects must have academic supervisor approval before com-

mencement. Communication to and from the placement sites is done by e-mail, facsimile, post and telephone—whichever is the most practical and will allow for speedy discussions. The students are informed of the implications regarding the placement timelines prior to their placement.

Assessment of the QUM placements

After Week 4 of the semester, the students return to the University campus to present a written and oral report on their QUM placement project. The academic supervisors assess the written and oral reports by criteria-based assessment. The oral reports are delivered to the fourth year class where the students and staff nominate the oral presentations that they feel best to illustrate the goals of these projects. At the end of each semester, six presentations are chosen to be delivered to a wider audience of invited guests representing the many branches of pharmacy and the health professions.

Aim of the study

The aim of this paper is to describe, collate and report on four years of experience with these fourth year QUM placements.

Method

A spreadsheet of the QUM placements was developed for each semester in each year between January 2000 and December 2003.

Each placement was assigned to a broad description of the placement type, such as urban hospitals, rural hospitals, urban community pharmacy, and rural community pharmacy, as listed in Table II.

Frequency data was collated from the spreadsheets and entered into Table II.

Results

From January 2000 until December 2003 (eight semesters), 871 students have been successfully placed into a QUM experiential placement site.

Placements have been conducted in England, Switzerland, Fiji, Germany, Greece, India, Korea,

Table II. Summary of completed student placements by location and preceptor (January 2000–December 2003).

Number of students	QUM experiential placement site	Preceptor at the site
289	Urban hospitals (pharmacy + limited non-pharmacy)	Pharmacists Doctors Nurses
181	Urban community pharmacies	Pharmacists
73	Rural hospitals	Pharmacists Nurses Doctors
50	Overseas (hospital; community; industry)	Pharmacists Health workers
45	Rural community pharmacy	Pharmacist
27	National prescribing service or NPS facilitators within the divisions of GP	Pharmacists
26	Mt Isa Rural & Remote program (a multidisciplinary rural program)	Pharmacist Nurses Health workers
26	Alcohol and drug support & rehabilitation clinics	Nurses Healthcare workers
23	Medication reviews (Aged care) (community pharmacy; specialist aged care pharmacy service)	Pharmacists
17	Community nurses (urban; rural)	Nurses
17	Health professionals (community)	Doctors Dentists Physiotherapists
13	Aged care/palliative care facilities (Specialised hospitals)	Nurses
13	Government (Queensland)	Pharmacists
12	Health insurance commission (HIC) (Queensland; Canberra)	Pharmacists
12	Pharmaceutical industry (Queensland; New South Wales)	Scientists Research administrators
11	Drug and therapeutic information service (DATIS - South Australia)	Pharmacists
10	Queensland rural medical support agency (QRMSA)	Pharmacists
8	Health research	Pharmacists Scientists Doctors
6	Veterinary	Pharmacists Veterinary practitioners
5	Armed services (Army, Air force)	Pharmacists
4	Health support organisations	Healthcare workers
2	Nursing homes (Aged care)	Nurses
1	Pharmacy professional organisation	Pharmacist
Total 871		

Malaysia, Canada, South Africa, Thailand, Hong Kong, Taiwan, New Zealand, United States of America and throughout Australia. All students are encouraged to consider undertaking at least one of these placements in an Australian rural environment. Some students have completed projects at many rural sites including Thursday Island, Emerald, Biloela, Roma, and at the Mt Isa Centre for Rural and Remote Health. At this latter site, pharmacy students have completed the course and project with medical students at the outreach clinics of Mornington Island, Julia Creek, Camooweal, Cloncurry, and Normanton.

Many of the benefits of these placements have been mentioned and discussed, but of particular note are the benefits to student learning as provided by the:

1. *Contextual environment for teaching and learning:* Students have benefited from the placements as they have been able to experience the real-life illustration of theoretical university material. Feedback from students has highlighted the benefit in observing and experiencing the practical application of a wide variety of QUM concepts;
2. *Opportunity for the student to self-select the placement experience:* We ask the students to reflect upon their own learning needs before they submit a preference for a QUM placement. Feedback from the students has emphasized the benefit in this self-selection practice, as many students have had the opportunity to experience a number of different career opportunities which may not have been previously apparent;
3. *Motivational input by placement based research and experience:* At the core of experiential education is the guiding hand of the placement preceptors. As academic supervisors, we have come to appreciate the “two-way street” in opportunity that these placements have offered. Not only have students

benefited from the preceptor's experience at the chosen site, many preceptors have provided feedback saying how much they appreciate the information and enthusiasm the students bring to the placement. For some preceptors, these placements have given them the opportunity to be involved in QUM research that has bolstered their professional practice. Many of the QUM projects have been presented at conferences, thereby demonstrating the quality of the work, which can be achieved at these placements;

4. *Opportunity for pharmacy experience:* As evidenced by Table II, most students have chosen to complete their QUM placement at a pharmacy site with a pharmacist as their preceptor. The placement preceptors have verbalized the professional benefits in being able to foster student learning within the pharmacy profession. Some workplaces have also expressed a benefit in that they have attracted student interest in future employment at that site. Although this is not an objective of these placements and is not generally encouraged, it is gratifying in some circumstances to see this happening, particularly in specialised areas of pharmacy practice or rural and remote areas where there had been a difficulty in attracting young graduates;
5. *Opportunity for multidisciplinary experience:* Project reports and feedback have shown the benefit to pharmacy students in undertaking a project where the preceptor is not a pharmacist. This is particularly true of the health professions where pharmacy students have a limited exposure in their undergraduate program. All students completing a placement with the community nurses have seen how the nurses deal with particularly difficult situations and have become familiar with the health promotion opportunities that could be possible by collaboration between a community pharmacist and a community nurse. Similarly, students undertaking placements with dentists and physiotherapists have experienced the role of another health professional and the contribution a pharmacist could make to that role;
6. *Encouragement to experience rural and remote placement sites:* In Australia, every type of health professional is in demand within the rural sector. Students completing QUM placements at these sites have been exposed to rural life and the necessity for professional collaboration at these sites. The School of Pharmacy has had funding provided by the Pharmacy Guild of Australia (and the Federal Government) to assist students in their travel and accommodation at rural sites;
7. *Overseas experiences:* In order to broaden their scope on educational, research and professional opportunities, students are encouraged to consider an appropriate overseas placement as a possibility for these placements.

Discussion

As might be expected, there have been a number of logistic problems to set these placements in progress. However, we feel the benefits for student learning far outweigh these issues. Every year, we see a new cohort of students who generally show great interaction and involvement with their project and placement site. This student involvement is usually matched by preceptor enthusiasm and commitment. There is a challenge to try to ensure the students understand the different rules and requirements of a workplace compared with the university campus. Communication between the students and preceptors generally appears to be very good. However, it is the role of the academic supervisor to mediate any problems if considered necessary by either the preceptor or the student. To date, most issues where the academic supervisor has been consulted have been misunderstandings that have probably occurred because the student is not used to the expectations of that workplace, or the preceptor is not accustomed to having an experiential student who may react or act differently from an employee.

An ongoing issue is that of ethics, confidentiality and patient/consumer privacy. It is difficult for some students to comprehend these issues as they have had limited prior opportunity to experience them in the context of workplace QUM research. The application of these real-life principles has been another area of learning for the students.

Assessment of students is a university requirement. It can be difficult to uniformly assess experiential placements, which have taken place in very different circumstances. We believe we have accomplished this by concentrating on the process of the project, whether qualitative or quantitative in nature, rather than looking solely at the amount of data collected. The students benefited from completing the reflective portfolio logbooks. It is gratifying to read the steps the student has undertaken to develop their placement and project opportunities. The reflective portfolio logbooks have also been useful for the academic supervisors to retrospectively monitor the educational opportunities at the placement site and this has been useful for future placement development.

As the number of students per year is increasing, we would like to broaden the base of the QUM placements in order to offer every student a quality opportunity. The task of finding new and interesting QUM placement sites that include traditional and non-traditional QUM opportunities has proved to be a challenge for academic supervisors and students alike.

Conclusion

On the whole, the QUM placements have developed successfully and have become a very important feature

of the final undergraduate year. The placement experiences have encouraged the transition from student to health professional. QUM placement preceptors have communicated their widespread professional interest in these projects, as evidenced by the positive feedback and their request for further students.

The QUM placements foster the principles of life-long learning and reflective practice, which are necessary in the development from competent pharmacist to expert pharmacist.

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