

# Planning and scaffolding for learning in experiential placements in Australian pharmacy schools

IEVA STUPANS,\* SUSANNE OWEN

Division of Health Sciences, University of South Australia, SA, 5000, Australia

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Learning within work-integrated and clinical placements is increasingly required for professional accreditation approval of allied health and other university programs, providing a context for students in developing not only the knowledge but also the practical skills and personal attributes of their professions. An Australian Learning and Teaching Council (previously the Carrick Institute) funded 2007 research study was conducted regarding pharmacy experiential placements with the purpose of mapping university programs, analyzing handbooks and also consulting with about 250 stakeholders from a range of backgrounds in relation to issues and quality indicators. This paper presents compiled views from a range of stakeholders with reference to scaffolding for learning at the pre-placement, during placement and post-placement phases of experiential placements. It presents a model which may facilitate comprehensive planning and scaffolding for experiential placements by both university academics and preceptors. (Asia-Pacific Journal of Cooperative Education, 10(1), 29-37).

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Learning outcomes present a change in emphasis from 'teaching' to 'learning' typified by the adoption of a student-centered approach in contrast to traditional teacher-centered viewpoint. Spady (1994) proposes a holistic, constructivist approach to learning. Such a student-centered approach to learning is focused upon a 'scaffold' upon which students build their own self-identified learning (Crotty, 1998). Planning and scaffolding for outcomes-based education and assessment involves starting with a clear picture of what it is important for students to be able to do, then organizing the curriculum, instruction and assessment to support student learning. This scaffolding may include identifying problems for students, suggesting problem-solving strategies, and providing support (Spady, 1994).

The relationship between learning outcomes and competencies is a complex area. 'Competence' and 'competencies' are used in association with learning outcomes in a number of ways. Competencies represent a combination of attributes (with respect to knowledge and its application, skills, responsibilities, and attitudes), and are used to describe the level or extent to which a person is capable of performing them. Learning outcomes are commonly expressed in terms of competencies, or skills and competency (Hager & Gonczi, 1996).

The document *Accreditation of Schools of Pharmacy in Australia and New Zealand* published by the New Zealand and Australian Pharmacy Schools Accreditation Committee (NAPSAC) outlines the guidelines of the Committee — a sub-committee of Australian Pharmacy Council, for managing the accreditation of pharmacy schools and programs in Australia and New Zealand (see New Zealand and Australian Pharmacy Schools Accreditation Committee [NAPSAC], 2005). In recognizing the importance of developing practical skills and personal attributes as well as knowledge within the university pharmacy program, an indicative figure of 250 hours of experiential placement time is outlined in the NAPSAC guidelines. This includes hospital and community placements and rural experience, with clinical

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\* Author for correspondence, email, [ieva.stupans@unisa.edu.au](mailto:ieva.stupans@unisa.edu.au)

placements embedded in the curriculum “in a manner which integrates students’ experiences and the study of pharmacy practice, therapeutics and pharmaceutical science” (NAPSAC, 2005, p. 6).

Pharmacy programs in Australia provide an opportunity to develop the essential knowledge, skills and attitudes of the profession. In comparison to other allied health programs such as physiotherapy or speech pathology, there is implicit rather than explicit attention to professional competencies. In these other health professions experiential placements support students in developing entry-level competencies, with assessment occurring prior to graduation. For pharmacy graduates a period of supervised training or an internship is necessary and the Pharmaceutical Society of Australia competencies (Pharmaceutical Society of Australia [PSA], 2003) need to be met prior to registration.

The NAPSAC accreditation guidelines provide a framework, which is used by individual universities in constructing their pharmacy programs and experiential placements. The eight functional areas outlined in the PSA Competency Standards (PSA, 2003) provide some of the outcomes directions for university pharmacy experiential placements across Australia, and each university also has some graduate attributes (also known as qualities or generic skills), such as capacity for problem solving, commitment to ethical action and effective communication for all graduates from across the various discipline areas.

Given that the environment of the many and varied workplace learning contexts in which students operate in, experiential placements are less predictable than the formal university learning context. Hence, it is considered by many that a planned approach is important, with literature suggestions that some form of guidance is necessary for effective student learning (Kirschner, Sweller & Clark, 2006). This includes the university, student and placement site/supervisors clearly identifying outcomes such as clear expectations, agreed criteria and learning outcomes, negotiated assessment and credit for learning achievement (Flinders University, 2003; University of Ulster, 2003). Familiarization with the experiential placement organization; attending to practical matters prior to commencement; negotiating the workplace etiquette, culture, and diversity; and surviving the placement in terms of occupational health and safety, legal, ethical and interpersonal issues, are also considered important (Flinders University, 2003).

University pharmacy programs provide a formal learning context and opportunities for students to build their knowledge and skills prior to the internship process. This includes experiential placements where much of the learning ‘just happens’ within many and varied situations. Through concrete experiences in working with health care consumers and with practicing pharmacists within the reality of the workplace environment, students can review and reflect on events, make connections to other experiences and begin to generalize and then experiment and apply this learning to new contexts (Loftus & Higgs, 2005). While informal learning within experiential placements is very important, Vygotsky’s notion of the zone of proximal development (ZPD) suggests that learning can be accelerated through a structured and scaffolded program (Vygotsky, 1978).

Within a framework including clear objectives and assessment tasks provided by the university, supervisors of experiential placements can structure activities for learning: “The preceptor is responsible for planning for the experience, increasing the learner’s awareness of the experience and providing feedback regarding the learner’s performance” (Littlefield et al., 2004, p. 9). The planner/supervisor has the role of accelerating the learning through

providing scaffolded experiences, including action planning and learning contracts pre-placement, and with various techniques for accelerating the planning and experience/reflection phases, such as self-assessment and journals during and post-placement (Gibbs, 1988). The university has a key role in developing experiential placement programs, with the preceptor role being the mentor and coach who inducts the student as a newcomer, helping to nurture the skills and values “with students gradually drawn into the practice of a profession” (Loftus & Higgs, 2005, p. 9).

The overall aim of the project described in this paper was to map the outcomes and the learning and assessment activities for some university experiential programs including the planning and scaffolding processes. In this paper we report compiled views from a range of stakeholders with reference to experiential placement outcomes and the scaffolding for learning at the pre-placement, during placement and post-placement phases of experiential placements. We also present a model which may facilitate comprehensive planning and scaffolding for experiential placements by both university academics and preceptors to allow students to achieve the experiential placements’ intended learning outcomes.

#### METHOD

National research was conducted in 2007 with Australian Learning and Teaching Council (previously known as the Carrick Institute) funding in relation to Australian pharmacy experiential placements. The purpose of the research was to map, identify and document current practice for experiential learning and placements in university pharmacy school programs, while also sharing ideas and identifying areas for improvement.

Research methods included preliminary forums, a literature review, contact with other professions, as well as interviews with university pharmacy schools in Australia to map programs. Analysis of selected final year experiential placement handbooks also occurred, and comparative tables were developed regarding the objectives, learning activities and assessment tasks and processes. Over 250 participants from universities, registration and pharmacy professional organizations, students and preceptors/clinical educators attended focus group consultations, which were held nationally and in each of the states and territories. Questions were asked regarding the importance of various functional areas of the Australian competency standards and activities required in experiential placements to support the development of the competencies; main purposes of experiential placements across various stages of pharmacy placements and current successes and issues; assessment currently happening and success and issues and areas for improvement and key indicators of quality experiential placements.

Written notes of the focus group sessions and interviews and handbook analysis and comparative tables were documented. In the context of this paper, attention was given to the identification of pre-, during-, and post-placement scaffolding opportunities for students. Key themes arising from the consultations were collated and analyzed by the researchers through manual processes involving optical scanning and sorting of notes, reading through information to make general sense, recording general thoughts about the data, coding and organizing material into categories, also segmenting and labeling (Strauss & Corbin, 1998). The analysis was guided by two main principles - the first, balance, to ensure that the views of the main interest groups could be identified; the second, transparency, to provide an ‘audit trail’ from the material to the conclusions drawn from it.

## RESEARCH FINDINGS

Stakeholder consultation findings and experiential placement handbook mapping results revealed a number of common themes around outcomes achieved during university placements and approaches to accelerating the planning (pre-placement) and experience/reflection phases (during- and post-placement) of the experiential placements

In the focus group consultations conducted there was agreement from all stakeholders including academics, students and preceptors that while competencies are not actually assessed until the internship year, there is a significant role for university programs in providing an opportunity to develop the essential knowledge, skills and abilities. By the final year(s) of the program, students can actually undertake learning tasks within the complexities of the workplace context and related to the skills, knowledge and attitudes required in the profession. The following comment was made by a university academic: "The fact that someone can complete a task is the main thing ... the experiential placements are there to meet undergraduate program requirements."

However, in pharmacy assessment of competencies occurs in the pre-registration year, when it is possible for multiple sources of evidence of competence to be provided. The university program has a broad purpose as one university academic commented:

Experiential placement ... at placement sites, preceptors are acting professionally according to these standards ... learning tasks are derived from a whole stack of areas including competencies. But if we were only to be based on competencies, we would miss out on a lot of undergraduate development.

The consultations indicated that most universities have a mixture of some highly-structured experiential placements with very specific tasks outlined in the handbooks which need to be undertaken, and opportunities for students to construct their own learning goals to meet prespecified and broad objectives in a range of ways dependent on the pharmacy situation. To support the balance between highly-structured and more open-ended situation-specific experiential learning, some universities have guidelines about how much time in the workday can be devoted to workbook activities. One preceptor commented: "You need a structured program but it's got to have flexibility and the majority needs a fair bit of structure." A response from one of the professional organizations was:

Students in the early placements need more structure ... if there is not a good preceptor, structure helps ... preceptors should provide scaffolding but some don't have the skills for this ... it's a trade-off between giving them enough guidelines, and giving them too much.

There was some concern that in the case of less structured experiential placement situations, they can be too open-ended and students become "cheap labor" and undertake repetitive tasks, or are underutilized. A response from one of the professional organizations was: "Some people have no clue ... they don't really care ... they see an undergraduate as cheap labor."

Some additional structures were suggested based on having clear goals, including a university-provided checklist of various potential activities, which would enable the student and preceptor to negotiate tasks which were available within the particular placement context and which met student needs and interests. A sample comment from a preceptor regarding structure and flexibility states was: "You need some structure but it needs to be horses for courses ... some students are not up to working independently ... but if you're able to create flexibility."

As well as the university establishing clear expectations and structured learning for the placement, an orientation process involving negotiation between the preceptor and student was considered essential in terms of students feeling comfortable within the placement situation. A student commented: “When you arrive you don’t know where you stand. The pharmacist says make up your own objectives – pharmacists need more ideas about what to do with students.”

Students commented positively about university placement programs where a checklist of possible activities was included, as this provided structure and flexibility to select learning activities according to the situation and needs of the student. A key theme arising from the consultations was clarity of outcomes, and issues of clarity and flexibility. Other aspects of comprehensive planning were in relation to specific skills requiring further development and scaffolding within the pre-placement, during-placement and post-placement phases. This includes reflection and feedback. Reflection and portfolios are a very important part of most experiential placements - particularly in the later years of the pharmacy program, enabling the student to present evidence of problem-solving and patient-focused approaches. The value placed on reflection was seen in many comments. For example, a student commented: “You learn lots in reflection and you identify issues that you need to work on.” Many students indicated that reflection activities had little structure, and minimal guidance was provided by the university. In many cases, the exercises became daily logs, descriptions of events with limited usefulness and which involved considerable amounts of time. Two students commented: “I didn’t understand what to write in there ... [I] needed a bit more instruction in what to write,” and “It’s hard making it assessable - it’s worth 40 percent ... We don’t really know what to write about.”

In the analysis of experiential placement handbooks from universities, it seems some universities provide some scaffolding to support students in reflection activities. One handbook guided students in reflection using the following questions:

What did you do?  
What did you learn?  
How has your knowledge increased as a result of this activity?  
How does this relate to your didactic studies?  
How has what you have learnt helped you envisage your future role as a practicing pharmacist?  
What did you learn which could be used or applied to your future practice as a pharmacist?  
Has what you have learnt modified in any way your beliefs or opinions about pharmacy practice?

Another university asked students to use the following structure to support reflection:

*Situation:* What actually happened? This can include people, environment, words, events, activities, images....  
*Effect:* What did you feel about situation – intuition/gut reaction? Were you surprised, uncomfortable, confused, intrigued, disturbed, engaged, inspired?  
*Interpretation:* What did you learn? Outline own conclusions from experience, reflect on how this relates to what learnt in the course.  
*Decision/Follow Up:* What will you do as a result, e.g., further reading, observation, what would you do differently next time?

An important role for preceptors relates to the provision of feedback and this was frequently raised in the consultations. A repeated comment from students and preceptors was the importance of feedback and skilful questioning. Comments from students included: “It’s really important that you’re aware of the feedback ... it allows you to grow and improve,” “students go in with a positive attitude and want to make the most of it but feedback depends on how it happens,” and that the good preceptors “know which questions to ask to get you thinking.” Preceptor comments included: “Feedback is absolutely essential and the

more opportunities for feedback in an informal way, or just as important formal through critiquing their work, the better,” and “preceptors should be giving useful feedback to the students ... it should be useful to the student, rather than useful to the university.”

## DISCUSSION

Consideration of both Kolb (1984) and Vygotsky’s (1978) concepts is useful in the context of experiential placements. In accordance with the principles of experiential education, the placements provide significant opportunities for students to actively engage in learning within the clinical environment - in an informal manner, and on a daily basis. Highlighting Vygotsky’s scaffolded learning approach; some learning is also structured to meet program and experiential placement goals, with supervisors involved in planning and feedback. This includes scaffolding to develop the required competencies, which are aligned to professional entry requirements, and creating “authentic and meaningful learning experiences that enable the learner to acquire the knowledge, skills and attitudes required in professional practice” (Littlefield et al., 2004, p. 9).

There was agreement about the significant role for university pharmacy programs in providing an opportunity to develop the essential knowledge, skills and attitudes. Relevant to Miller’s (1990) clinical competency framework, experiential placements within university programs provide the opportunity to move beyond the knowledge aspects of knows, knows how, and shows how aspects, and by the final year(s) of the program, students can actually undertake some learning tasks within the complexities of the workplace context in preparation for the internship year and registration in the profession. While there are varying views expressed about this, generally it is felt that there needs to be an understanding with all stakeholders about the role of the competencies within the university program. This would provide students with a better understanding of the competencies that underpin learning and assessment tasks during the years of the program, also increasing awareness that these need to be demonstrated by the time of completion of the pre-registration year.

Key consultation views emphasized the importance of a balance between open-ended and structured placement situations, aligning with both Kolb’s (1984) and Vygotsky’s (1978) ideas. While there were many positive comments about experiential placement programs, some key areas for improvement generally relate to greater goal clarity; scaffolding at the pre-placement, during-placement and post-placement stages, and the importance of building student and preceptor skills in reflection and feedback in the learning process.

The importance of clear outcomes and comprehensive planning processes is regarded as essential for experiential placements, with most stakeholders involved in the consultations believing that the competency standards of the profession need to have a more significant place within the university profession as well as considering other outcomes related to graduate attributes. Our work is in accord with that published previously in pharmacy (Veronin & Patry, 2001), and other health professional education (Shumway & Harden, 2003). Comprehensive planning and scaffolding for pharmacy experiential placements needs to be considered at a number of time points – pre-placement, during-placement and post-placement. In terms of some of the aspects raised in this paper such as reflection, this would mean focusing on this outcome through clarifying the link to pharmacy competencies for example, Functional Area 1 Unit 1.3: “Pursue lifelong professional learning and

contribute to the development of others: specific elements lifelong learning maintain/extend professional competence; assist others to learn and develop” (PSA, 2003, p. 27).

Figure 1 depicts a model proposed for the processes involved in enabling outcomes-based programming within experiential placements. This involves the university, preceptors and students in having a clear outline of what is to be achieved. The figure clearly identifies university activities at the pre- and post-placement stages, which scaffolds student experiential learning. The figure is based on resources developed for South Australian K-12 teachers to assist curriculum construction around learning, which is purposeful and connected to meaningful contexts through extended and deep tasks (see DECS, 2007). The figure also explicitly depicts the role of the university in providing support to preceptors, and the roles of both the university and preceptors in providing support to students.

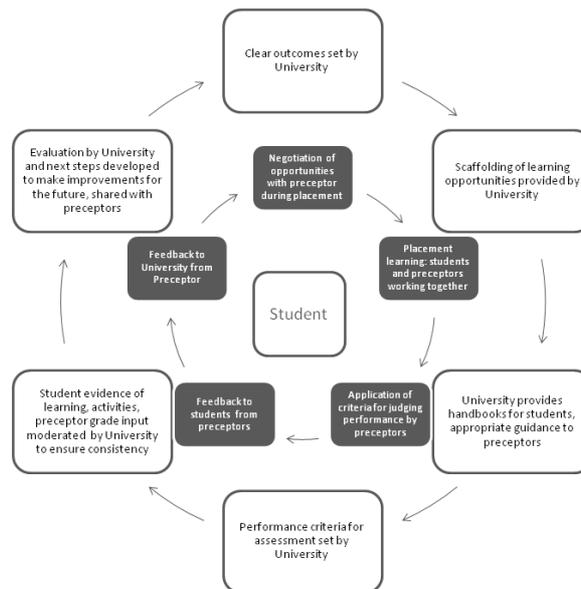


FIGURE 1

Proposed model for processes enabling outcomes-based programming within experiential placements involving the university, preceptors and students (based on DECS, 2007)

Six aspects are outlined as responsibilities for universities, and five aspects relate to the responsibilities for preceptors and students.

For universities these responsibilities are:

1. Clear outcomes: for example, (PSA, 2003, p. 27) Functional Area 1 Unit 1.3: “Pursue lifelong professional learning and contribute to the development of others: specific elements lifelong learning maintain/extend professional competence; assist others to learn and develop” plus university specific graduate attributes in relation to lifelong learning for personal development;
2. Scaffolding learning opportunities: university pre-placement provision and student practice of a reflective questioning and writing model;
3. University outlining model in handbook for students and preceptors and students being provided with a framework and developing own objectives for placement;

4. Criteria for judging performance: University at pre-placement stage, making clear to students and preceptors about assessment requirements and criteria for judging effective reflective writing, and providing clear information in handbooks;
5. Moderation of results to ensure consistency; and
6. Evaluation of experiential placements by the university; sharing of evaluation findings with preceptors, processes for improvement developed.

For preceptors these responsibilities are:

1. Preceptors prior to placement discussing expectations and opportunities for students within placement site; during placement, preceptors working with students to consider their learning needs and own objectives for the placement and support opportunities for follow-through, role modeling;
2. Students and preceptors during placement being supported through work of preceptors by scaffolding and asking skilful questions to get students to engage in experiences and think deeply about the experience and alternative views, and how this will inform future action;
3. Application of predetermined criteria to student work;
4. Feedback during placement, preceptors working with the student and being explicit about strengths and areas for improvement which students can then reflect on and record in their reflective writing; and
5. Feedback from preceptor provided to university.

Data obtained from this research provides universities in Australia (and indeed internationally) and accreditation authorities with a snapshot of experiential placements in Australian pharmacy programs. Figure 1 thus represents a resource for all academics that have a role in experiential placement organization.

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