

INSTRUCTIONAL DESIGN AND ASSESSMENT

Best Practices Assessment to Guide Curricular Change in a Bachelor of Pharmacy Program

Greg Ryan, PhD, Jane Hanrahan, PhD, Ines Krass, PhD, Erica Sainsbury, MSc, and Lorraine Smith, PhD

Faculty of Pharmacy, The University of Sydney

Objectives. To identify best practices in global pharmacy education and curriculum design as the basis for decisions about major curriculum change in an existing 4-year bachelor of pharmacy curriculum.

Design. We investigated international best-practice standards, conducted semi-structured interviews with faculty members, and used standardized instruments to investigate student perceptions of the existing curriculum and how they approached their learning.

Assessment. Faculty recommendations included horizontal and vertical integration of curriculum content to replace the previous discipline-based approach; and a theme-based structure underpinned by a detailed statement of learning outcomes that describe the knowledge, skills, and attitudinal milestones to be achieved each year and by the time of graduation. The triangulation of student survey data highlighted issues that needed to be addressed at the individual course unit level, with a particular focus on feedback, assessment, and workload.

Conclusions. The results of the curriculum review provided clear guidance for decisions relating to major curriculum change. An ongoing program of staff development will address the wide range of learning and teaching issues identified by both staff members and students. The results of our investigation of students' approaches to learning will also be used to guide staff development workshops, focusing on strategies to promote "meaningful learning."

Keywords: curriculum review, curriculum, bachelor of pharmacy degree, best practices

INTRODUCTION

Pharmacy education literature is replete with examples of innovative instructional design and assessment. However, few studies have reported on the process of large-scale, systematic evaluation of an entire undergraduate pharmacy curriculum as the basis for major curriculum change. This paper reports the process of curriculum review and redevelopment used at the Faculty of Pharmacy at the University of Sydney and provides an example of the application of evidence-based principles in the systematic investigation of curriculum effectiveness.

Our Faculty has an international reputation as a centre for teaching and research in the pharmaceutical sciences and pharmacy practice. Education of pharmacists at this University began in 1899, and has continued through the introduction of a degree course in 1960, to the current provision of 4-year undergraduate (approximately 280 students accepted each year) and 2-year postgraduate (approximately 40 students enter each year) registration

programs. Originally part of the Faculty of Science, Pharmacy at the University of Sydney was constituted as an independent Faculty in 2000 and currently comprises 3 disciplines: pharmaceutical chemistry, pharmaceuticals, and pharmacy practice.

Like most undergraduate degree programs, our BPharm has undergone continuous small-scale changes to maintain the highest standards in "best practice" pharmacy education. The existing curriculum follows a fairly traditional model, with the first year focused mainly on basic science subjects (mathematics, chemistry, general biology, and human biology) in addition to foundation courses in pharmacy and pharmaceutical sciences. The second year of the degree concentrates predominantly on biomedical and pharmaceutical sciences (biochemistry, medicinal chemistry, pharmacology, and pharmaceuticals) and an introduction to pharmacy practice. The third year expands on the pharmaceutical sciences, with more emphasis placed on the practice of pharmacy. The final year of the program concentrates on the clinical and therapeutic aspects of pharmacy practice. Subjects are currently taught in a discipline-based manner with little continuity across the different disciplines. In years 1 to 3, the teaching occurs predominantly in a didactic manner, with some case-based learning introduced in the third year. The final

Corresponding Author: Associate Professor Greg Ryan, Faculty of Pharmacy, A15, The University of Sydney, NSW, 2006. Tel: +61-2-9036-7023. Fax: +61-2-9351-6646. E-mail: gryan@pharm.usyd.edu.au

year of the degree includes a substantial amount of problem-based learning.

The Faculty has a strong reputation for developing innovative learning and teaching practices, and much use has been made in recent years of simulated practice environments and integrated, small-group problem-based learning. However, these innovations have been largely discipline specific, and confined to individual course units throughout the curriculum. Anecdotal evidence from both staff members and students indicated a need for systematic, large-scale curriculum review in order to consolidate these developments, to enhance cross-disciplinary collaboration, and to ensure that the curriculum reflected well the rapidly changing nature of pharmacy practice.

Our objectives were to undertake a comprehensive review of our existing BPharm curriculum and identify best practices in pharmacy curriculum design, and based on the findings from this review, create the framework for a new curriculum that would meet the changing needs of the profession.

DESIGN

A pharmacy education unit (the first such unit in Australia) was established within our Faculty in late 2005 to provide leadership for the enhancement of learning and teaching across the Faculty.¹ The Unit undertook the responsibility for planning and guiding the curriculum review using an action research framework.² Action research is a well-established form of disciplined inquiry in education, and is regarded as “a powerful tool for change and improvement at the local level.”³ It is also consistent with recommendations of an emerging literature on best evidence pharmacy education (BEPE)⁴. Basic components of an action research cycle are deceptively simple (after initial reflection): planning, action, observation, reflection. Major curriculum development projects often require several iterations or spirals of this basic cycle, and within each phase of the cycle, appropriate research methods must be employed to maintain research validity and rigor. This paper presents a case study of the process and outcomes of our evidence-based curriculum review process and offers insights into the ways in which evaluation data and its analysis can underpin the key decisions associated with major curriculum change.

One of the basic principles underlying methods used in this study is that of *triangulation*, described by Cohen et al as a way to explain more fully “the richness and complexity of human behaviour by studying it from more than one standpoint and, in so doing, by making use of both quantitative and qualitative data.”³ A range of interrelated self-report questionnaires and semi-structured

interviews were used extensively in this project as an application of this principle.

To achieve this, we began by documenting our initial reflections by investigating international best-practice standards, staff member and student perceptions, and students’ approaches to learning.

Investigation of International Best-Practice Standards

In order to identify exemplars of professional practice standards, we conducted a search for graduate outcomes and curricula, particularly from the United States, Canada, United Kingdom, The Netherlands, and Australia. Our strategy included a search of the Web sites of key professional organizations and/or accrediting bodies in each of these countries and an Internet search using the Google search engine and the following key words: *curriculum, pharmacy, pharmacist, professional practice standards, professional competencies, and professional accreditation*. Using our extensive university library catalog and search facilities, we also explored medical and health sciences and higher education literature in search of core texts that outlined the conceptual basis of modern curriculum design. We were particularly interested in the educational principles that underpinned the revolutionary changes that have occurred in health sciences education globally since the 1960s.

Investigation of Staff Perceptions

Semi-structured interviews were chosen as one of the most appropriate methods by which to investigate staff perceptions of the current curriculum and how it operates and the changes that may be needed. Consistent with good practice in the use of this technique, we prepared an interview schedule that was sufficiently open ended “to enable the contents to be re-ordered, digressions and expansions made, new avenues to be included, and further probing to be undertaken.”³ Broad questions used during initial and follow-up interviews included: *From your discipline perspective: What aspects of the current curriculum appear to work well? What aspects need to change? How could these aspects be best addressed in the new curriculum? And more specifically: In relation to your day-to-day teaching, what problems or issues concern you the most?*

Investigation of Student Perceptions

To investigate student perceptions, we used data from the administration of 3 standardized self-report survey instruments.

The Course Experience Questionnaire (CEQ)⁵ is administered in May of the year immediately following

a student's graduation and is a measure of students' perceptions of their experiences throughout their degree program. The instrument uses a 5-point Likert scale (responses: *strongly agree, agree neutral, disagree, strongly disagree*) and contains 25 items that cluster into 5 scales that indicate perceptions of good teaching, clarity of goals and standards and appropriateness of workload and assessment, as well as generic skills development and overall program satisfaction. The instrument is used across all Australian universities, and the results provide a key performance indicator for federal government decisions on University funding allocations.

The Student Course Experience Questionnaire (SCEQ),⁶ is a 25-item instrument adapted from the CEQ to suit the specific needs of students at the University of Sydney. The questionnaire was administered to a random selection of all students enrolled in all 4 years of the BPharm. The results provide a key performance indicator for University-level decisions on Faculty funding allocations.

To provide a baseline data set against which to measure subsequent student performance in courses within a new curriculum, in 2006 we evaluated all of the individual course units that comprised the 4 years of the BPharm degree using the University's Unit of Study Evaluation (USE) instrument.⁷ The USE is the third tier of our standardized learning and teaching evaluation system and is focused on students' perceptions of an individual course unit in which they are currently enrolled, in either semester 1 or semester 2 of that particular year of their degree program. Each course unit is evaluated on a rolling basis, every 2-3 years, unless significant changes have been made to the course that require evaluation sooner, or problems have been identified that need attention. The instrument contains 8 items drawn from each of the major scales of the CEQ and SCEQ, plus an overall satisfaction item and up to 4 faculty-determined items that are usually specific to aspects of the particular course unit being evaluated.

Investigation of Students' Approaches to Learning

Our undergraduate students' approaches to learning were studied to determine their underlying motives and learning styles.⁸ The aims were to measure and evaluate student approaches to learning; to examine the relationship between approaches to learning and academic performance outcomes; and to examine cohort, gender, and subject difference in approaches to learning. The study utilized a cross-sectional, longitudinal, repeated measures design and used Vermunt's Inventory of Learning Styles (VILS).⁹ This is a validated survey instrument that measures students' preferences for 4 learning styles: (1) meaning directed - deep processing strategies, self-

regulation and learning viewed as a personal construction; (2) reproduction directed - surface processing strategies, dependence on external regulation, learning viewed as intake of knowledge, and desire to demonstrate ability; (3) undirected - poor self-regulation, ambivalence in learning orientation, and value given to external sources of help; and (4) application directed - strong vocational orientation to learning and a belief that learning is the use of knowledge.

ASSESSMENT

International Best-Practice Standards

Examples of the result of our searches to determine International Best-Practice Standards are presented in Appendix 1. The documents provided clear guidance regarding professional practice standards and entry-level pharmacist competencies for the majority of English-speaking countries. While variations between countries were evident, there was concordance on a basic set of core competency areas, including communication, ethical practice, patient-centred care, and medication-use systems.

Our search of global health professions and higher education literature revealed well-established approaches in the education of health professionals, underpinned by sound conceptual frameworks and the application of core higher education principles. Following are examples of core features drawn from this literature that were incorporated into our new curriculum:

- spiral curriculum construction, incorporating both vertical and horizontal integration of course content – a key feature of Harden's SPICES (Student-centred, Problem-based, Integrated, Community-orientated, Electives, Systematic) model for curriculum planning¹⁰
- comprehensive statement of learning outcomes that describes knowledge, skills, and behavioral milestones to be achieved each year and by the time of graduation, and that reflects the continuum of cognitive complexity that is represented in Biggs' SOLO (Structured Observation of Learning Outcomes) taxonomy.¹¹
- constructive alignment among learning outcomes, learning activities, and assessment tasks – a particular feature of the systematic element of the SPICES model¹⁰

Our decisions also were influenced by the success of the University of Sydney Medical Program (USydMP).¹² The establishment of the USydMP in 1997 represented a major milestone in Australian medical education. The design of this graduate-entry, 4-year, totally integrated, problem-based program was influenced by the earlier (1985) Harvard Medical School New Pathways Program,¹³ which

at the time had also set new benchmark standards in health professions education. The USydMP curriculum is theme-based, and is a powerful example of the application of the SPICES model. We adapted the USydMP themes (basic and pharmaceutical sciences, professional practice in pharmacy, personal and professional development, and society and pharmacist) to reflect our own broad dimensions of pharmaceutical knowledge and practice, the aim being to further promote integration in learning and skills development. (An example of this thematic organization is available from the authors.)

Staff Perceptions

Interviews were conducted by the education unit with 35 (approximately 80%) of the academic staff members. Data gathered during these sessions indicated widespread belief in the need for substantial curriculum review, including incorporation of developing areas of pharmacy science and practice, integration of course content, opportunities for interprofessional learning, greater flexibility and choice for students, and internationalization of the curriculum. Although they advocated the need for change, all expressed a clear preference for a systematic, incremental, and sustainable process, occurring within a reasonable timeframe, considerate of staff workload, and allowing adequate opportunity for detailed planning prior to implementation—in short, demonstrating best practice in implementing educational change.¹⁴

Follow-up interviews were conducted with 31 of the same academic staff members to identify in more detail the significant learning and teaching issues and indicate areas of potential need for ongoing professional development. Issues raised, arranged from most common to least common, included:

- **Assessment.** Concerns about “scaling” students’ grades, time-effective assessments, seeing assessment as being about learning rather than just measurement, fairness, linking assessment with the curriculum, and the logistics of feedback.
- **Teaching Methods.** The need to be kept informed about recent educational research and teaching best practice. Some areas teachers were interested in learning more about were research-led teaching, student motivation, and published pharmacy-specific initiatives.
- **Instructional Design.** Practical help in designing units (eg, linking the elements of lectures, tutorials, practicals and WebCT (our University-wide Learning Management System); showing the relevance of what is being taught to students; writing learning outcomes that are assessable

and linked to content; the logistics of portfolios; improving self-directed learning, techniques for face-to-face teaching including interacting with students in lectures, ways to give feedback, and how to identify and handle at-risk students.

- **Technology.** How to better use technology in our interaction with students and the organization/coordination of students. Specific areas included improving the quality of our presentation online and taking advantage of more functionality of WebCT, the continued use of audio recordings of lectures (eg, narrated PowerPoints, videoconferencing), and employing software to assist in the management of clinical placements, as well as increased efficiency in unit coordination and administration.
- **Faculty Collaboration or Course Continuity.** Opportunity to work together more effectively. This includes having access to the previous year’s teaching materials, being able to view each other’s current teaching materials in order to better highlight the cross-links to students, better integration of course content, improved communication where there are several academics involved in teaching a course unit, and identifying unnecessary duplication across course units.

Student Perceptions

Table 1 provides a summary of the student CEQ and SCEQ data. The data revealed a mixed response from students regarding the curriculum content and structure, clinical and practical aspects of the BPharm curriculum, and standard of teaching received. Positive aspects of the student experience were the learning community environment, the perceived relevance to work/career, and skills development. Negative aspects related to appropriate workload, appropriate assessment, and useful and timely feedback. On the whole, responses within the student-focused dimension were considerably more positive than those in relation to the teaching-focused dimension. Individual course unit evaluation data were collected from USE surveys of 21 course units. Table 2 provides a summary of the overall findings. Consistent with the CEQ and SCEQ data, students identified problems with workload, assessment, and feedback.

Students’ Approaches to Learning

Five hundred ninety-one BPharm students participated in the survey. The results showed a strong preference for a vocational orientation and a belief that learning involves the use of knowledge (application directed style). Students also indicated high levels of ambivalence

Table 1. Summary of student CEQ and SCEQ data.

Cohort	CEQ	SCEQ			
	Graduate, n = 89 ^a	Year 1, n = 89 ^a	Year 2, n = 41 ^a	Year 3, n = 65 ^a	Year 4, n = 64 ^a
Student focused dimensions					
Overall quality of the degree	A	E	A	A	A
Ability to work as a team member	E	E	A	A	E
Sharpening analytic skills	E	A	A	A	E
Developing problem-solving skills	E	A	A	A	E
Developing ability to plan own work	A	A	A	A	A
Improving written communication skills	A	A	I	I	A
Instilling confidence to tackle unfamiliar problems	E	I	A	I	A
Teaching focused dimensions					
Giving helpful feedback on progress	I	A	I	I	I
Motivating students to do their best	I	A	I	I	I
Working hard to make subjects interesting	I	A	I	I	I
Putting time into commenting on student work	I	I	I	I	I
Being good at explaining things	I	I	I	I	I
Making an effort to understand student difficulties with their work	I	I	I	I	I

Abbreviations: CEQ = Course Experience Questionnaire; SCEQ = Student Course Experience Questionnaire; E = excellent performance is 70+% agreement; A = acceptable performance is 50-69% agreement; I - needs Improvement is <50% agreement

Agreement = the combined percentage scores of the "strongly agree" and "agree" categories

^aResponse rates: Graduate = 54%; Year 1 = 58%, Year 2 = 42%, Year 3 = 56%, Year 4 = 45%

about their learning orientation and dependence on external sources of help, with lower preferences for deep processing strategies or self-regulation. Our students did not use different learning approaches according to subject studied; there were no gender differences in scores on any measures and there was no maturation in learning style over the course of their pharmacy education. While

a significant positive relationship was found between un-directed learning style and academic performance, a similar relationship was found between application-directed style and academic performance. A significant negative relationship was found between both meaning-directed learning style and academic performance, and reproduction-directed style and performance.

Table 2. Summary of Unit of Study Evaluation findings

Excellent – areas with ½ or more course units showing >70% agreement:	
● Perceived relevance of the unit to the degree	
● Labs/tutorials helping learning	
● Overall quality	
Acceptable – areas with ½ or more course units showing 50-69% agreement:	
● Clear learning outcomes and expected standards	
● Teaching that helps students to learn effectively	
● Online learning materials support learning	
● Development of generic skills	
For Improvement - areas with ½ or more course units showing <50% agreement:	
● Assessment allowing students to demonstrate what they have understood	
● Staff being responsive to student feedback	
● Workload	
● Timely, constructive feedback on progress	

Overview of Planning Process and Key Decisions Taken

Using the outcomes from the initial reflection phase, we moved further into the action research cycle and established a curriculum review planning group in January 2006, with representatives of all key groups within the Faculty, to guide the overall review. Table 3 outlines the major steps in the planning process that occurred throughout 2006/2007, and the key decisions for the new curriculum that were made, based largely on the gradually unfolding results of our investigations during the initial reflection phase. Each key decision was enacted and led to new features being progressively incorporated into a new curriculum structure.

DISCUSSION

Outline of the New Curriculum

A new curriculum structure has been developed as a result of this evidence-based, collaborative process. It

Table 3. Major Steps in the Curriculum Planning Process

Planning Process	Key Decisions
Establish key personnel	Curriculum planning group established Key stakeholders identified and consulted (including professional associations/registering bodies)
Guide the review of the existing curriculum	Evaluation process and data collection methods confirmed
Establish benchmarking	Key comparators identified
Confirm curriculum design principles	Constructive alignment Spiral curriculum Outcomes-focused Choice of specialization (Major)
Establish curriculum framework	Graduate characteristics Exit outcomes Theme-based
Course structure	Learning outcomes by year Outcomes clustered under four curriculum themes Changing emphasis from 1st to 4th year – from basic science to practice Learning outcomes linked to course units
Confirm timeline	Roll-out incrementally from 2008 – i.e. year 1 in 2008, year 2 in 2009 and onwards
Define ongoing evaluation process	Evaluate all course units in current BPharm during 2006, to establish baseline data for later comparisons
Develop individual course units	Interdisciplinary working groups established Assessments and learning activities designed Curriculum mapping process established

approaches the teaching of pharmacy from a more integrated perspective, rather than the previous discipline-based approach. It is structured around themes and underpinned by a detailed set of learning outcomes that describe the knowledge, skills, and behavioral milestones to be achieved in each year of the curriculum and by the time of graduation.

Year 1 will still emphasize the basic sciences of chemistry and biology, but will be balanced by an equal emphasis on pharmaceutical and social sciences. The General Biology course has been replaced by the Molecular Biology and Genetics courses, providing a platform for teaching pharmacogenomics in recognition of the future role of genomics in health care. Mathematics and statistics will no longer be taught as discrete subjects but will be integrated into course units across years 1 to 3, where the applications are likely to be more immediately apparent to students. The major changes in year 2 of the curriculum are the integration of biochemistry and medicinal chemistry, an integrated approach to microbiology, and a new course unit focused on therapeutic principles.

In years 3 and 4 of the curriculum, an integrated approach to the teaching of pharmacy will be particularly significant, based predominantly around body systems, integrated across all of the disciplines, and using case-

or problem-based approaches to learning. The emphasis of year 4 will remain the development of therapeutic and clinical skills. The final semester of year 4 will provide students with increased flexibility and opportunity to participate in international exchange programs, or specialize in rural, hospital, or industrial pharmacy.

Implications for Staff Development

Plans are underway to systematically address the concerns raised by staff members during the semi-structured interviews. A range of strategies were proposed by the Pharmacy Education Unit to address related staff development needs across the Faculty, particularly in relation to the gradual rollout of the new curriculum, and included:

- Regular learning and teaching forums, and an annual pharmacy education symposium – sharing good teaching practice and conducting workshops to explore ways to improve problem areas.
- Support for staff undertaking graduate study in higher education.
- Working closely with individual course coordinators to introduce changes into their course units in response to specific student feedback.
- PEU consultation with individual teachers to improve day-to-day teaching practices.

In each instance, the process will include identification of the evidence base for good practice. We began this process with a series of forums and short workshops that were designed to inform staff members about recent educational research and teaching best practices. We have also worked with individual staff members to assist them in the use of educational technologies, such as Lectopia,¹⁵ and enhancing their use of WebCT.

Staff development was also a key strategy in addressing student perceptions, since these were more negative in relation to the teaching-focused dimension. There appears to be a gap between student perceptions of their learning and the teaching that they experience. Our results suggest that what students perceive about themselves in terms of learning and development are rated more highly than what we do as teachers. One critical area identified for improvement by students related to provision of effective feedback on course progress. We have conducted a series of short workshops designed to educate staff members about effective and efficient methods of providing feedback to students in a timely and useful fashion. The workshops included an outline of “good practice” (based on Boud’s¹⁶ framework for giving and receiving feedback), followed by identification and discussion of issues specific to each discipline context and ways to provide students with both generic and specific feedback. In our explorations of what constitutes feedback, we have also found that staff members will often give students feedback, but the students do not appear to recognize it as such. We have now begun to explicitly detail on our WebCT course sites how feedback will be provided for each piece of work and the timeframe in which this will occur.

Our investigations of students’ perceptions of their experiences, and their approaches to learning, highlighted a range of issues that will need to be addressed throughout the development and implementation of the new curriculum. The results of the VILS showed that students prefer external sources of help and surface learning. Coupled with the negative relationship found between meaning-directed learning and academic performance, this suggests that staff members’ approaches to teaching and/or assessment may not be helping students to value deep approaches to their learning or independent thought. These findings provide the impetus for staff development workshops that will focus on teaching and assessment modalities to foster the use and construction of knowledge rather than simply the intake of knowledge. For example, support will be provided for creating class activities and assessment tasks that require intensive work on specified areas, with adequate time given so that students are not rushed in the process and staff members can provide formative feedback. In this way, a deeper, meaning-directed approach is gained.

Importantly, however, achieving this process of “meaningful learning” can be facilitated further by our knowledge of students’ strong preference for an application-directed style to their learning. By grounding activities and assessment tasks in the application of concepts to the practice of pharmacy, we are engaging students in a way that we know is of personal relevance and interest to them. Apparently, our students tend to rely on external sources of regulation and assistance to guide their learning; thus, the existing gap between student and staff perceptions of what constitutes “good” learning and teaching needs to be narrowed. We need to craft learning environments and activities that incorporate practice applications to stimulate curiosity and motivate students to take charge of and actively engage in their learning.

CONCLUSIONS

This case study of an undergraduate pharmacy curriculum review outlines the process and outcomes of an evidence-based process and offers insights into the ways in which evaluation data and its analysis can underpin the key decisions associated with major curriculum change. Investigation of international best practices helped us to develop a new curriculum structure that reflects acknowledged standards in pharmaceutical knowledge and pharmacy practice, as well as in educational design. Data from staff interviews identified a range of teaching issues, including assessment, research in education, use of technology, and working collaboratively, that will need to be addressed systematically within a framework of ongoing staff development. The triangulation of student survey data highlighted issues that will be addressed at individual course unit level, with a particular focus on feedback, assessment, and workload.

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Appendix 1. Examples of Key Best Practice Documents

Examples of Key Best Practice Documents

Professional Practice Standards

Royal Pharmaceutical Society of Great Britain (RPSGB):

Competencies of the Future Pharmacy Workforce located at <http://www.rpsgb.org/pdfs/compfutphwfp3repfull.pdf> (accessed December 2008)

Pharmaceutical Society of Australia (PSA) – “Competency Standards for Pharmacists in Australia” (2003) located at <http://www.psa.org.au/site.php?id=643> (accessed December 2008)

National Association of Regulatory Authorities (Canada) - www.napra.org (accessed December 2008)

“Professional Competencies for Canadian Pharmacists at Entry to Practice” at www.napra.org/pdfs/professional/competencies.pdf (accessed December 2008)

“Model Standards of Practice for Canadian Pharmacists” at www.napra.org/pdfs/practice/model_std_practice/MSPCP-Nov2005.pdf (accessed December 2008)

Educational Outcomes

International Pharmaceutical Federation – “Statement of Policy on Good Pharmacy Education Practice” located at http://www.fip.org/www/uploads/database_file.php?id=188&table_id= (accessed February 2009)

Accreditation of UK Pharmacy Degree Courses located at www.rpsgb.org.uk/pdfs/eddegnewreq.pdf (accessed December 2008)

“Preregistration Trainee Workbook 2005/2006 - Part 2A The Performance Standards Programme” at http://search.rpsgb.org/search?q=preregistration+trainee+workbook&output=xml_no_dtd&client=RPSGB&proxystylesheet=RPSGB&site=RPSGB&btnG.x=14&btnG.y=8&btnG=GO (2005/2006 Workbook now replaced with 2008-2009 Workbook - accessed February 2009)

Accreditation Council for Pharmacy Education (ACPE) - www.acpe-accredit.org “DRAFT Standards and Guidelines” at www.acpe-accredit.org/pdf/ACPEDraftRevisedStandardsandGuidelinesJune2005final.pdf (accessed December 2008)

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