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Abstract

Purpose: This paper reports on the adaptation of an existing interpretive and critical research methods course in nursing for postgraduate student health professionals in a School of Population Health and Clinical Practice.

Methods: A cyclical approach of inquiry, reflection and planning was undertaken by the teaching team to make changes to the existing course for implementation for the current and following academic year. Critical reflections from two student evaluations during the course contributed to the re-design. Main Findings: Two main findings emerged: (1) cross-disciplinary teaching teams can work successfully if there is true collaboration of stakeholders; and (2) it is feasible to conduct an effective interdisciplinary qualitative research methods course for student health professionals.

Conclusions: Interdisciplinary research methods courses need to be structured so that students interact with each other to enhance their knowledge of other disciplines and value learning about other professional viewpoints and issues.

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Journal of University Teaching and Learning Practice

The experience of implementing an interprofessional research methods course for student health professionals of population health and clinical practice. Getting the right fit

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Abstract

Purpose: This paper reports on the adaptation of an existing interpretive and critical research methods course in nursing for postgraduate student health professionals in a School of Population Health and Clinical Practice.
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Main Findings: Two main findings emerged: (1) cross-disciplinary teaching teams can work successfully if there is true collaboration of stakeholders; and (2) it is feasible to conduct an effective interdisciplinary qualitative research methods course for student health professionals.
Conclusions: Interdisciplinary research methods courses need to be structured so that students interact with each other to enhance their knowledge of other disciplines and value learning about other professional viewpoints and issues.

*Keywords: research course; shared-learning; education; *methods; multi-professional*

Introduction - Rationale for developing a cross-discipline course

In 2005 the University of Adelaide's structure was re-organised into five academic Faculties and four administrative Divisions. Within the Faculty of Health Sciences there are six Schools. One, the School of Population Health and Clinical Practice, comprises the Discipline of Nursing, Discipline of General Practice, Discipline of Public Health, Discipline of Rural Health and the Medical Learning and Teaching Unit. The School brings together academic disciplines concerned with:

- preventing disease and promoting health in populations;
- provision of health services which are the first point of contact for individuals and families in the community;
- health services generally and in rural and remote localities;
- nursing in all its practice specialities; and
- Indigenous health.

The School comprises over 200 academic and research staff, over 700 title holders, 65 research postgraduate students and 460 coursework postgraduate students. Two of the Disciplines, Nursing and Public Health, conducted post-graduate qualitative research methods courses with some similarity, so it was decided to explore the feasibility of one course to provide for students of both disciplines. Subsequently, it was decided to modify the Nursing course to accommodate Public Health students.

This paper reflects on strategies to adapt an existing introductory qualitative research course to student health professionals in a School of Population Health and Clinical Practice and reports on student evaluation of the course. Three key issues encountered in the re-design are discussed: (1) building confidence to conduct research, (2) students' resistance to the notion of generalisability of research methods across disciplines, and (3) establishing effective interaction and communication.

Background

Health professionals' work has changed significantly over the past decade. Technological developments in information systems and new treatments demand flexibility in individual patient situations affecting clinical observations, decision making and actions. Internationally, there is a belief that the effectiveness of patient care will improve if collaboration and teamwork amongst the health professions is strengthened (Hall & Weaver, 2001; Horsburgh, Lamdin, & Williamson, 2001). This is reinforced by the World Health Organisation's concept of 'learning together to work together' (Wood, 2001). Multi-professional learning through activities involving three or more professional groups is considered a strategy for achieving this (Horsburgh, et al., 2001). This accentuates the need for clinicians to acquire essential research methodology qualifications, not only with a view to

implementing research results but also to implementing research independently within their own practice.

The value of professional education in stimulating the development of critical thought, employing discourses of knowledge as a means of promoting professionalism and as an agent of change for reform is widely acknowledged (Karseth & Nerland, 2007; Mizell, 2007). Rapid growth in technological advances in health care and knowledge expectations of health professionals demands educational programs that prepare professionals to be able to practise autonomously and to be able to implement care and make decisions (Bollag, 2007). Core competencies learnt during participation in professional programs may attribute to health professionals grappling successfully with diversity and change in the contemporary health sector. It is recognised that to stay current, practitioners need to use a variety of methods to learn about areas that they need to master to be successful in their careers (Roberts, 2007). In addition, organisations and health care settings frequently promote the use of research in practice such as, for example, nursing practice based on research evidence which has been shown to promote positive patient outcomes (Fink, Thompson, & Bonnes, 2005).

Nursing practice that was research or evidence based was instigated in the UK and USA during the early 1990s, (Adamsen, Larsen, Bjerregaard, & Madsen, 2003) resulting in inquiry into how nurses' clinical decision making and actions could become research based. This applies not just to nurses but to all health professionals who have limited time to read research articles, find reading of research articles difficult and lack the skills to evaluate published research findings. Evidence based health care integrates the best evidence from research with clinical expertise, patient preferences, and existing resources into decision making about the health care of individual patients. To conduct evidence based practice, health professionals need effective strategies for extracting relevant information from the many publications that are currently available. The quality of information demanded and how effectively it is evaluated in decision making will influence patient outcomes and, ultimately, the part health professionals play in the delivery of health care (Royle & Blythe, 1998).

Adamsen et al (2003) report that generally, there is agreement that utilisation of research requires both organisational and educational efforts. They also reveal that studies show there is a need for "concrete and goal orientated educational interventions to facilitate research-based clinical practice" (p.443). Although it is desirable to introduce research training at undergraduate level, there are many health professionals who did not have this opportunity at that time of their education and require research induction during postgraduate studies. Within higher education there is a strong culture of improved learning outcomes through research based learning and for graduates of health courses to have an understanding of research methods and epidemiology (James, Graham, Snow, & Ward, 2006; Saunders, Keigh, Yanik, & Gustafson, 2003). Multi-professional learning opportunities have been shown to increase theoretical and practice-based knowledge, develop positive attitudes about interdisciplinary work and reduce myths and stereotyping (Colarossi & Forgey, 2006). Cooper *et al* (2001) explored the feasibility of introducing interdisciplinary education within undergraduate health professional programmes through conducting a systematic review (Cooper, Carlisle, Gibbs, & Watkins, 2001). They found that, as a result of such programmes, there were changes in students'

"knowledge, skills, attitudes and beliefs" (p.235) in relation to students' understanding of professionals' roles and team working. Arguably, this can be translated across to postgraduate research induction with the consequence that those who participate in research related activities are more likely than others to apply research in practice (Royle & Blythe, 1998). Of significance is that those who are thus informed may then act as mentors for other health professionals within the team. Mansilla (2005) argues that interdisciplinary approaches are needed to develop a deep understanding of contemporary life, in order to capture multi-dimensional phenomena, produce complex explanations and solve intricate problems. To Mansilla (2005) interdisciplinary understanding is the:

> capacity to integrate knowledge and modes of thinking in two or more disciplines to produce a cognitive advancement – e.g., explaining a phenomenon, solving a problem, creating a product, raising a new question - in ways that would have been unlikely through single disciplinary means. (p.4)

Such approaches thus have the potential to emphasize the distinction between health disciplines, highlighting their foundational role and drawing a deeper understanding of what each can offer. They offer repeated exposure to a mix of disciplinary views, helping students develop more advanced epistemological beliefs and understanding of how different disciplines might relate or perceive the same issue. Such interdisciplinary understanding involves an integration of interdisciplinary views leading to cognitive advancement and creative insights for addressing health problems.

Inter-professional education has also been promoted as a method to enhance the ability of health professionals to learn to work together. Chur-Hansen *et al* strongly believe that inter-professional learning is beneficial and should not be taken for granted and without substantiation (Chur-Hansen, Parker, Hanneberg, & Barrett, 2006). This belief is supported by Wickson *et al* who purport that there is little known about the benefits of transdisciplinary research, what it is and how it can be evaluated (Wickson, Carew, & Russell, 2006). However, providing student health professionals with the opportunity to study research together is believed by some to have the potential to promote collaborative research and enhance knowledge on the benefits of inter-professional education and research. Horsburgh *et al* (2001) report that a brief review of the literature revealed "a belief that the provision of effective patient care places an emphasis on collaboration and teamwork, within and between health care teams in community settings and in the care provided in hospitals".

An approach to the education of health professionals that prepares them for inter-professional teams could include strategies that build on prior learning, skills for transferring knowledge into practice through the use of cooperative learning and engagement in experiential learning methods (D'Eon, 2005). A benefit could be that students develop knowledge, skills and attitudes they would otherwise not easily acquire. They may also better understand how to work in a multi-professional environment. Reporting on an educational initiative to prepare biomedical and health informatics students with skills and competencies that would allow them to function within or even facilitate inter-disciplinary teams, Demiris (2007) found that an inter-disciplinary educational approach in the graduate curriculum provided an opportunity for health informatics students to acquire the skills for communication and

collaboration with other disciplines with an understanding of the disciplines of Nursing, Engineering, Computer Science, and Health Administration. The changing of attitudes and preconceived notions about other professions is acknowledged as being most difficult (Horsburgh, *et al.*, 2001). Shared learning opportunities are considered a strategy to reduce or limit prejudices, which might exist, and to increase mutual knowledge and understanding of the professions.

Although inter-professional education in health care has received increasing attention in recent times, there is not a great deal of literature on initiatives seeking to address research induction in postgraduate education. Tunstall-Pedoe, Rink, & Hilton (2003) report that with an increased focus on the delivery of holistic health care, health professionals need to work together more cohesively and collegially with respect and an understanding of each other's roles. With this in mind, three research educators from three different disciplines (nursing, medicine and public health) adapted a 1-semester course in basic research methodology and critical reflection from an existing course in the Discipline of Nursing. Intended learning outcomes included teaching students to think theoretically and write interpretively.

The need to produce health practitioners who are adaptable, flexible, collaborative team workers with highly developed interpersonal skills justifies and requires the introduction of shared learning opportunities. Conducting a single qualitative research methods course for the School of Population Health and Clinical Practice with contribution to the teaching and delivery by staff representing the different disciplines had recognised benefits for all stakeholders as listed below.

Benefits for the School include:

- Cost effective: higher student to teacher ratio
- Resource effective: less duplication
- Collaboration – resulting in positive attitudes; knowledge and awareness of other disciplines.

Benefits for the Discipline include:

- Higher student intake
- Cross fertilisation of ideas and knowledge
- Sharing of resources = sharing work loads
- Collegiality between the Disciplines
- Changes in staff knowledge, skills, attitudes and beliefs.

Benefits for students include:

- Increase in mutual knowledge and understanding of the professions
- Reduce or limit any possible prejudices by changing attitudes and beliefs.
- Expanded research-based learning resulting in improved learning outcomes
- Develop skills in collaboration and teamwork
- Develop research collaborations.

This paper presents an account of the process of adapting the program, issues encountered and some viewpoints of the student health professionals undertaking the first semester of the adapted programme. With the aim of modifying the course during the semester, a formative student evaluation was conducted part-way through. A final evaluation was conducted at the conclusion of the course.

The existing educational research programme

The 1-semester course in basic interpretive and critical research methodology was designed for Registered Nurses who were undertaking a Master of Nursing Science. The aim of the course was to enable students to plan a research project with a view to implementing it, in their clinical setting, as part of their degree.

The research course under appraisal is organised as a part-time or full-time activity. Acknowledging the difficulty for most nurses in attending traditional classes (Moore & Hart, 2004), optional formal classes comprising part lecture, part tutorial were held once a week for 12 weeks. In addition, students are provided with study guides containing week by week instruction, readings, and activities.

The course is anchored with content in scientific theory (of interpretive and critical theories), literature searches, critical literature reading, basic analysis, the research process, qualitative research methods, the researcher's role, research ethics, and mixed methods strategies. Two assessments require students to develop a research question and prepare a project proposal comprising aim, background, literature review, study design, research methods, framework for analysis, ethical and implementation considerations and a research timetable. Lecturers are doctorate qualified and active in research, therefore bringing research knowledge and skills to the classroom.

Optional weekly lectures incorporating a tutorial segment are designed to provide students with the opportunity to participate in discussion groups and activities designed to enhance understanding and application of qualitative research methodologies. Student interaction is enhanced through group activities. This process facilitates discussion among students and helps them learn more about others' professional backgrounds and research approaches. The sessions also allow students direct access to lecturers and the course co-ordinator.

Methodology

A cyclical approach of inquiry, reflection and planning, was undertaken by the teaching team to make changes to the existing course for implementation for the current and following academic year. As such it is part of the continuing development of a qualitative research methods course suitable for application across a School comprised of mixed disciplines. Action research has been a popular methodology within education (Liamputtong & Ezzy, 2005) and the study engaged a modified action research approach in that it allowed active participation of all involved with influence on the outcomes and the action research cycle of observe, reflect, plan and act guided the process. The primary aim was not to describe a problem but to seek a solution for a successful outcome for all stakeholders.

The action research methodology entailed a process of discussion to confirm the shared objectives of the project.

Objective

The project aimed to:

- Explore the feasibility of introducing a single multi-professional research methods course for post-graduate student health professionals; and
- Identify key issues to be addressed for programme success.

Ethical considerations

As the study was not of a biomedical experimental nature, approval from the University Human Research Ethics Committee was not sought. No person specific identifiable data were collected. Students were informed that all responses to the surveys would be treated confidentially and anonymously. Participants had a choice of completing the surveys and as the teaching team could not trace their compliance, their grades could not be affected.

Planning approval to proceed with implementing a revised course was provided by department heads, with final implementation dependent on the evaluation results.

Participants

The participants in this action research project comprised the staff within the School of Population Health and Clinical Practice, and the students who participated in the course.

Students of the School who wished to study qualitative research methods were directed to enrol in the Interpretive and Critical Research Methods Course conducted by the Discipline of Nursing. Amongst the 33 participants who initially started the course, there were six public health honours students, 1 PhD student from general practice, 5 Master of Nursing Science students, two graduate certificate public health students, eight graduate diploma public health students and four Master of Public Health students (Table 1). Six public health students (four graduate diplomas, 1 graduate certificate and 1 Master) dropped out due to a perceived lack of time to undertake the commitment involved. Five Master of Nursing Science students, fourteen public health students, six honours students, one PhD student and one X-institutional student from another local university continued in the course. Students were recruited from three Australian states and Asia. Four international on campus students were supported by Ausaid scholarships. Interstate and international students were not able to attend weekly lectures but accessed the notes on the Blackboard Academic Suite (Version 6.3). Students came from a broad range of disciplinary backgrounds, including nursing, general practice, public health, occupational health and safety, public health and dentistry. Twenty-six students completed the course. The student population comprised: female: 19, male 7.

Table 1: Enrolments by Program

Program	***N***
Master of Nursing Science	5
Master of Public Health	4
Graduate Diploma Public Health	8
Graduate Certificate Public Health	2
Doctor of Philosophy	1
Honours Public Health	6
	26

Students' contribution to the evaluation

An important contribution to reflecting on the development of the course came from students' own evaluations of the course. Their evaluative feedback was sought through the use of two semi-structured surveys consisting of 19 questions measuring the strength of students' beliefs about the course. Questions were adapted from a formal University Student Evaluation of Learning and Teaching course evaluation. Sixteen statements consisted of responses on a likert scale (15 closed-ended questions in survey 1 and sixteen closed ended questions in survey 2). Seven response choices ranged from 'strongly disagree' to 'strongly agree' with additional 'not applicable' and 'no response' options. The 'undecided' (neither agree nor disagree) response was high. In very few questions students chose 'disagree' or 'not applicable'.

The remaining three questions were designed for open-ended responses, thus inviting statements that could be analysed with qualitative methods. Surveys focused upon the effectiveness of the teachers, the satisfaction of the course for the student and the perceived workload.

The first survey was administered half way through the semester, intending to be formative and provide feedback for possible change in the course for the second half of the semester. The second and final survey took place the week after the final week of teaching. The anonymous surveys had an 'end by' date and were applied electronically with students being notified they were available 'on-line' for completion.

As previously mentioned, the mid-semester formative evaluation was conducted to assist the teaching team modify content or process prior to an end of semester evaluation. The survey was constructed using software accessed through the tools in the Blackboard Academic Suite™ (Version 6.3). The completed survey was then imported into the research methods course on Blackboard and an announcement and e-mail notified students of its availability. During the week it was available, students were reminded and encouraged to complete the survey. Although the team was warned electronic evaluations were largely unsupported by students, the response rate was pleasing. The student feedback had divergent views as can be seen in the results and provided the teaching team with useful information.

The response to the mid-semester evaluation was the largest with 19 students completing the survey. This represents a response rate of 73%. Fewer students (9) completed the final survey at the end of the semester, representing a response rate of 35%. Students responded to 15 closed-ended questions in survey 1 and sixteen closed ended questions in survey 2. Seven response choices ranged from 'strongly disagree' to 'strongly agree' with additional 'not applicable' and 'no response'.

Data Analysis

The frequencies of responses of the quantifiable survey data were analysed by the Evaluation and Assessment Service in order to avoid bias and the aggregated results returned to the researcher. The qualitative statements were returned stated as written and content analysis performed by the researcher. Investigator triangulation incorporating the other lecturers in the teaching team was used to minimise bias. Selective quotations are used to illustrate trends found in the survey material.

Results

Firstly, the results of the two surveys are presented, followed by explanation of the action research cycle and the three key issues encountered in the course re-design: (1) building confidence to conduct research, (2) students' resistance to the notion of generalisability of research methods across disciplines, and (3) establishing effective interaction and communication. The positive values of the likert scale in Table 2 (strongly agree/agree) have been aggregated to provide broad agreement of each question. Textual responses from participants embellish the findings.

Table 2: Response to survey questions

	SURVEY 1		SURVEY 2	
QUESTION	**BROAD AGREEMENT %**	**UNDECIDED %**	**BROAD AGREEMENT %**	**UNDECIDED %**
WORKLOAD REASONABLE	94.73		67	
SATISFIED-COURSE QUALITY	73.68	21.05	44	22
STIMULATED TO LEARN	78.94	15.78	56	0
COMMITTED TO LEARNING	52.62	21.05	44	0
CLEAR EXPECTATIONS	47.35	26.31	44	22
EFFECTIVE PRESENTERS	73.67	15.78	67	11
MOTIVATED TO LEARN	73.68	21.05	78	11
UNDERSTANDING DEMONSTRATED IN ASSESSMENT	63.15	15.78	56	22
THINKING SKILLS DEVELOPED	68.14	21.05	67	0
LEARNING RESOURCES	73.67	15.78	67	11
SATISFIED – COURSE INFORMATION	68.41	21.05	56	11
FREE FROM DISCRIMINATION	84.2	10.52	78	11
DIVERSITY TAKEN INTO ACCOUNT	68.41	21.05	44	11
WORK INDEPENDENTLY	78.93	5.26	78	11
UNDERSTAND CONCEPTS	84.2	15.78	100	0
ADEQUATE FEEDBACK	N.A.	N.A.	56	22

As can be seen from Table 2, the 'undecided' (neither agree nor disagree) response was high. Whether students believed they received adequate feedback on their work was only asked in the second (summative) survey. This question was asked prior to students receiving their final, marked assessment. Due to the small number of respondents in the second survey, it is not possible to form strong conclusions from a comparison of the results. Across both surveys there was agreement that the workload in the course was reasonable. Students were able to increase their ability to work independently, did not have difficulty understanding the course content, and were satisfied with the course information and resources provided. They reported they were somewhat stimulated and motivated to learn even though they did not think the whole group was committed to learning. The presenters were perceived as being effective and the assessments gave them opportunity to

demonstrate what they learnt. Students strongly agreed that the course helped them develop their thinking skills in problem solving and analysis. The weakest area of the course for students appeared to be that they were not sure what was expected of them.

Inquiry, reflection and planning by the teaching team

The initial inquiry examining the content of the curriculum identified that due to its strong approach to interpretive and critical research methods and flexible learning structure, the research methods course run by the Discipline of Nursing would be the curriculum applied and appraised for broader application. The co-ordinator for the new multi-professional course would therefore take responsibility for managing all aspects of the course and assignments. PhD students completing the course for knowledge acquisition and for whom it was not mandatory to complete assignments would be given the opportunity of having their research proposal critiqued. Lecture delivery was equally divided between the three members of the teaching team, focusing on the research strengths of each person. Systemic factors such as timetabling, finances and support for the course co-ordinator have been identified as potential barriers to success (Winefield & Chur-Hansen, 2004). To ensure these factors did not impact on the success of the program, strategies were discussed with senior management.

As a participatory group research method that applies a systematic problem-solving approach to identifying problems and effecting change an Action Research approach provided a framework to guide the appraisal of the course, understand arising issues and change teaching practice (Beanland, Schneider, LoBiondo-Wood, & Haber, 1999). Being a collaborative and bottom-up approach to enquiry meant course co-ordinators, lecturers and students were all involved (Bowling, 1997). Collaborative action, sharing power through joint decision making and giving a voice to those who might not otherwise be heard has the potential to produce effective education outcomes (Speziale, 2007). Using the cyclic approach, the teaching team reviewed the purpose of the course, the existing curriculum and the different academic needs of the students. Data were collected from two student questionnaires incorporating both open-ended and closed-ended questions. Following completion of the first survey the team met to reflect and plan on feedback received. Student participants were aware of the course appraisal and encouraged to discuss problems with the co-ordinator each week at lectures as well as complete the two evaluations. A repeated process of data collection and data analysis was applied to gain agreement on issues related to the curriculum. Between planning sessions, team members were encouraged to reflect on student feedback and on decisions made in the previous meeting. Reflections were used as an initial discussion point at the next meeting to revise decisions and change if thought appropriate. At the third meeting of the team the decisions outlined in Table 3 were made as a result of the feedback received in the evaluations.

Continued feedback (data) from students was discussed (analysed) at planning meetings and the team was able to rapidly assess whether mid-semester changes had been effective or further change was required.

Table 3: Decisions as a result of feedback

FEEDBACK	ACTION
The course is focused on nursing.	Change the name of the course from the following year to reflect the now multi-professional nature of its participants,
Triangulation was most interesting. Hard to find that sort of information.	Include a stronger component on the use of triangulation in qualitative research methods
The lectures on critical theories were given after the date for the first assignment where we had to defend a research question and methodology.	Present lectures on critical theories earlier and mixed methods research at the end so as to better equip students for the assessments.
Would have preferred an earlier session because my concentration wanes later in the day. *Was a bit late for me – sometimes had difficulty attending lectures due to transport problems.* *Afternoon tutorials are convenient for those of us working.*	Change the day of the week/time of lectures would be conducted for the following year.

Building confidence to conduct research

The language of research and its peculiar terminology is often daunting and as such deters students. Becoming familiar with research terminology and techniques reveals much of what is seen as mysterious or fearsome by health practitioners (Adamsen, et al., 2003). Insight into research terminology and the principal rules of different research methodologies allowed them to identify their own values and comfort zones with different methods. Students remarked that the course gave "a *good overview of different methodologies. Good references provided for students wishing to explore a particular topic in more detail;* and, *this course encourages critical thinking, understanding of the concept and methodology of qualitative research and provides basis for analysis of what has been taught and provided in the lectures/tutorials".* Participants in the study gained professional knowledge as well as learning about their own limitations in research. They recognised the complexity of research and the many different levels of conducting research. Therefore we believe that the course led to increased motivation and skills to conduct research particularly by international students with additional language barriers.

Students' resistance to the notion of generalisability of research methods across disciplines

Even though the methodologies incorporated in a qualitative research methods course apply across disciplines, some students encountered difficulty identifying with a course, which contained the word 'nursing' in its label. "*I suppose a criticism is that the public health students have to do a nursing course. I would have preferred to do a public health qualitative research course".*

Tashakkori and Teddlie (2003) believe that the 'paradigm wars' frequently cause conflict for students. This dilemma was manifested when students were required to generate a research question as their first assignment. Research questions are most commonly answered utilising qualitative methods and data analysis while hypotheses are most often tested utilising quantitative methods and data analysis. Most of the social/behavioural student researchers had backgrounds in quantitative methodologies and several struggled with composing a research question that was not framed as an hypothesis. A suggestion for more discussion around research question formulation was implemented: "*Some more time talking about the assessments would have been useful. I personally did understand the question, however I have heard some saying they took the wrong approach".*

Barriers to multi-professional education may be attitudinal, where-by students approach the teaching environment with negative perceptions of different professions (Winefield & Chur-Hansen, 2004). One of the issues students raised was that examples provided in lectures of how a methodology could be applied in a research question were nursing focused and not public health focused. This demonstrated students' lack of awareness that an overlap of knowledge and skills between health professionals existed and was increasing (Horsburgh, et al., 2001). Working in mixed groups was one strategy for assisting students to recognise these similarities.

Establishing effective interaction and communication

As Moore and Hart (Moore & Hart, 2004) found that the three greatest areas of anxiety for students were: "misconceptions that they would be required to conduct research; concern about having insufficient writing skills; and anxiety related to using online databases" (p.127), so were similar anxieties in this course. Given the different academic program levels within the course, some students were required to conduct a research study as part of completing their program but for others this did not apply. To alleviate anxiety and provide direction, the course co-ordinator talked with students at the weekly lectures and posted messages for online students on the message board.

When reviewing their online course, Moore and Hart (Moore & Hart, 2004) found that the course consumed more staff time than the same course with the same number of students, taught in the traditional classroom setting. A similar experience was found with this course due to additional time needed to conduct a course both online and on-campus. In a traditional classroom setting, content and other issues can be clarified for an entire class at one time. Time saving strategies included posting collective feedback and issuing announcements on the Blackboard Academic Suite™ (Version 6.3).

Swan (cited in Moore & Hart, 2004) believes three important elements necessary for the success of courses; are "clarity of course design, interaction among participants and interaction with instructors" (p.123)., Students fed back that "*lectures are helpful in discussing/engaging topics presented in the readings. The approach throughout seeks to engage students and encourage discussion".*

Final inferences from the study

It is believed that in order to cope with increasing demands for diversity and complexity in the provision of health care, there is need for the teaching of research methodology to change Cooper 2001). Providing greater opportunities for students to incorporate research into practice through the answering of research questions is one such change. This change will prepare post-graduate students for professional research that is already demanding such competencies. It is necessary for students to equip themselves with skills from mixed research paradigms and not identify themselves as either qualitative or quantitative methodologists. This will afford a greater range of competencies for acquiring knowledge about health needs, health interventions and health policy. A pragmatist approach that teaches students to be comfortable using techniques from either methodology is needed and the research question needs to be addressed accordingly.

Initially there were reservations in some quarters about the feasibility of teaching a research methods course to a mixed group of student health professionals. However the design and implementation of the course which happened shortly before the start of semester, has been successful, as shown by the number of completions and consequent number of research proposals ready to be submitted, following modification, to a human research ethics committee. Successive building on assignments allowed students' progress from the initial identification of a research question to development of a full research proposal to be monitored and inadequacies addressed. Students were satisfied with the course and found it "*interesting to have learnt new approaches to research*". Student feedback was encouraging but also helpful in further modifying the course for a class of multi-professional student health professionals.

As this study incorporated a modified action research methodology it had an immediate and direct effect on the development, provision and application of the postgraduate research methods course for student health professionals. In this it assisted current student learning, the conduct of health research through direct impact on research proposal development and research outcomes by reinforcing students' self-confidence in research-based practice. Wood (2001) purports that developing strong academic systems within peer groups leads to professional socialisation which may be beneficial to performance within a healthcare system. Post-graduate students, having gained confidence in their own professional identity are placed to be able to undertake inter/multi-professional learning.

The approach used in the study offered a clear, objective approach to curriculum revision and planning providing an evaluation framework that can be ongoing. The study adds to the literature on inter-professional research education and more generally to that of nursing education.

Conclusion

The importance of co-operation between the professions in the provision of health and social care has long been well recognised for some time but opportunities to learn together have been limited. With the demands of society, differing public health concerns, an ageing population and an increased emphasis on long-term management of chronic illness, the delivery of care by a range of professionals who can appreciate the worth of each other is logically essential for optimal patient care. This study showed that a one-semester course in basic interpretive and critical research methods, designed for clinical nurses could be adapted to suit other student health professionals. It also demonstrated that such a course adequately prepares students' to the point where they are able to develop a research question and research proposal for implementation in their own clinical area. The evaluation reported is ongoing as the course continues to be modified to reach its best potential.

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