

Celebrating multidisciplinary practice and learning: three years' evaluation of an undergraduate interprofessional rural health education pilot

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Abstract

Attending to the shortage and sustainability of health care professionals and resources in rural Australia is a continuing challenge. In response, there is a heightened focus on new models of health care delivery and collaboration that optimise the quality of patient care, respond to complex health needs and increase professional job satisfaction. Interprofessional health education within universities has been proposed as one way of addressing these challenges to ensure the delivery of effective multidisciplinary health care by future health professionals.

The Rural Interprofessional Program Educational Retreat (RIPPER) uses interprofessional learning and a variety of educational strategies to prepare final year nursing, medical and pharmacy students for effective multidisciplinary rural health care delivery. RIPPER is an educational pilot module designed to expose undergraduate health science students to a number of rural emergency and acute health care situations. Using interactive high and low fidelity simulation, students work collaboratively in multidisciplinary teams to attend to the immediate management of the health care issue, develop management algorithms and consider strategies for prevention and patient aftercare in the rural context. The project was evaluated using a mixed method design to evaluate student learning outcomes and perceptions of interprofessional practice in the rural context.

Over three years, the RIPPER pilot provided students (n=90) with the opportunity to learn about working as a member of an interprofessional team using authentic and relevant situational learning for clinical and professional knowledge and skill building. Results from the program's mixed methods evaluation indicated that RIPPER is an effective model, and that exposure of health care students to interprofessional education can positively affect their perceptions of collaboration, team work and multidisciplinary patient care. The evaluation also points to the rural context as an ideal place to showcase elements of effective interprofessional practice for effective multidisciplinary care.

A collaborative multidisciplinary clinical culture is imperative for the promotion of a more satisfied rural health workforce and to ensure optimal patient outcomes. Health educators are powerfully positioned to develop curricula that emphasise the delivery of interprofessional health care. However, there are numerous barriers that make this a difficult task. This paper will discuss the program evaluation with a focus on enablers and barriers, and future directions.

Introduction

Attending to the shortage and sustainability of health care professionals and resources in rural Australia is a continuing challenge. In response, there is a heightened focus on developing new models of health care delivery and collaboration that optimise the quality of patient care, respond to complex health needs and increase professional job satisfaction. Interprofessional health education (IPE) within universities has been proposed as a key way of addressing these challenges to ensure the delivery of effective multidisciplinary and interprofessional health care by future health professionals.⁽¹⁻⁹⁾

IPE is defined as occurring when ‘two or more professions learn with, from and about each other’.⁽²⁾ Interprofessional health education is argued to promote enhanced communication, collaboration and team work skills amongst students in order to provide more effective health care services and improved patient care.⁽¹⁻⁹⁾ The context of interprofessional health education has been identified as a critical component of its effectiveness.⁽¹⁰⁻¹⁴⁾ It is argued that rural communities provide ‘an ideal context in which learners can observe and participate in sound interprofessional clinical practices’⁽¹¹⁾ by exposing students to the necessity of collaborative practice and expertise.⁽¹¹⁻¹⁵⁾ There is acknowledgement that educating health professionals within a rural environment is an effective strategy for increasing their knowledge and experience of working or living in a rural environment.⁽¹¹⁻¹³⁾

A collaborative interprofessional clinical culture is also imperative for the promotion of a more satisfied rural health workforce and to ensure optimal patient outcomes. Health professionals, and in particular health educators, from a variety of disciplines are therefore powerfully positioned to develop interprofessional university curricula that emphasise the delivery of health and social care services in a cohesive and collaborative manner. However, it is important to acknowledge there are numerous barriers that make this a difficult task.⁽¹⁶⁾

The Rural Interprofessional Program Educational Retreat (RIPPER) pilot is an interprofessional undergraduate health education program, which uses a variety of educational strategies to prepare a small cohort of University of Tasmania final year nursing, medical and pharmacy students for effective multidisciplinary and interprofessional rural health care delivery. It provides one of the first opportunities in their undergraduate training to learn and work with other health science students in an interprofessional team, using authentic and relevant situational learning for clinical and professional knowledge and skill building.

This paper provides an overview of the RIPPER program and will discuss the program evaluation over three years including a discussion of the enablers and barriers, and future directions for this innovative rural health initiative.

Background and key issues for IPE

Within the wider discipline of health, and particularly rural health, it is now acknowledged that a ‘collaborative team-oriented approach to care is required to ensure patient safety and quality of service delivery’.⁽⁶⁾ Given that health practice is critically dependent on effective interprofessional practice to maximise patient safety and outcomes, universities now recognise the need to incorporate interprofessional learning (IPE) into health science curricula.^(1-5,10,17,18) Subsequently, IPE is emerging as a key strategy in undergraduate health science education for promoting enhanced communication, collaboration and team work skills amongst students. It commonly involves education initiatives that incorporate interactive learning methods between different professionals in order to foster collaborative interprofessional practice in the health workplace and in the community.⁽⁸⁾ Effective IPE and practice has the capacity to strengthen health care systems by providing more effective health care services and improved patient care and outcomes.^(1-4,7-9)

It is further argued that effective IPE programs must reflect this changing nature of health care provision and collaboration, by using interactive and problem based authentic learning environments⁽¹⁾ that promote group work, reflection and mentorship.⁽¹¹⁾ The trends of worsening workforce shortages, skyrocketing health care delivery costs, an ageing population and more patients with chronic diseases require new ways of training health professionals to work more effectively.⁽¹⁹⁾

The development and implementation of IPE initiatives in the rural context is of particular interest to this paper.^(3,10-13,20) Rural based IPE is argued to be increasingly relevant to strengthening future health care teams

who 'work' in rural areas because 'in rural areas the shortage of health professionals, limited access to specialist services and a broad case-mix increases the need for collaborative professional practice'.⁽¹⁹⁾

According to Medves et. al.⁽¹³⁾ rural IPE is considered an effective strategy for exposing emerging health professionals to the nature of rural practice and to the necessity of collaborative practice, potentially leading to future recruitment and retention to rural areas. A number of programs have, and are continuing to emerge, in the quest for development of successful models of rural IPE both internationally and within Australia.^(10-14,21-24) However it has been noted that within Australia although there have been some pilot projects with a rural focus, 'there are few examples that have translated into ongoing programs, where IPE is valued as core business alongside discipline specific education and training'.⁽¹⁹⁾ Importantly, there are numerous challenges and barriers to the implementation of IPE within both rural and urban contexts which must be considered and overcome⁽¹⁶⁾

The RIPPER program

RIPPER is an educational pilot module designed to expose undergraduate health science students to a number of rural emergency and acute health care situations. The program was developed collaboratively with staff from the disciplines of Medicine, Nursing, Rural Health and Pharmacy at the University of Tasmania. The overall goal was to provide a unique opportunity for students to work in a rural setting where the elements of interprofessional practice are seen as integral to the provision of effective health care.

The RIPPER pilot was based around students learning and interacting with one another through a series of rural health care case scenarios. Students rotated in small interprofessional teams through a circuit of learning stations with each station based around an interprofessional rural scenario that utilised interactive educational strategies. In developing these case scenarios experiential and interactive high and low-fidelity simulations were employed to create situations that are as relevant and realistic as possible to 'real life' practice.

The case scenarios were developed to promote both an interprofessional approach to patient care but also to enable students to confront and deal with the challenges of rural health. Students worked collaboratively in small clinically relevant interprofessional teams that engaged the expertise and knowledge of each profession. Students were expected to develop their knowledge and skills through the immediate management of the case as well as discussion and reflection on issues such as teamwork, development of management guidelines, and strategies for prevention and follow-up care. Time was provided for peer evaluation, guided reflection and also debriefing with facilitators around the management of the scenario. Details of the scenarios and format of the RIPPER can be found in a previous report.⁽²¹⁾

The first two iterations (2006-2007) of the program were conducted in a small rural community in Tasmania's North East over two days. Students were supported by local health professionals working in the community who were able offer insight and knowledge into the nature of rural health. Due to a number of barriers related to curriculum and timetabling, the third iteration (2008) of RIPPER took place at the Northern campus of the University of Tasmania. Students in all iterations were exposed to rurally focused case scenarios and with facilitators from both rural and regional areas.

RIPPER was considered an extra curricula activity offered to final year students who volunteered to participate. Although there was no formal assessment students were rewarded by each of their schools with credit for hours for clinical practice.

Methods

The RIPPER program was evaluated over the three year delivery period (2006-2008). The evaluation project utilised a mixed method design to evaluate students' understandings and experiences of the program and to assist in detecting any changes to students' attitudes and perspectives resulting from their exposure to the program. The key research question was to evaluate how effective the RIPPER program was in preparing students for future interprofessional rural health care delivery. Because the outcomes and effects of IPE are 'multidimensional',⁽⁶⁾ interprofessional education programs should incorporate a variety of evaluation methods 'as a way of obtaining reliable and valid evidence'.⁽⁶⁾

The use of a mixed methods approach in examining the impact of IPE is also argued to assist in detecting 'changes resulting from an interprofessional course more accurately as there is data collection at two points in time: before and after the course'.⁽²⁵⁾

Academics and health professionals who assisted in the facilitation of the RIPPER program also provided comments and reflected on the content, format and future directions of the pilot. Facilitator evaluation data was collected via focus group discussions and informal written feedback.

Data collection and analysis

Quantitative data was collected from students before and after the program using a 12 item questionnaire. Students were instructed to indicate how strongly they agreed or disagreed with each item on a five-point Likert scale where 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree. The items were statements relevant to various components of the program including students' experiences of team work, collaborative and peer learning, interprofessional approaches to patient care and professional roles and responsibilities. A number of these statements were adapted from the Parsell and Bligh⁽²⁶⁾ Readiness for Interprofessional Learning Scale (RIPLS) which is one well recognised tool for evaluating attitudes to IPE due to its established validity and reliability.⁽²⁷⁾ The focus was not measuring attitudes to IPE, rather examining students' attitudes to their experiences of IPE.

Quantitative data were imported into SPSS version 16 (SPSS Inc., Chicago)⁽²⁸⁾ for analysis. Frequencies and describe functions were run to investigate the data. Paired pre and post RIPPER ordinal Likert scale data were investigated using the non-parametric Sign test.

Qualitative data was also collected on 8 items using open ended questions. Students were asked before and after the program to define their perceptions and understanding of interprofessional practice including the roles and responsibilities of respective health professionals, clinical outcomes including clinical problem solving and effects on patient care, and the importance of collaboration in a team environment. This qualitative data was coded using a thematic analysis approach.^(29,30)

Thematic analysis involves the identification of themes or recurring or intersecting patterns in qualitative data. Thematic analysis seeks to establish patterns, consistencies and meanings that suggest relationships between themes.⁽³¹⁾ Coding of the qualitative data was done by organising and sorting the data into groups and applying codes and labels to these groups to identify intersecting and consistent themes in the data.^(29,30) The authors and research assistant were involved in the thematic coding of the qualitative data, with all retrieving similar themes. Member checking was also conducted during the coding and analysis phase where some facilitators (n=6) from a variety of disciplines were contacted to critically comment on the findings and evaluation of the program.

Results

Ninety (90) students participated in the RIPPER program over the three year period. Students were from the Schools of Medicine (n=36), Pharmacy (n=25) and Nursing and Midwifery (n=29) at the University of Tasmania's Faculty of Health Science.† Academics from a variety of disciplines (n=15), and a range of health professionals and specialists (n=11) from the community assisted in facilitating the RIPPER pilot.

Quantitative results

Evaluation results are drawn from the 83 valid cases, of whom 39% (32) were male and 61% (51) were female. Seven (7) participants were excluded from the analysis due to incomplete or missing data. Table 1 provides details of the 7 scaled questions (questions 9, 11, 13, 15, 16, 18 and 19) used consistently over the three years of data collection and Table 2 summarises the mean and median scores for those questions (see Appendix).

* This tests whether median pre and post RIPPER responses were significantly different and also indicates the direction of the difference (whether the level of agreement with questions increased or decreased). Differences were accepted as significant at $p < 0.05$ for all tests.

† These are the 3 schools in the University of Tasmania's Faculty of health science: UTAS does not have allied health or associated undergraduate training courses.

Table 2 shows a high degree of agreement (higher mean scores) amongst participants on the post RIPPER experience questions for all 7 items.

The results of the Sign test on the 7 paired questions before and after RIPPER are shown in Table 3 (see Appendix). Table 3 indicates there was a significant difference in the pre and post RIPPER scores for all but one item (Q9). For all other questions/statements a large number of participants indicated a higher level of agreement after the RIPPER experience (post RIPPER) compared to before the RIPPER experience (preRIPPER). For example in question 13, 26 (92.8%) of the 28 participants whose level of agreement changed agreed to a greater extent that 'learning with other health care students helps me become a more effective member of a health care team' post RIPPER compared to pre RIPPER.

In summarising the results of the quantitative data, the most significant statistical shifts existed where higher numbers of participants agreed post RIPPER than pre RIPPER. These occurred under the following themes: the importance of peer learning and interprofessional undergraduate education, the importance of learning team working skills, learning with other health care professionals to increase teamwork and cooperation, and the benefit of interprofessional practice for patient outcomes.

Qualitative results

The results of the qualitative data (see Table 4, in Appendix for details of the questions) were summarised into five key areas related to the students' understandings of IPE following their participation in the RIPPER pilot. These five areas include the importance of learning together, the importance of working together for the benefits to patients; understanding of other health professional's roles and responsibilities; the importance of developing team working skills and understanding of rural health issues.

The importance of learning together and understanding other health professional's roles and responsibilities have been grouped together into the theme of developing effective teamworking skills. The following section will therefore present an overview of the qualitative and quantitative results with a focus on three major collated themes including developing effective team working skills, working together for the benefits of patients, and understanding of rural health issues.

Overview of mixed method results

(1) "Learning side by side": the importance of effective teamwork

When students were asked to identify what the most positive aspects of the program were, over 90% (n=75) specifically identified learning alongside other students was the most valued and useful part of their experience in RIPPER. In response to the question 'learning with other health care students helped them become more effective members of a health care team' (Question 13), there was a positive shift from the pre-test responses to the post-test responses of students. In the pre-test 50% (n=41) strongly agreed and 40.9% (n=34) agreed with the statement, whereas in the post test 75.9% (n=63) strongly agreed and 21.8% (n=18) agreed. The sign test confirmed a significant differential level of agreement for pre and post-RIPPER ($z=-4.347$, $p<0.0001$), with more students strongly agreeing with this statement following their IPE experience than in the pre-test evaluation. The following comments were made in regards to how working with other students had influenced their ability and effectiveness as a health care team member:

It (RIPPER) reinforced that teams are more effective in providing care due to varying experiences ... I am part of a team, not just a nurse. (nursing student)

I've definitely got more of an understanding of the importance of an interdisciplinary team approach and how it benefits all involved. (medical student)

The majority of students indicated agreement that team working skills are essential for all health care students to learn (Question 16). In the pre survey, 30.7 (n=25) of students agreed and 64.8% (n=54) strongly agreed and in the post survey 11.5% of students agreed (n=9) and 86.2% (n=71) strongly agreed with the statement regarding team working skills.

I have walked away realising that there is no point trying to work alone when you have other professions there to work with. (medical student)

(2) Benefits to patients throughworking and learning together

A second key theme was how greater benefits to patients could be gained through interprofessional learning and practice. In the pre-test 28.4% (n=24) of students agreed and 60.2% (n=50) strongly agreed with the statement that 'patients will ultimately benefit if health care students work together to solve patient problems' (Question 11), while in the post-test 13.8% of students agreed and 82.8% (n=69) strongly agreed. The Sign test indicated a significant differential level of agreement for pre and post-RIPPER questionnaires ($z=3.592$, $p<0.0001$). The positive shift in response to this item is supported by a number of statements regarding the process of working together may improve patient and clinical outcomes:

Every role is important and each profession contributes different strengths and if we use these skills effectively and cumulatively, patient outcomes as well as self-satisfaction is greatly enhanced. (medical student)

Better appreciation of how a team can effectively work together for a patient even if they aren't familiar with each other. (nursing student)

(3) Understanding of rural health issues

64.7% (n=54) of the students indicated agreement that the program had provided them with a greater understanding of the resources and networks required to assist people with health related problems in the rural community (Question 9). The following comments are indicative of this understanding;

RIPPER provided ways of managing patients individually in rural areas, and other things that can be done with the limited resources and facilities in rural areas. (pharmacy student)

Fantastic weekend, very important to work as a team and see how that works in rural health. (medical student)

Facilitator evaluation and reflection

Academics and health professionals who assisted in the facilitation of the RIPPER program were also asked to provide comments and reflections on the running, content and future directions of the pilot in the form of informal written feedback and group interviews. In total, written feedback was received from over half of facilitators (n=15), with all facilitators being involved in group discussions following each iteration of the program (n=26). This qualitative data was collated for thematic analysis and coding to identify issues and themes. The issues identified as barriers impacting on the RIPPER pilot included, the difficulty with timetabling across the schools; the difficulty recruiting students for an extra curricula activity; the need for a large number of academic and clinical facilitators and the fact that the program was not considered as part of core teaching or scholarship.

In recognition that students have few if any opportunities for interprofessional learning and practice in their undergraduate degree, facilitators and academics who provided feedback all agreed that IPE opportunities needed to be part of undergraduate health science education in all years. Facilitators also supported the view that students' should have more time and opportunities to practice in rural areas. While RIPPER provided some insight into the issues associated with providing care and working interprofessionally within a rural context, the evaluation showed that longer and more sustained opportunities for students to experience rural areas was needed throughout their undergraduate training. This supports the need for rural based interprofessional education to be embedded within the curriculum.

One of most positive findings from the evaluation of RIPPER was the interprofessional blend of facilitators and academics involved in the pilot and the mentorship of students. The opportunity for students to not only learn and practice together but also to be guided and taught by an interprofessional team of health practitioners and academics was seen by both facilitators and students to be one of the most positive aspects of the RIPPER program.

Discussion: barriers and enablers to rural based IPE

The evaluation of RIPPER over three years indicates that the program has been successful in promoting the value and need for undergraduate health science students to learn with and from one another, in a relevant and supportive environment. The most significant statistical shifts (where student participants' agreement

increased significantly) existed under the themes of the importance of peer learning and multidisciplinary undergraduate education, the importance of learning team working skills, learning with other health care professionals to increase teamwork and cooperation, and the benefit of interprofessional practice for patient outcomes. In addition, students identified the importance of working and learning collaboratively and effectively in order to maximise patient outcomes and improve working relationships after training. This supports a growing body of discourse surrounding the benefits of IPE.^(1-8,13,17,23)

The evaluation also shows that RIPPER is an effective model for interprofessional learning and practice in the rural context. The evaluation highlighted that student exposure to rural health issues resulted in an increased awareness of the nature of rural health care provision and the importance of professional collaboration and building of rural health care teams. In summary, the key enablers of this IPE pilot were a commitment of a team of interprofessional academics and clinicians to IPE outside the mainstream curriculum, a rural setting as a context for IPE and the desire amongst students for more IPE opportunities in their undergraduate training.

However, evaluation of the program particularly from the perspective of the academics and facilitators highlights the significant barriers common to the implementation and sustainability of interprofessional education experienced elsewhere.⁽¹⁶⁾ These findings from the evaluation of RIPPER are supported by the work of authors such as Gilbert⁽¹⁶⁾ who discusses a number of key structural barriers impacting on interprofessional education which include:

- Funding at University level is not equal across disciplines and for those departments with tight budgets activities such as IPE are considered outside of disciplinary bounds and are viewed as one off research projects rather than core business.
- The costs of IPE is generally expensive and resource intensive given the teaching and learning methods employed such as problem based learning. Therefore a large number of instructors are required for small groups of students.
- Lack of funding for student placements at rural and remote sites is a barrier to running effective IPE in rural communities where practitioners from a variety of health services are needed
- Faculty structures are modelled on organisation and management of traditional faculties of Arts and Sciences and departments or schools are rewarded on disciplinary focused teaching and scholarship.

Other barriers include difficulty with timetabling across the disciplines, lack of formal assessment and inability to offer such programs to all students.

One of the most critical evaluation findings was the strong need for IPE opportunities and programs such as RIPPER to be established as integral parts of the health science curriculum within universities rather than optional or extra curricula activities.^(16,32) This requires support and funding from faculties and university structures^(16,32) to ensure sustainability of such programs. Additionally, other barriers to the sustainability of RIPPER include equity, whereby all students, not just a small number, have the opportunity to engage with and learn interprofessionally. The organisation and engagement of students from three different disciplines to participate in RIPPER was an ongoing difficulty mainly due to curriculum demands and course timetabling. With respect to the committed facilitators, participation was done outside the scope of their normal teaching and practice commitments, therefore formal acknowledgement of their involvement in IPE needs to be recognised and rewarded by schools and faculties. Similarly these departments will need to provide staff development in the areas of facilitation for interprofessional teaching and learning.

In order for students to gain a more comprehensive insight into the nature of interprofessional rural practice their exposure to rural areas needs to be more sustained and for longer periods. In light of an under-resourced rural workforce, the embedding of positive learning experiences relevant to rural practice could enhance the future recruitment and retention of staff.

Conclusion

Three years of results from the mixed methods evaluation demonstrate that RIPPER is an effective model, and that exposure of health care students to interprofessional education can positively affect their perceptions of collaboration, team work and multidisciplinary patient care. Students identified the importance of teamwork

for collaboration in practice, clinical problem-solving and positive patient outcomes. Both students and staff expressed their desire to participate in more interprofessional learning opportunities throughout the undergraduate curriculum. This reinforces the fact that health professionals 'for the most part are educated in silo's'⁽⁷⁾ and further supports the need for educational strategies such as rural IPE to improve a collaborative team oriented approach to rural health care practice. The evaluation also highlighted the rural context as an ideal place to showcase elements of effective interprofessional practice for effective multidisciplinary health care. The authors believe that to be truly effective IPE requires overcoming the numerous structural barriers to interprofessional learning activities.

This paper has offered insight into the key issues affecting the design and implementation of a rural IPE program. Further research is required into how IPE can emphasise the delivery of health and social care services in a cohesive and collaborative manner and how it can be incorporated as a core and vertically integrated, sustainable component of undergraduate health science curricula.

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Appendix

Table 1 The 7 scaled questions from which the quantitative results are drawn

Question 9	This program has given me a greater understanding of the resources and networks required to assist people with health related problems in the rural community.
Question 11	Patients will ultimately benefit if health care students work together to solve patient problems.
Question 13	Learning with other health care students helps me become a more effective member of a health care team.
Question 15	Learning with other health care students increases my ability to understand clinical problems
Question 16	Team working skills are essential for all health care students to learn.
Question 18	Peer learning amongst health care students can improve working relationships after training/ qualification.
Question 19	Learning with other health professionals gives me a better understanding of their roles and responsibilities

Table 2 Distribution of participants' responses to Questions 9, 11, 13, 15, 16, 18, 19

	Pre-RIPPER experience (N = 83)				Post-RIPPER experience (N = 83)			
	Median	Mean	95% CI for mean		Median	Mean	95% CI for mean	
			Upper	Lower			Upper	Lower
Q9	5	4.51	4.38	4.64	5	4.6	4.47	4.74
Q11	5	4.47	4.31	4.63	5	4.8	4.68	4.91
Q13	5	4.42	4.27	4.57	5	4.73	4.63	4.84
Q15	4	4.3	4.12	4.48	5	4.67	4.55	4.8
Q16	5	4.59	4.44	4.74	5	4.84	4.73	4.96
Q18	5	4.47	4.34	4.60	5	4.81	4.71	4.91
Q19	5	4.52	4.39	4.64	5	5	4.69	4.90

Table 3 Results of the Sign test on Q9, 11, 13, 15, 16, 18 and 19—Comparing the level of agreement between the Pre-RIPPER and Post RIPPER experience

Test matched pairs (N = 83)	Negative differences ^a		Positive differences ^b		z-value	p-value (2-tailed)
	N	%	N	%		
Q9 Understanding resources and networks required in the rural community	22	64.7	12	35.3	-1.543	0.123
Q11 Benefits to patients of working together	26	83.9	5	16.1	-3.592	<0.0001
Q13 Becoming a more effective member of a health care team	26	92.8	2	7.2	-4.347	<0.0001
Q15 Increased understanding of clinical problems	30	85.7	5	14.3	-4.057	<0.0001
Q16 Team working skills are essential for all health care students to learn	23	79.3	6	20.7	-2.971	0.003
Q18 Improved working relationships after training	32	86.5	5	13.5	-4.274	<0.0001
Q19 Better understanding of other professions' roles and responsibilities	29	80.6	7	19.4	-3.500	0.000

a Where level of agreement of Pre-RIPPER < level of agreement of Post-RIPPER

b Where level of agreement of Pre-RIPPER > level of agreement of Post-RIPPER

Table 4 **Open ended questions from which the qualitative data is drawn**

1. Please list what you think are the key features of 'Inter-professional Practice'?
 2. Please list three ways in which RIPPER has influenced the way you understand yourself as an emerging health professional?
 3. Please list ways in which RIPPER has shaped your perceptions of the other health professionals?
 4. Please explain how your learning expectations were or were not met during the RIPPER program?
 5. What were the most useful aspects of your RIPPER experience?
 6. What were the least useful aspects of your RIPPER experience?
 7. Any further suggestions for improving RIPPER in the future?
 8. Please indicate your intention to work in a rural area now that you have participated in the RIPPER program.
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