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anatomy within an integrated & case-based learning
osteopathy curriculum*

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'We need one more hour solely based on anatomy... Give us anatomy!': early- year learner perceptions of anatomy within an integrated & case-based learning osteopathy curriculum

Susan Johnston^{1*}
Brett Vaughan^{2,3}

¹ First Year College, Victoria University, Melbourne, Australia

² Department of Medical Education, University of Melbourne, Melbourne, Australia

³ School of Health & Human Sciences, Southern Cross University, Lismore, Australia

Running title: Perception of anatomy in an integrated course

* Corresponding author

Susan Johnston
First Year College
Victoria University
Melbourne, Australia
E-mail: SusanL.johnston@vu.edu.au

Abstract

Background

Integrated curricula, where the teaching of basic and clinical sciences is combined horizontally and vertically, have received increasing attention in the health professions education literature. This structure is thought to better prepare learners for the clinical learning environment and their future work as a health professional. Our research aimed to explore student perceptions of anatomy within an integrated curriculum underpinned by case-based learning (CBL).

Methods

Two focus groups using semi-structured questions were conducted with year 1 learners. Audio-recorded data was then thematically analysed through a constructivist lens.

Results

Thirteen students participated. Participants recognized the value of anatomy for their future work and ascribed it a high priority for their learning, including asking for greater anatomy contact hours. CBL does not assist in learning anatomy *per se*, rather it provides context, enhances its relevance to future work, and unifies the curriculum. With the exception of anatomy and biomechanics, students had trouble recognizing other components of the integrated biomedical sciences subject (e.g. physiology and pathology). This outward disconnect resulted in confusion. However, participants reported strong links between the basic science and clinical skills units.

Conclusions

Study outcomes suggest learners appreciate the integrated curriculum structure in the early stages of their anatomy learning. Its high value may be related to perceived difficulty of this content, or the

hidden curriculum privileging anatomy over subject content. Integrated subjects need to balance content to ensure it is reflective of future practice, and signpost to assist learners to navigate the subject and facilitate their learning.

Key words

Case-based learning; problem-based learning; qualitative; osteopathy; osteopathic medicine; allied health; medical education; osteopathic education

Introduction

Traditional health science curricula are dominated by basic sciences in the early years of a program followed by clinical learning in later years [1, 2]. Although such a structure is common and persists in some programs, this approach has been considered to have a number of limitations (e.g. teacher-directed, limited integration of knowledge with clinical work) [2] and curriculum change to address these limitations can be slow. The basic premise of a contemporary health science curriculum is that it should engage learners in contextual learning [2], that is putting the content being learnt into the context of their future work. A curriculum should also engage students as adult learners who are independent problem solvers, rather than encouraging memorization of swathes of biomedical science knowledge. The desired outcome of this contemporary health science curriculum is better integration of clinical and biomedical sciences in the clinical learning years [3, 4]. Authors have advocated the use of integrated curricula [3], that is, clinical learning is combined with developing an understanding of the biomedical and social sciences [5]. The integrated curriculum aims to provide context for academic content, improve the learning environment [2], improve learner engagement and content retention.

Medical curricula designers have been drawn to integrated curricula to reduce “...teaching unnecessary detail in basic sciences, including gross anatomy, often to levels irrelevant to clinical practice” however these authors also note that “...the debate on this matter has been speculative or anecdotal, lacking reliable supporting data.” (p. 212) [6]. Removing “unnecessary detail” may reduce contact hours and student load, however the importance of basic sciences, including anatomy, is thought to be at risk with such changes [4, 7]. With the introduction of integrated curricula and use of case-based or problem-based learning, anatomy teaching hours have reduced by up to 80% in Australian medical schools, a trend reflected worldwide [6].

Evidence of the effect of reduced anatomy education is often conflicting and tends to focus on problem-based learning (PBL) [8, 9] rather than case-based learning (CBL), the focus of the current paper.

Problem-based learning is widely used in health professions education. The premise of PBL is that the learner's work through a clinical case presentation as a group. The learner's raise their own questions, explore issues related to the case and attempt to resolve the case in what has been referred to as open enquiry [10]. There is often no preparation required on the part of the learner before participating in a PBL case, and no prior knowledge is required [11]. The educator has a minimal role in PBL, allowing the learners to guide their own discussions and learning, and highlighting aspects of the case for learners to pursue after the session. In contrast, the role of the educator in CBL is more structured – bringing the learners back to the key learning objectives for the case, guiding learners through the case and providing closure. This has been referred to as guided enquiry [10]. CBL also typically includes some pre-session preparation by the learner. Both PBL and CBL are used to develop learners' problem-solving and teamwork skills, in addition to facilitating independent learning, although the more structured CBL approach may be better suited to learners in the early years.

Research into the combination of integrated curriculum and CBL is emerging [12]. Klement, Paulsen [13] reported a 28% reduction in course contact hours yet a 9% increase in the average gross anatomy examination scores. Likewise, Parmar and Rathinam [14] implemented integrated and CBL anatomy sessions that resulted in significant improvements in the long-term knowledge retention and 93.8% of students reporting that this approach enhanced their ability to learn respiratory anatomy.

Much of the research regarding integrated curricula and CBL focuses on its efficacy at producing academic results in comparison to other teaching/learning methods. Of the studies exploring the

student perception of integrated curricula, CBL or anatomy teaching many do so using quantitative methods [14-16]). However, this approach may not capture the personal nature of the student experience. A systematic review of CBL in health professional education identified the need for more qualitative research to better understand how CBL helps students learn [5]. Bergman, Prince [17] also identify the student voice as a significant area for evaluation of anatomy education. In response to these calls, the current research utilized a qualitative approach to investigate osteopathy student perceptions of the integrated curriculum and CBL in respect to learning anatomy in the first semester of a pre-professional program.

Methods

Ethics approval was granted by the Victoria University Human Research Ethics Committee (HRE15-160).

Context

In late 2013 the Victoria University (VU, Australia) osteopathy faculty conducted an extensive curriculum review that suggested students wanted greater and more explicit links between theory and practice. This led to the development and implementation of an integrated curriculum in 2016, one of the first integrated osteopathy curricula in the world. The new osteopathy four and a half-year combined Bachelor/Masters curriculum is integrated both horizontally and vertically, underpinned by CBL. The curriculum was designed around region-based semesters (e.g. upper limb, lower limb) on which the theoretical biomedical and manual therapy concepts and practical skills are focused.

The integrated osteopathy curriculum consisted of four interconnected domains undertaken as four subjects per semester (Table 1). This research focuses on the student perception of anatomy within the first semester of Scientific Basis for Osteopathy (SBO) - the region taught was the upper limb and CBL began in week 8 of the 12-week semester. Due to the nature of an integrated curriculum, it can be difficult to isolate the anatomy content. However, a content review suggested that first semester anatomy teaching hours dropped from 72 hours within the traditional curriculum, to 27 in the integrated curriculum.

Table 1. The four subjects comprising the osteopathy curriculum at Victoria University in 2016.

| Subject | Content |
|--|---|
| Scientific Basis for Osteopathy (SBO) | Develop the theoretical knowledge required to diagnose and treat musculoskeletal conditions including anatomy, physiology, pathology, pharmacology, biomechanics and osteopathic philosophy |
| Clinical Skills (CS) | Examine and manage musculoskeletal complaints using hands on techniques and other strategies |
| Evidence for Practice (EP) | Understand the need for evidence informed practice and how to contribute to the evidence base |
| Patient, Practitioner and the Health System (PPHS) | Explores the interactions between the patient, health professionals and the broader healthcare system |

Participants

Learner's enrolled in the second semester of the SBO subject in 2016 were invited to participate.

Participants were provided with the topic questions in advance to allow them to consider their responses. Participants were assured that their involvement would have no bearing on their grade or progression through the osteopathy course. All participants maintained the right to refuse to answer questions, not participate in the group on the day, leave the focus group at any time and withdraw their comments at any time after the focus group.

Focus Groups

Focus groups were chosen over one-on-one interviews as they allow participants to influence and be influenced by others [18] and the methods were informed by Liamputtong [19]. The study methods were designed and reported here following the COnsolidated criteria for REporting Qualitative (COREQ) research guidelines [20]. Each focus group was facilitated by the primary author who is an educator and osteopath with an academic interest in anatomy education. The facilitator was a novice education researcher and received training from a more experienced qualitative researcher. The facilitator had an established relationship with the participants in an educator-student relationship. Potential participants were informed of the study via the learning management system and the sampling strategy was one of convenience.

Each focus group was up to one hours' duration, exploring student perceptions of the first semester of anatomy education within the integrated and case-based curriculum. This included the student perceptions of the first semester of 1) the anatomy curriculum within SBO, 2) CBL and 3) the integrated nature of the osteopathy curriculum. The question route (appendix A) was designed to gather the participants' perceptions of these three elements. During each focus group, field notes were also taken.

Data Analysis

Focus group transcripts were analysed individually through a constructivist lens – a dominant learning discourse in problem- and case-based learning [21], and integrated health profession curricula [2].

Constructivist learning engages the learner by drawing on their previous knowledge and experiences to

assist with creating new knowledge, whilst constructivist teaching is designed to foster independent thinking and motivation for learning through facilitation and guidance [22].

The focus groups were audio recorded then underwent longhand abridged transcription. Thematic analysis was used to derive meaning from the data to develop themes [23] with the analysis undertaken by both authors independently in the initial phase. The process of theme analysis was based on that of Krueger and Casey [18] with several factors determining the weight of each theme notably the frequency, specificity, emotion and extensiveness [18]. Transcripts were read in full individually by the researchers to identify primitive themes. Relevant quotes were highlighted throughout the transcripts then placed under primitive theme headings to determine their strength and the variety of opinions related to each. Primitive themes with limited frequency were discarded or combined with other themes. The primitive themes and their quotes were scrutinised by both researchers to ensure they aligned, in the cases where they did not, the mismatched quotes were re-allocated or the theme name adapted. The primitive themes were then grouped into common themes and a concept map was formed for each focus group. Concept maps of the two focus groups were contrasted to identify their similarities and differences. On review the researchers agreed that the themes were consistent across both focus groups, therefore the final themes were identified.

Results

Of the 117 students enrolled, 15 volunteered to participate, with 13 participating (11% of the cohort). All seven participants allocated to group 1 attended however, of the eight allocated to group 2 two withdrew resulting in six participants. The focus groups were conducted in weeks 7 and 8 of the participants' second semester of their osteopathy course. The duration of the focus groups were 58 minutes (group 1) and 49 minutes (group 2). The gender split for each focus group was approximately even with a mixture of both school-leavers and 'mature' learners in each. None of the participants had experience with either a problem- or case-based learning approach. Analysis of the focus group data revealed three themes: 1) anatomy as the zenith; 2) integration across and within; and, 3) case-based learning provides context.

Anatomy as the *zenith*

Students perceived anatomy to be a particularly important component of their learning. This was reinforced by the student's desire for additional anatomy contact hours. With the exception of one participant, the groups requested 'one more hour' of formal anatomy education per week in first semester:

We need one more hour solely based on anatomy... Give us anatomy! (FG2, P1)

There was some suggestion that this extra hour of anatomy education would not be required beyond first semester as their independent anatomy study skills had already developed:

In that first semester it's about giving out the skills and techniques to be able to do the self-study and if you can build that up in first semester then yeah, from semester 2 onwards you can make it more about people having more time on their own to do it (FG2, P3)

We know what to expect and what is expected of us now (FG1, P2)

Anatomy was described as a demanding component of the subject, and was ascribed a high priority in their education and their careers as osteopaths:

Basically, if you don't know your anatomy you're going to be bad at what you do (FG2, P1)

Minimal study for everything, maximum for anatomy, I prioritise anatomy because I see the relevance of it (FG2, P4)

Although anatomy was identified as a high priority for most participants this did not always translate into consistent anatomy study throughout the semester. There was also an element of humor where, in hindsight, participants scoffed at their poor first semester study habits:

I felt like I did it incrementally during semester. So come exam time yes I needed to study but it was not like it was left untouched (FG2, P5)

It came down to cramming time for me. I have so many passions in life that time is short! (FG1, P2)

Integration across and within

Curriculum integration, particularly within a subject, appeared to be a source of confusion. The students did not see a logical progression from one lecture to the next and how the topics related to each other.

Participant language choice was often emotive when describing this confusion:

I felt like it was like roulette (FG2, P1)

You'd get hit with a pain lecture (FG2, P6)

It was just like 'bam' this is what we're doing today! (FG2, P3)

When discussion of the workshops arose, participants expressed their enjoyment of the class however, they did not consider it an anatomy class. As such the definition of 'anatomy curriculum' not including the workshops was validated.

The SBO workshops are great but they aren't anatomy... (FG2, P2)

Participants also suggested that signposting was required to guide them through the SBO curriculum, however a number of participants discussed using the unit outline and online unit resources for guidance. Some students recognised that their inexperience in tertiary education might have contributed to this confusion:

It needs to be sign posted, at the start of the lecture like 'today we are doing this...' which they probably do but we're just too flustered to read the notes properly (FG1, P4)

There was also an impression of a split between subjects. Participants appeared to make their own links between subjects:

PPHS [Patient, Practitioner & the Health System subject] and EP [Evidence for Practice subject] are together and SB and CS are together (FG1, P6)

However, towards the end of semester there was an appreciation of the SBO curriculum integration, potentially through reinforcement in other subjects:

By SWOT VAC [study break] it was like oh ok, I make sense of it now, they do actually relate (FG1, P3)

SBO and CS [Clinical Skills subject] they go hand in hand (FG1, P6)

Lecturers in SBO are like "this is important in CS" and in CS they're like "this is really important to know your anatomy" (FG1, P6)

The participants appreciated the integrated SBO exam as it reinforced the connections within the curriculum:

'Incorporating it as an end of year exam makes sense because they do all intertwine' (FG2, P6)

Although the structure of the assessment (62% of marks were related to anatomy) likely played a role in forcing study behaviours and signaling to the learners the importance of anatomy over other content:

Biomechanics was only 10 marks...and that's not worth it. I was wasting my time on those smaller subjects (FG1, P5)

We all got logical (FG2, P4)

Case-based learning provides context

The participants' attitude towards CBL was clear in that it *does not* help them learn anatomy, rather it provides context and assists with assimilating knowledge:

It sort of tied things together, from like CS, anatomy and biomechanics, a bit of everything (FG1, P3)

(CBL is) extremely useful! Not so much for learning anatomy but more for putting it in context (FG2, P1)

Sometimes when you're in a lecture it's just words, but when you put it (anatomy) in CBL you seem to learn how people use it in their life (FG1, P1)

Overall the participants were happy with their enrolment in the integrated curriculum rather than the traditional. There was one exception where a participant was concerned that the depth of knowledge covered in the SBO curriculum was not adequate and a spirited discussion ensued.

I found out they (traditional curriculum) did the whole body in year 1 and I was really happy to be focusing on the upper limb! (FG1, P2)

As in putting them into one subject? Not good! I thought it was the worst decision they've ever done.....I don't think there is enough biomechanics or physiology. It's too basic (FG2, P2)

How important is it to be able to profess the minutia of what happens within a cell versus being able to apply that to a case of a person? I love the way they've done it! (FG2, P3)

Discussion

Our work sought the opinion of first year osteopathy students undertaking their studies in an integrated curriculum, with a particular focus on their anatomy education. Previous iterations of the osteopathy curriculum had anatomy as a standalone unit, and the students participating in the current study were the first to undertake the integrated curriculum structure. This provided an interesting opportunity to explore early learners' impressions of anatomy in this context.

Researcher reflexivity

Beliefs, social position, and personal experiences can influence the interpretation of data generated using qualitative methodologies [24]. Our intent here is to first present a discussion of these considerations in the context of the current work to provide the reader with an understanding of potential influences on the analysis and interpretation. The first authors' interest is anatomy education in the health professions. This position allowed for an understanding of the curriculum, in addition to the challenges and benefits of implementing a new curriculum and curricula structure, however she was not involved in the design of the curriculum. There is a possibility that participants censored their responses due to the researcher being one of the anatomy teaching staff. As she was the assistant laboratory teacher, rather than the principal educator, the possibility of students filtering their responses is reduced. Krueger & Casey (2009, p. 124) stress that the person who analyses the data should be present during the focus group as they will experience "...a sense of energy, passion and emotion that doesn't come through transcripts". The teaching approach in the older curriculum was didactic and required a shift in individual teaching philosophy from transmission to construction. Further, anatomy education moved from a standalone unit of study to an integrated one, and a

potential consideration is the perceived 'loss' of anatomy content. The second researcher provided a check on the interpretation and analysis [24] to reduce the potential influence of these beliefs and opinions. This researchers' background is in clinical education, and assessment in health professions education, in addition to being an academic in the osteopathy program at the time of the study. For the current work, this researcher was involved in the initial design and implementation of the integrated curriculum. A bias with respect to positive implementation of the curriculum and student experience should be considered here.

Anatomy as the *zenith*

Unsurprisingly, anatomy was perceived to be a particularly important part of their learning. Although it could be argued that the research question influenced this outcome, the commentary from participants suggested they had developed a strong opinion as to its place in the curriculum and relevance to their future work. This appears to be in contrast to perceptions of Australian medical students who have been reported as attributing minimal weight to anatomy [6]. Increasing the volume of anatomy-specific contact hours was consistently identified by the participants. A greater number of dedicated anatomy teaching hours has been demonstrated to improve anatomy knowledge [9, 17]. Bergman, Prince [17] and Prince, Van Mameren [9] found no difference between the anatomy knowledge of students undertaking a PBL or traditional medical curricula, however, both reported that greater anatomy teaching hours resulted in students with better anatomy knowledge. These studies suggest it may be the volume rather than content quality/delivery influences anatomy knowledge. Although greater anatomy contact hours may increase anatomy knowledge, the same could be said for each of the SBO subcomponents in the VU osteopathy course. Supporting this assertion is work in integrated curricula [25, 26], where increases in knowledge were demonstrated throughout the 5 years of the program

suggesting the curriculum structure itself may be influential. To ascertain the effect of the integrated curriculum on learner knowledge acquisition across this 4½ year course, further research would be required.

There also appeared to be a number of participants who prioritized learning anatomy over other components within the SBO subject. This appears to be an inadvertent outcome of moving to the integrated curriculum and is likely related to the major assessment for the subject being weighted towards anatomy. Subsequently, participants reported being strategic about their approach to their learning based on the assessment. It is also possible that although the curriculum is integrated, there is still an emphasis on anatomy through other *hidden* curriculum elements “...operating for or against the goals of the formal curriculum” [27]. This may come through in the structure of the classroom teaching and CBL facilitation, learner discussions with more senior students [2], and a continual discussion and reinforcement of the primacy of anatomy in other subjects. However, participants also suggested that this volume could be reduced after the first semester, suggesting the increased hour is more related to them becoming comfortable with the content and learning format. Orientating the learners to the purpose of CBL and anatomy in this context, would be a useful, explicit strategy to address concerns.

Integration across and within

Curriculum integration in the health professions is designed to ensure learners are prepared for the clinical learning environment and their future work [3]. In our work, participants initially identified confusion around specific subject content, and attributed this to the structure of the subject. It may also be that without experience in an integrated program that they are less likely to be familiar or comfortable with the format. This is not dissimilar to Bolender, Ettarh [28](p. 206-207) who details his

experience with medical students in an integrated curriculum “first year students had difficulty seeing how concepts from several science disciplines fit together” and “integrating the curriculum does not automatically create students who can effectively integrate science and clinical medicine”. To help students develop an integrative thought process some authors suggest starting with non-pathological cases in CBL before moving onto pathological ones [5, 28]. Non-pathological cases provide an opportunity for students to integrate basic and social science knowledge [5], before adding a clinical context. First year students may need assistance to adjust to an integrated curriculum and CBL, particularly if they are accustomed to a more didactic teaching approach [29].

By the conclusion of the semester, participants developed a greater appreciation of integration of the subject, and to anatomy within it. This perception appeared to be associated with reinforcement of academic content in other subjects, along with an integrated examination, comprising content from the whole subject. These results are similar to Australian medical students where self-confidence with anatomy was associated with appropriate assessments and integration of anatomy with other sciences [4]. Whilst there is a push to increase clinical sciences in the early years, true integration also requires basic sciences to extend into the clinical years [4]. This is a challenge many institutions have struggled with [7] and one reason basic sciences are thought to be ‘at risk’ in integrated curricula, however this is not borne out in the literature. Vertical integration aims to address this challenge by allowing the basic science knowledge presented early on in the traditional curriculum to unfold over the duration of the new curriculum. Although there is much variation in the literature, Van der Veken, Valcke [30] found that an integrated curriculum results in a steeper learning curve in basic and clinical sciences and higher levels of knowledge in both compared to a conventional medical curriculum. McBride and Drake [26] also identify that when the curriculum is integrated, and potentially with a reduction of contact hours,

there is adequate retention of anatomy knowledge suggesting this structure may not have substantial negative impacts on learners.

Case-based learning provides context

Placing biomedical science content such as anatomy within a clinically relevant context has been shown to be positively correlated with retention of basic science knowledge [6, 31, 32] and improve clinical reasoning [17, 33]. In our work, the participants' perception of CBL increased the relevance of anatomy, enhanced the integration of the curriculum, and this generally positive attitude towards it accords with the literature [5]. Although a definitive effect on academic results could not be determined, it was concluded that enjoyment in learning can lead to greater engagement and motivation which is a positive outcome for students as well as staff. Participants in our work also suggested that case-based learning was the learning activity that united the first semester curriculum - an encouraging finding given none of the participants had experienced CBL before this program.

However, this lack of experience with CBL may also require the learner's to be oriented towards its purpose and structure. The emotive language used by the participants may be a result of the strain of transitioning into the integrated and CBL curriculum, even for those with prior tertiary education experience. Incorporating the suggestions of Thistlethwaite, Davies [5] and Bolender, Ettarh [28] - starting with non-pathological cases in CBL before moving onto pathological ones – may help to ease this transition to a different educational delivery approach. How this approach to CBL plays out with learners requires further research.

Study Limitations and Future Work

The research was small in scale, gathering the student perceptions of only 11% of the research population, therefore the results may not be generalizable to the wider student cohort at our institution. Students who volunteered to participate in the focus groups may be more inclined to reflect on their learning and self-selected into the study, or had a particular interest in anatomy. We did not explore the academic grades of those who participated, and it may be these learners are higher achieving compared to non-participants. Another relevant limitation is that the focus group facilitator was one of the anatomy educators, therefore, student responses may have been censored. Learners may have also felt compelled to participate or display some other form of social desirability bias both in choice to participate and through the focus groups. Another limitation may be the lack of educator voice in the current work. Literature suggests that the academics may struggle with the change to an integrated curriculum through loss of discipline specific content [2], and its potential effect on the hidden curriculum.

Future work could explore the longer-term influence of CBL and other educational delivery strategies on anatomy knowledge development and retention, and self-confidence with anatomy in the clinical learning environment. Longitudinal work with the participants or student cohort would also assist in shedding light on the evolution of their anatomy knowledge over the duration of the course. Since our work, the curriculum has undergone a significant redesign secondary to university-wide curricula changes. This change involved moving to a 'block model' design where units are taught in series, four weeks at a time, rather than four units in parallel for 16 weeks. This may limit the generalisability of our findings, even within our own teaching program. However, it also presents an opportunity for additional research to explore the impact of this curriculum change.

Conclusion

Our work suggests that learners in an integrated curriculum can see the value of anatomy in their learning, and this was reinforced through the curriculum design and use of CBL as one of the principal educational delivery strategies. Several recommendations can be made to assist students' transition into an integrated curriculum. The option of additional anatomy contact hours per week should be explored, if only in first semester as students consolidate their independent learning skills. This could also be through the use of computer programs, or peer learning for example. Explicit linking of content within an individual subject in an integrated curriculum appears to be paramount in the initial stages to avoid one area becoming a focus for learners. There is also an opportunity to increase the role of CBL in achieving horizontal and vertical integration, particularly for content that learners may perceive as more peripheral to their future clinical work. These findings are all consistent with constructivist learning approaches and it is encouraging participants described their learning in this light. Our work highlights some considerations when designing and implementing an integrated health professions education curriculum, particularly how assessment can be used to reinforce integration of clinical skills and knowledge with the basic sciences. Careful consideration needs to be given to how students experience the curriculum in order to avoid unintended consequences or fostering a *hidden* curriculum.

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Appendix A

Research sub-questions with accompanying focus group questions

| Research sub-questions | Focus group questions |
|--|---|
| What is the student perception of the first semester of anatomy education? | <p>Can you comment on the volume of anatomy knowledge you were expected to learn in first semester?</p> <p>How did you find the balance between contact hours (anatomy lectures and laboratory sessions) and the anatomy material you were expected to learn?</p> <p>How did you find the amount of private study time you dedicated to learning anatomy?</p> |
| Does case-based learning facilitate the learning of anatomy in first semester osteopathy students? | Have you used cases to assist learning previous to this course? What was your perception of them? You completed two cases in case based learning last semester, can you comment on how useful they were for learning anatomy? |
| Do first year osteopathy students observe the connection (integration) between the sub components of Scientific Basis of Osteopathy 1? | How do you find the subcomponents of the Scientific Basis of Osteopathy 1 unit (Anatomy, physiology, biomechanics, osteopathic philosophy)? |
| Do first year osteopathy students see how anatomy and Scientific Basis of Osteopathy 1 integrates with other first semester units? | Can you see relationships between anatomy (and Scientific Basis of Osteopathy 1) and other first semester units (Clinical Skills, Evidence for Practice and Patient, Practitioner and Health System)? |
| | Do you have any feedback or opinions about first semester anatomy, case based learning or course integration that you haven't already expressed in this focus group? |