

CASE STUDY

Students as Partners in an Australian Medical Program: Impact on Student Partners and Teachers

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ABSTRACT

In this article, we will discuss and analyse the implementation of a Students-as-Partners (SaP) initiative in a formal medical curriculum. Effective student-staff collaboration led to the development of student-centred lessons that were relevant and engaging, while improving student-staff relationships. In addition, student partners developed leadership and management skills, gained knowledge about educational pedagogies, and acquired metacognitive strategies to improve personal learning. Our experience highlights the important role that medical students can play in driving educational innovation and the immense potential for SaP initiatives to benefit students and staff.

KEYWORDS

students as partners, student-faculty partnership, curriculum reform, medical education, medical student

The insights and ideas of medical students have increasingly been recognised as critical driving forces for educational innovation, content development, and quality assurance in medical education (Burk-Rafel, Jones, & Farlow, 2017). Despite these benefits to medical education, the potential for students to be educational change agents remains largely untapped, representing a missed opportunity for further advancement of medical education (Burk-Rafel et al., 2017). A major reason is because medical students are often inadequately engaged by their institutions in content development and curriculum design. Potential barriers to student involvement include the hierarchical nature of medicine, which potentially devalues student opinions due to their relative inexperience, as well as the lack of opportunities for students to engage in curriculum development (Quince et al., 2014; Gordon, Rees, Ker, & Cleland, 2015). However, many studies have shown that medical students are highly motivated to engage in leadership roles and shape the development of new educational content (Yengo-Kahn, Baker, & Lomis, 2017; Bicket, Misra, Wright, & Shochet, 2010). Students want to move beyond the passive role of participants to active agents of change.

The concept of Students as Partners (SaP) has been expanding in higher education (Mercer-Mapstone et al., 2017) and represents an opportunity for medical students to be involved in the development of medical education (Lubicz-Nawrocka, 2018). SaP broadly refers to a diverse array of practices characterised by close collaboration between students and academic staff in the development of teaching and learning activities (Bovill, 2017). Students as Partners redefines the traditional relationship between students and teachers by placing the student alongside experienced academics as joint owners of a project (Matthews et al., 2018). However, the existing body of literature on SaP in medical education is relatively scant. This case study will discuss the implementation of a SaP initiative during curriculum reform in the University of New South Wales (UNSW) Medicine Program from 2018 to 2019. The main objective of this study is to describe and analyse the impact of this project on student partners and staff, while the impact on the student learners will be analysed separately in a future study. We ultimately hope that by sharing our experiences with SaP in medical education, we can highlight its potential to enhance the training of future physicians.

BACKGROUND

UNSW Medicine Program

The UNSW Medicine Program is a 6-year undergraduate program subdivided into three 2-year phases. Phase 1 is mainly university-based teaching of basic and clinical sciences, Phase 2 is divided between university case-based teaching and hospital-based clinical experiences, and Phase 3 is entirely hospital-based clinical teaching. The focus of our curriculum reform was for “Quality of Medical Practice” (QMP), a subject taught mostly during Phases 1 and 2 that focuses on evidence-based medicine (EBM) and quality and safety. Phase 1 QMP lessons involve the teaching of EBM and basic statistical concepts. Phase 2 lessons aim to further develop this foundational knowledge by allowing students to practice applying EBM and statistics in everyday clinical scenarios and for research. Lessons in Year 3 focus on teaching students how to search for evidence, critically appraise it, and apply it to clinical decision making.

Curriculum reform

Two key Phase 2 QMP classes were selected for curriculum reform using the SaP concept—one on stroke prevention and the other on falls prevention. These classes were selected because, despite their relative importance to clinical practice, student engagement in the classes was variable, based on staff-initiated feedback. They were poorly reviewed in informal interviews with previous students of the course. Common themes were identified from these interviews and the lack of student engagement was attributed to several reasons. First, the scenarios presented were dated and, at times, not relevant for the year-end exams. Furthermore, certain parts of the lesson were too specific and distracted students from the main objective of the lesson. For example, a Year 4 student reported: “I do not remember doing that lesson” in regards to the falls prevention class. A Year 5 student commented: “We expected to learn about falls in the elderly, but there was too much emphasis on delirium and very little about falls prevention,” and a Year 6 student reported that they “didn’t think it was high-yield for exams.”

Second, the original structure of one of the lessons involved filling out a structured answer sheet individually, which was generally unengaging and allowed little room for student interaction and discussion. A student who previously attended this lesson stated that “most of us focused on getting our assignments done and there was no need to work with others”. Another lesson, on the other hand, was based on group work and consistently received better formal feedback regarding engagement and student learning experiences.

The QMP convenor decided that a different approach to the lessons was necessary and engaged student partners to assist in incorporating team-based learning (TBL) as a strategy to maximise student interaction and participation. Team-based learning was first developed by Larry Michaelson in the 1970s for graduate business education (Michaelson, Knight, & Fink, 2004), and it has since been used for healthcare education, including medicine, nursing, and pharmacy (Parmelee & Hudes, 2012). This is a teaching modality characterised by students working through content in groups and has been shown to promote student engagement, teamwork, and content-mastery. The principles and benefits of TBL have been widely described in the literature (Haidet et al., 2012). By incorporating student partners in a TBL approach, the QMP convenor aimed to make the new lessons more engaging and interactive.

PARTICIPANTS

Student partners

In November 2018, potential student partners were identified from a pool of existing QMP teaching assistants who had at least two years of undergraduate teaching experience. The QMP convenor then sent out invitations to apply for the position of a student-partner, whose role was to spearhead the co-creation and redesign of the Phase 2 QMP TBL lessons. Two positions were available: one for the Phase 2 stroke prevention lesson and one for the Phase 2 falls prevention lesson. Ultimately, one Year 5 student and one Year 6 student were selected for the falls prevention and stroke prevention lesson respectively. These students were enrolled in the UNSW undergraduate medical program at that time and had undertaken the old QMP Phase 2 lessons only a few years ago. While they had experience in teaching basic statistics and medical science at the undergraduate level, neither had any prior experience in curriculum reform or SaP initiatives.

Teachers

One teacher was directly involved in the student partnership. This was the QMP course convenor, a medical doctor and academic with more than 15 years' experience in teaching who conceptualised the SaP initiative at UNSW and recruited the student partners. The course convenor was also the primary facilitator for the new TBL lesson. Several content experts were also recruited to assist with the creation of the new TBL lesson. These were accredited doctors and researchers who were experts in the area of falls and stroke prevention. While they did not directly take part in the student partnership, they provided specialist advice regarding the accuracy and quality of the content created, and also served as facilitators for the actual TBL lessons.

Students sitting the QMP lessons

Participants were Phase 2 (Year 3) undergraduate medical students undertaking these QMP lessons within the integrated clinical coursework of their year. The QMP coursework is a compulsory part of the curriculum, and there are four iterations of the stroke prevention lesson and falls prevention lesson annually, with approximately 55 students participating in each iteration (total year cohort of ~270 with 50 students at rural campuses attending by video-conference). All of these Year 3 students would have been familiar with EBM, biomedical sciences, and basic statistics concepts and had some clinical experience by that stage of the program.

METHODS AND IMPLEMENTATION

Training phase

Prior to starting work on the content creation, the course convenor arranged a one-on-one meeting with each student partner to introduce the project and set expectations. Topics covered during this introductory meeting include specific lesson objectives, the concept of team-based learning, and a clear description of the student's role in the project. Student partners were told that they were to become co-creators and have joint ownership over the curriculum creation, rather than simply being project assistants. They were also provided a list of additional online resources to learn about TBL. This meeting also acted as a recruitment meeting with employment details and forms being finalised and submitted. The student partners performed a thorough review of TBL and familiarised themselves with the concept and implementation of TBL within a week. They also contacted medical students from other universities where TBL was implemented and obtained perspectives on what worked for them and what did not. Next, the student developers conducted formal and informal interviews to determine what students (past and present) hoped to achieve from the lesson and better understand their desired learning objectives. Common themes that were identified included the need for more clinical-relevant scenarios and more opportunities to constructively interact with peers and teachers during the lesson. Some of the feedback obtained was presented above in the background section.

Subsequently, the two students undertook a comprehensive literature review of their respective topics to become confident and familiar with the content. Their level of understanding of the topic was assessed by the QMP convenor and co-convenor, before being verified by expert clinicians and researchers. For example, the student who undertook the falls prevention scenario compiled personal notes on all aspects of falls prevention and sent these to the senior staff, who deemed it comprehensive and accurate.

Creation phase

Once a thorough understanding of the content was developed, the student partners created the new lesson content. Each lesson was structured around a case study based on common hospital presentations, where student learners would be asked to play the role of the treating physician and decide on the diagnosis and management approach. By seeking peer input and tapping into their lived experiences as learners, the student collaborators were able to create lessons that were tailored to students' learning needs while adhering to the overall curriculum objectives. The student partners combined numerous cases from their clinical experiences relevant to the key learning objectives and developed evolving

scenarios featuring fictional patients. Each scenario followed a patient's journey through the respective condition, and at each stage the student partners created questions covering the learning objectives.

The Y5 student partner reflected on the content creation process: "Having recently completed the original course as a student gave me an 'insider's perspective' of what initially worked and what aspects needed improvement—something that would perhaps be more difficult for a traditional lecturer or academic to understand." The Y6 student reported: "Having undertaken the same course recently and having sat the same course exams, I knew what students needed to know for the exams, and tailored the lesson accordingly."

The newly created content was reviewed weekly during development by the content convenor. Throughout the creation phase, student partners had regular meetings with the convenor via Zoom Video Conferencing to update on their progress or seek clarification on areas they were uncertain about. Once the scenarios were at a suitable draft level, the expert researchers and clinicians were invited to critique the class program and provide constructive feedback.

Interestingly, these doctors did not recommend any major changes after extensive review, which was testament to the quality and comprehensiveness of the students' work. The stroke prevention content expert, for example, provided the following positive feedback: "This has taken a lot of work—well done to you and the team. Clinically the case is very relevant and in line with what the students will see on the wards," while the falls prevention content expert offered the following praise: "Very comprehensive, from my point of view, the case is very appropriate clinically." In regard to the scenarios the student partners had created, the QMP course convenor commented:

These cases and the scenarios developed read as very genuine. The narratives and histories that the SaP created provided depth and pertinent case points for the students to wrestle with in class. These aren't two-dimensional case histories, they feel alive and more realistic than the previous versions we'd used. Interestingly, the class has responded much better to the problems and tasks posed to them, and I think that in part this was due to the 'presence' of the more authentic cases.

The convenor also commented on the rigour and quality of the questions created for the new lesson:

The interesting thing about the new questions was that the SaP drafts were much harder than the MCQs [multiple choice questions] that I previously drafted. As a teacher, it is always hard to know where to set the level of the test questions, so it was useful to see how the students thought that the third years' understanding could be stretched a bit further than I would have dared to. If anything, they were too hard, so a compromise between the two levels of difficulty worked well.

The new QMP lessons were ultimately finalised in February 2019.

Implementation and feedback phase

The two new QMP lessons were each conducted five times in 2019. Lessons were conducted in a TBL format as planned and each lesson lasted 2.5 hours. Briefly, students completed pre-reading prior to the lesson and an online adaptive tutorial which provided them with foundational knowledge to participate in the lesson. Upon arrival, students had to answer five short questions in teams (readiness assurance testing), which aimed to ensure that students had prepared adequately. Finally, students had to answer four long application questions in teams that were based on the case scenario. For each question, teams had to explain the reasoning behind their choice, and why the other choices were less favoured. The QMP course convenor served as the primary facilitator during the lesson, while at least two content experts (clinicians and academics) attended each lesson to provide expert opinion on the topic. The student partners also attended the lesson as facilitators and explained to the student participants how the scenario was something they would encounter in the wards as senior students. The student partners were also able to assist the primary facilitator and experts by explaining content to students in their teams.

Feedback on the lesson was obtained from students via several means. First, students were encouraged to complete an online feedback form, which asked students to rate the lessons. The online form consisted of open response feedback as well as respond to questions that asked them to rate their experiences on a scale of 1 to 10. These questions focused on whether the lesson was interesting, whether it met their learning needs, and whether content was taught in a clear and memorable manner. As the main objective of this study is to focus on the impact of this partnership on student partners and staff, these quantitative and qualitative findings regarding student participants will be analysed and reported in a separate study.

Feedback about the student-teacher partnership was obtained from student partners and teachers via semi-structured reflections about the experience. The specific domains that were explored included the following: (a) initial thoughts about project prior to starting, (b) description of overall experience as a partner, (c) how they benefitted from the collaboration, (d) the implications on career and future career, and (e) difficulties encountered during the partnership. The two student partners and QMP course convenor completed the reflections at the end of 2019 and data obtained was analysed together.

FINDINGS AND IMPLICATIONS

Feedback obtained from the student partners and teachers was compiled and analysed qualitatively. Several common themes were identified, and these will be elaborated on in this section.

Theme 1: The partnership was an excellent opportunity for student partners to develop invaluable leadership and management skills

Both student partners highlighted that the SaP initiative served as an opportunity for them to develop their leadership skills. With student partners and staff sharing joint ownership over the project, student partners took on leading roles in content creation and the design of novel teaching strategies. TBL has never previously been trialled in UNSW Medicine, and the students were given the opportunity to spearhead development of this new curriculum for the very first time. They were given the authority and freedom to modify areas of the previous lesson and execute new ideas of their own. They were also given the

responsibility to manage the team of academics and experts working on the project. The year 5 student partner reflected on this experience:

It was initially quite daunting to lead a team of established academics . . . but I was viewed as a valuable member of the team from the beginning. They trusted me to decide the direction of the project, set deadlines, and come up with ideas about the case scenario and questions. I definitely feel more confident about leading teams in a professional, academic setting.

On similar lines, the year 6 student partner reported that:

Being able to contribute content that would be taught to future students really made me feel important and appreciated. It highlighted that my role was important and my experiences valuable. Working with the academic staff as equals, on the same project, reinforced this feeling”.

The course convenor noted the students’ perspectives and enthusiasm translated into a more robust lesson:

In listening to and working alongside these students, it was possible to gain much more than I could from tutor and formal student evaluations and feedback alone. As they have just learned these topics, they have greater understanding of what is difficult for the students when they come to this fresh, but also what is important for the students to learn for their later clinical experiences in the following years.

To make up for their relative inexperience in pedagogy, staff members were readily available to provide the student partners with guidance and expertise. However, the student partners retained significant responsibility and autonomy over the direction of the project. The students were particularly motivated by the knowledge that they had ownership over the project and that they were able to make tangible and important contributions to their university education (Matthews et al., 2018).

Being given a platform to lead a team of established academics provided ample opportunities for the student collaborators to cultivate leadership and management skills, which would otherwise be difficult to access in medical education. Of note, there are several barriers to student engagement in leadership training within the program (Mokshagundam et al., 2019). The hierarchical culture of medicine and student attitudes towards this hierarchy is a major factor that discourages students from undertaking leadership roles within the medical team (Quince et al., 2014). Students may have the perception that their inexperience makes them inferior members of the team, thus undermining their capabilities. This is further perpetuated and reinforced by the existing hierarchical structure and by authorities that devalue student contributions due to the perception of their inferiority (Gordon et al., 2015). In addition, a crowded curriculum, high coursework demands, and lack of time serve to limit student engagement in leadership development (Rouhani et al., 2018). Based on our experience, SaP represents a potential strategy to

overcome these barriers to medical student engagement in leadership development, and the many leadership opportunities that SaP offers is a significant benefit of the initiative.

Why is this important in medicine?

Medical leadership is of paramount importance in the delivery of high-quality healthcare and has been identified as a key competency for modern-day physicians. Physicians are expected to be leaders in their healthcare teams and are ultimately responsible for the outcomes of patient care. As such, medical education should not only aim to equip students with strong academic and clinical knowledge, but also foster the development of skills and behaviour that will enable them to lead in highly complex, technologically advanced, and rapidly changing environments (Warren & Carnall, 2010). It has been shown that greater clinician involvement in leadership and management of health services is associated with improved quality of healthcare delivery and better patient outcomes such as lower morbidity rates (Veronesi, Kirkpatrick, & Vallascas, 2013).

Theme 2: Students as partners fosters strong teacher-student relationships

Based on our experience, engaging students in the curriculum design process and treating them as partners can assist in establishing strong student-teacher relationships. Through the partnership, student collaborators worked closely with staff members on a regular basis, which gave them time and opportunities to better understand staff members as people, rather than just superiors. Both student partners were able to build close working relationships based on mutual respect. Over time, the student partners grew to view the staff members as role models and mentors. With regards to the nature of the student-teacher relationship, the year 5 student partner described:

It's not often that you get to know your lecturers as colleagues (as a medical student). It was nice to know that we were working towards the same goal on the same team, and this shared experience helped to form a good working relationship. Their experience and expertise often shone in their actions and we really looked up to them.

The year 6 student corroborated this by reporting that:

We had many opportunities to talk to staff members about things unrelated to the project. We learnt about their career paths and how they rose up the ranks. They also gave us great advice about career options and opportunities. We still keep in close touch long after completion of the initial project.

This was clearly felt by all parties involved, with the QMP course convenor reflecting that:

We continue to work together and grow as a team—the SaP are engaged and proactive and dynamic; a real force for change and improvement of learning activities and curriculum. It has also been good fun working with them—they have been delightful, kind, and thoughtful in their approach to the whole process.

Staff members also gained a better understanding of student perspectives and expectations. Their experience of the partnership and collaborative process can be summed up by this quote from Brookfield (1995): “Consulting our autobiographies as learners puts us in the role of the ‘other.’ We see our practice from the other side of the mirror, and we become viscerally connected to what our own students are experiencing” (p. 29). The QMP course convenor reflected:

My perspectives shifted to see from the other side, and I was able to see the topic and complex concepts I teach differently. This inspired me to perceive future learning activities and their development process with a more student-centric approach.

Why is this important in medicine?

The student-teacher relationship holds tremendous importance as it has been shown to have a lasting impact on the professional behaviour that students will have in the future towards their patients and students when they become physicians. Senior medical staff are widely seen as role models and their interactions and treatment of students will directly influence the medical student’s future patient-doctor interactions. Hasan, Bani, Ageely, & Fauzi (2011) stated that this relationship will be “the key source of experience that students will draw upon when they find themselves in the role of a doctor or educator with their patients in the future” (p.58). Ideally, teacher-student relationships in medical school should be characterised by respect and empathy, as this would foster the development of caring and compassionate future physicians.

Unfortunately, this is often not the case, due to the significant power differential between teachers and students. Students generally have limited say in matters relating to the patient and are frequently not involved in patient care. At worst, students can be largely ignored by clinicians on a regular basis, which may cause them to feel dehumanised and emotionally disconnected from their teachers (Haidet & Stein, 2006). The possible undesirable end-result is that when some of these students eventually become physicians, they become emotionally distant and unable to relate to their patients beyond a superficial level. This is of concern because it has been shown that the quality of patient-clinician relationships has a significant impact on patient health outcomes (Kelley, Kraft-Todd, Schapira, Kossowsky, & Riess, 2014).

While SaP initiatives on their own cannot remedy these inherent structural problems in medicine, they offer an avenue to cultivate good student-teacher relationships. It allows both students and teachers to understand the perspectives and challenges of being on the other side, while also seeing each other as people instead of perceiving each other purely by roles or designations.

LIMITATIONS

There were several limitations to our SaP approach. It is worth noting that the entire process of establishing the partnership and completing the curriculum reform required a substantial time commitment from student and staff members. Senior medical students had

to juggle exam preparations and coursework while staff members had other educational, administrative, and clinical commitments. To ensure that deadlines were met, both students and staff had to sacrifice academic and personal time. The year 6 student partner summed this up as follows:

As a medical student, there is no such thing as “free time” there is always more to study and more to learn, you can never know everything and having this at the back of your mind really makes it difficult to take time out of study to participate in initiatives such as SaP. It really required a delicate balancing act, and still took up a lot of time that was hard to find.

As a result, there is concern that potential student and staff partners may be turned off by these factors and express reluctance to embark on SaP programs, thus reducing overall uptake and acceptability. However, our experiences have shown that SaP initiatives are neither a waste of time nor effort. The year 6 student partner described the process as “eye-opening” and reported: “I would definitely participate in SaP initiatives again—we are actually working on further developing the current content at the moment, creating more content variations of our classes”. In addition, the year 5 student partner described the metacognitive benefits of the partnership: “This process gave me a lot of insight—I’m more aware of how I learn and think”.

Apart from being remunerated for their efforts, students also acquired invaluable leadership skills and metacognitive strategies to improve their learning (Quirk, 2006). Furthermore, working on the new curriculum provided the students with an opportunity to revise previously learnt material and develop expertise in the topic, which was useful for their upcoming exams and future practice. Through this experience, they also deepened their understanding about educational pedagogy. All these helped to place them in good stead for medical school and their future medical career. From the perspective of staff members, while SaP undoubtedly requires substantial time commitment, the initial investment would reap long-term rewards in the form of better student engagement. The QMP course convenor summed this up by saying: “This is the most intensive work I’ve done with SaP for a prolonged time for a specific learning activity...I would use it again and am continuing to work with these students. I think it [SaP] worked best for the designing the TBL activities. It’s worth noting that TBL classes are supposed to be co-run with the assistance of more mature students but I would advocate that these tutors assist in the development as well.”

CONCLUSION

Our positive experiences with SaP demonstrate that SaP has immense potential to improve the delivery of formal medical education. In our case, SaP was beneficial for student partners by improving leadership skills and improving teacher-student relationships. For student participants and staff members, the SaP program led to the genesis of a student-centred and clinically relevant program that maximised student engagement. Future, larger studies should aim to qualitatively and quantitatively evaluate the benefits of SaP in domains such as student satisfaction, staff satisfaction, and academic performance in a medical curriculum. Medical schools that have formally implemented SaP programs should

also be encouraged to share their experiences to guide future SaP implementation in institutions across the world.

NOTES ON CONTRIBUTORS

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