

REFLECTIVE ESSAY

Developing lab activities for an introductory anatomy course: Reflections and recommendations from a student-faculty partnership

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Engaging students as partners in the development of course curricula can provide a range of educational and professional benefits to both students and faculty. It allows students to participate in the creation of new educational material, which can impact the learning of future students (Matthews et al., 2018). It can also develop mutual trust, respect, and understanding between faculty and students, with all parties appreciating the value of each member's unique viewpoint (Matthews et al., 2018). These benefits are fostered in such relationships, in part because students and faculty share the responsibility of contributing to the learning experience and addressing challenges related to the advancement of teaching and learning (Cook-Sather et al., 2014; Bonney, 2018; Spencer et al., 2021). Students and faculty who are involved in developing course content together are encouraged to engage in self-reflection to further their academic development (Pedrosa-de-Jesus et al., 2017). Self-reflection can also allow all partners engaged in curriculum design and delivery to critically evaluate their efforts and heighten their academic skills.

It was with these sentiments foremost in our minds that we embarked upon an exciting students-as-partners experience, the primary objective of which was to design graded lab activities for a large first-year human functional anatomy course in a kinesiology program. Our group was comprised of kinesiology members (five undergraduate students, one graduate student, and one faculty member). Our initial task was to share ideas about what types of lab activities students would enjoy and find meaningful, as well as which labs would contribute to their learning experience. Prior to the development of the new activities, labs for this course consisted of question-and-answer periods, interactions with lab materials (e.g., models, skeletons), and discussions about course content. The graded labs created by our team included a variety of individual and small-group activities that could be delivered in both in-person and online environments. Once we decided on the types of lab activities to offer, the course instructor divided the team into subgroups of two partners each. Each subgroup was responsible for developing several labs, working independently and meeting as needed. The entire group met biweekly to share progress, ask questions, and provide feedback to each other. After developing the activities, all group members reflected in writing on their experiences, guided by questions posed by the faculty partner. The students and faculty partner reflected on developing laboratory activities for incoming students, collaborating together,

learning about curriculum development, how working together on the lab activities impacted the well-being of the group during the COVID-19 pandemic, and the implications of the partnership for learning and teaching in higher education. Reflections were composed independently to allow everyone to respond with their authentic voice. The following section summarizes several common sentiments that emerged from these reflections. These sentiments were summarized by the faculty partner and two student partners and then shared with the group in a debrief session. Finally, the team collaborated to develop several recommendations to assist others who might be considering using a students-as-partners approach for curriculum design, development, and delivery in higher education.

REFLECTIONS

Within the reflections, our group consistently referred to the benefits and challenges of having different perspectives, the opportunities for exercising creativity and autonomy, the passion we had for the subject area, the positive and negative effects that the pandemic had on us, the importance of a collaborative team environment, and the positive contributions that our partnership made to higher education.

The benefits and challenges of different perspectives

The diversity of academic experience within the group proved beneficial to course design, which was evident in all of our reflections. Ideas regarding what laboratory activities would be ideal varied based on our course experiences and what we felt about online and in-person course delivery more generally. The students expressed different levels of apprehension about being involved in the partnership due to their level of education and experience. Some members did not know each other prior to the partnership. This gave rise to initial concerns regarding effective collaboration and feelings of unease in some group members.

Rebecca (3rd-year undergraduate student)

Our research group comprised undergraduate and master's students, as well as the professor of this course. The diverse educational backgrounds of this group were, in my opinion, an asset. I understand there are many different learning styles when it comes to university students, so I found it beneficial to hear about other students' experiences in the course. For example, listening to the experiences of students who took the course in an online format aided me in modifying my lab activities to be done online.

David (faculty partner)

I learned many things, many small and impactful things, about what students find important, what things really don't matter, and what things really do. Several times I got feedback about features of the courses that I had stressed over before that I thought were critical, but that they said were not. They also helped me to see the implications of some of the decisions I had made about my courses in the past from the students' perspective.

Megan (3rd-year undergraduate student)

I was not familiar with some of the group members. This was worrisome at first because I did not know them personally and I did not know how well we would collaborate.

Nonetheless, I knew each group member's experience was in different circumstances. Given that every member had been enrolled in the course but at different points in time, I knew this was very valuable for the development of laboratory activities.

Creativity and autonomy

Ongoing guidance and support were provided by the faculty partner, but the structure of the partnership allowed the students to work both creatively and autonomously. In the reflections, students frequently commented on how they were able to be both independent and inventive due to the freedom offered by the structure of the partnership. However, they understood that it was more important to the faculty partner that students understand the course content rather than simply repeat what they had memorized. Accordingly, the design and delivery of the lab activities needed to align with his pedagogical approach.

Bradley (2nd-year undergraduate student)

Creating these labs was a refreshing experience where I could explore more creative endeavors with faculty and students that I was unable to do as a student in the course. For example, I was able to focus on the content that I really enjoyed when I was in the course, such as the unit on bones, and develop labs related to it. This motivated me to develop creative activities.

Robbie (2nd-year undergraduate student)

I benefited from listening to the instructor's thought process behind the format of his lab activities. Although it is natural for students like myself to heavily value the mark, his focus on the long run was important for me to hear. His approach reinforced my belief that retention of content is more important than performance on a weekly evaluation. I aspire to one day become an active educator involved in curriculum design, where I will encourage active participation by students to foster the retention of applicable, career-relevant content.

Passion for the subject area

The reflections expressed that the partnership was a positive learning experience for everyone because we all had a shared passion for the subject. Moreover, the students in the partnership demonstrated high subject-area competence. This provided the necessary level of understanding of the course material and helped to facilitate the design of laboratory activities suitable for first-year students.

Kalina (3rd-year undergraduate student)

The other students and I had previously taken the course, which gave us a better understanding of the learning experience from the student's perspective. This allowed me to incorporate ideas and resources into the labs that would have helped me when I was in the course.

David (faculty partner)

This partnership experience reunited me with six extremely strong and engaged students who were passionate about anatomy. Being reconnected with students who I had built relationships with when they took the course previously, was a gift . . . an amazing gift.

Pandemic effects

The COVID-19 pandemic had both positive and negative effects on our group. The frequent online meetings enabled our group to draw both mental health and social benefits from the partnership. The students shared that they looked forward to the group meetings because they reduced the monotony of their days. The faculty partner expressed how being reconnected with students improved his health and well-being.

Claudia (2nd-year graduate student)

The pandemic was difficult for me, and having a weekly time where I could virtually “see” other people and converse helped to ensure that I wasn’t “socially” distancing, only “physically” distancing; it helped me keep positive and stay social in an otherwise social-less time.

David (faculty partner)

I love my job, but being isolated at home for so long and being unable to interact with people severely and negatively impacted how I was living. There were long stretches when I did not leave the house. I fell into an unhealthy spiral, punctuated by the lack of social interaction with students. So, I really looked forward to our meetings, even virtually, because they connected me with highly competent and engaged students who were passionate about something that I enjoy more than anything else in my job—teaching anatomy and building relationships with the students who take my classes. Our partnership buoyed me up and kept me afloat during the most challenging time of my 25-year teaching career.

The COVID-19 pandemic resulted in planning and timeline challenges for our group in response to operational changes at the university level and community health guidelines. As the first term of lab delivery approached, we learned that the lab activities would need to be administered virtually. Adjustments were required for many of the activities, which frustrated some group members.

Rebecca (3rd-year undergraduate student)

Originally, I was under the impression that the labs would be held in person. After I produced the questions for the upper extremity bones, I was told that all labs would be delivered virtually. Having to change the majority of my questions was frustrating, but I understood under the circumstances it was necessary.

Collaborative team environment

The importance of a collaborative team environment was evident in all of our reflections but is best exhibited in the student voices included below. Each subgroup was working towards a common goal, with group members guiding each other along the way. However, like in all partnerships, challenges arose. For example, some students experienced feelings of initial

unease due to the lack of familiarity with each other. This resulted in apprehension when providing feedback.

Kalina (3rd-year undergraduate student)

I had the opportunity to work in a partnership with a student who had taken this class and had been a graduate assistant for it. This partnership was very helpful as I found it challenging to determine how to ask questions and format my activities, and she was very helpful in guiding me through that while using her experience; it was helpful having someone to exchange ideas with.

Megan (3rd-year undergraduate student)

It would have helped if the other student and I had felt we could be more honest with each other. When either one of us developed a lab question the other felt wasn't adequate, we should have been able to tell the other. Instead, we would alter each other's work within our shared Google document. Or worse, I found myself at times thinking "just leave it" when I had a suggestion I thought may be of use to the other student.

Positive contributions to higher education

The experiential learning opportunities that resulted from our student/faculty partnership were considered advantageous in numerous ways. The positive impact that this project will potentially have on higher education was voiced in many of our reflections. We felt as though the reciprocity between students and faculty cannot be ignored, as benefits can be gained from both.

Robbie (2nd-year undergraduate student)

Being involved in this partnership showed me that I could work with a faculty member in course design in a fashion that was mutually beneficial. I gained valuable experience relevant to my program while also learning important professional skills. Meanwhile, I was able to assist a faculty member with the vast amount of work required to redesign a course (and curriculum), and I heard the perspectives of other current students.

David (faculty partner)

As a former research chair and teaching chair at my institution, I see the value in things that can not only improve the learning experience for students on a class-by-class basis, but that are also grassroots activities that can catch on and advance across campus with the right encouragement and support. Engaging with students as partners is just that—a grassroots activity that I feel has the potential to make a major difference and advance teaching and learning practices in higher education. I feel like I have found an approach that elevates my practice above what I was doing before. What if every instructor did the same? At every institution? What an impact that could have on the student experience in higher ed!

RECOMMENDATIONS

Our collaboration yielded several recommendations for others who are considering using a students-as-partners approach. The COVID-19 pandemic contributed to initial feelings of isolation and disconnect between our group members. After working together virtually for months, we were finally able to meet socially in person. This meeting fostered team cohesion, gave us more confidence to share personal things than when meeting entirely in an online environment, and strengthened the relationships and trust that we had established. Consequently, we recommend that in-person social gatherings be a regular part of all students-as-partners initiatives, as conditions allow.

The use of subgroups was found to be effective and is recommended for future partnerships. However, regularly adjusting the composition of the subgroups would ensure that more group members would get to work with one another. We felt that discussions were more comfortable and productive when we were familiar with our subgroup partner. Familiarity can be fostered by ongoing social gatherings, as suggested above.

A collective passion for the subject area and learning made the collaboration enjoyable for all involved. We recommend that members of student-faculty partnerships be willing to immerse themselves in the topic and enthusiastically contribute to improving the learning experience for future students. This requires attention when members come to partnerships with different levels of expertise with the content, as was the case with our group. Our members gained considerable insight by reflecting on the perspectives of others and the implications of their contributions to the educational experience of students at different levels.

Through reflection, members of our group indicated that their collaboration was beneficial on an individual level and that replicating such partnerships would be valuable to other departments on campus and more broadly at other academic institutions. Reflection allowed our group to consider what we did well and where we could improve. This not only helped us set the stage for any future work we do together but also gave us an outlet for informing others who wish to employ a students-as-partners approach.

Initially, we faced uncertainty regarding how the lab activities would be delivered. This unique situation challenged the student partners to meet changing timelines, and the online format of the meetings made it more difficult to work collaboratively. Despite this, the group learned to better utilize technology in the process and adjust to the unpredictability of the circumstances we faced. We suggest that student-faculty partnerships follow the recommendation of Bonney (2018) in this regard—that a buffer period be incorporated into the group’s schedule to ensure that project timelines are met.

The partnership’s structure allowed the students to freely communicate their perspectives. Further, being assigned a specific role in the development of the lab materials resulted in a feeling of autonomy in the students, enabling their creativity. Although the structure of the partnership was dictated mostly by the faculty partner, whose pedagogical expertise was necessary for guiding the group initially, the contributions of the student partners were always considered. Major decisions were made about the development and delivery of the lab activities based on student input and experiences in the course. We suggest taking a similar approach to structuring other student-faculty partnerships, particularly those with new members or with partners who are unfamiliar with the course or program learning outcomes that must be met.

Moreover, the expectations of all members should be clearly outlined in advance. A knowledge transfer plan should be developed by the team. Bonney (2018) suggests providing clear objectives to students and dividing tasks into manageable pieces. This was consistent with our findings; after the subgroups were created, each student's purpose became clearer, and the workload associated with each task more feasible. Establishing a knowledge transfer plan together that had achievable goals (e.g., present at a conference, write a manuscript) was exciting and gave everyone a collective purpose beyond developing the lab curriculum. Similar to Spencer et al. (2021), our common purpose acted as a motivator even when challenges were encountered. Sharing what was learned with others within higher education (and even more broadly) is an important part of the learning process for students and should be an integral part of all students-as-partners initiatives.

CONCLUSION

Overall, the student and faculty reflections indicated that the partnership was a very rewarding and enriching experience for all, but working in a group posed some challenges. Specifically, our group was successful in fostering a rewarding learning experience, facilitating the transfer of knowledge, and providing suggestions for establishing and sustaining other effective student-faculty partnerships. The involvement of individuals with diverse perspectives, all of whom were enthusiastic about the subject matter and creating course content, allows students to contribute to positive learning experiences and potential change within higher education. Working with students as partners during the COVID-19 pandemic posed a challenge in terms of communication. However, it also helped forge opportunities for team collaboration. Reflecting on the experience and discussing the outcomes allowed for the development of professional skills beyond the work accomplished. It is recommended that those who pursue such partnerships encourage open communication between group members, establish clear expectations for everyone, and build team cohesion through group activities. These recommendations will help foster the most beneficial students-as-partners experience.

NOTE ON CONTRIBUTORS

Kalina N. Georgieva is an undergraduate student in the Department of Kinesiology at the University of Windsor (Windsor, Canada). She is interested in research in anatomy curriculum development and, as an Outstanding Scholars student, has contributed to designing anatomy lab activities and developing curricula for first-year kinesiology students.

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