

## E D U C A T I O N S

# Developing Capability: Transforming Massage Therapy Education through Inquiry-based Learning

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**Massage therapy education programs are responsible for preparing graduates for complex professional environments, while also ensuring graduates can access the profession by passing the regulatory body's standardized certification or licensing examination. Massage therapists are regulated health care professionals in four Canadian provinces. They are autonomous practitioners and an integral part of the health care regime for patients with complicated health presentations. As such, they must think critically about patients' presentations and determine the most appropriate care. This article describes the process undertaken by the faculty team of Humber College's Massage Therapy Program in an effort to transform the existing teaching and learning strategies by incorporating principles of inquiry-based learning (IBL).**

**KEY WORDS:** post-secondary education; health-profession education; innovation; active learning; curriculum

## INTRODUCTION

Massage therapy education programs are responsible for preparing graduates for complex professional environments, while also ensuring graduates can access the profession by passing the regulatory body's standardized certification or licensing examination. Massage therapists are regulated health care professionals in four Canadian provinces.<sup>(1)</sup> They are autonomous practitioners and an integral part of the health care regime for patients with complicated health presentations. As such, they must think critically about patients' presentations and determine the most appropriate care.

At an end-of-year meeting of the massage therapy faculty team, we discussed the performance of our students. At this particular meeting, several instructors mentioned having concerns about our senior students. This led to an informal evaluation of the Massage Therapy Program at Humber College after five years of delivery, which illuminated concerns about what faculty members described as a lack of critical thinking skills. Throughout our sixth year of delivery, we

continued to better understand this issue and develop a solution. In most areas, faculty members were not concerned with the students' knowledge. And, for the most part, were satisfied with their competence performing assessments and clinical skills. Dissatisfaction came from the students' inability to apply their knowledge and skills in new situations, in particular with patients in a clinical environment. Faculty members wondered how successful our graduates would be in clinical practice and began to strategize potential solutions.

## DISCUSSION

### Competence Vs. Capability

In 2005, the College of Massage Therapists of Ontario (CMTO) instituted its first competency document, which outlined the attitudes, knowledge, and skills required of registered massage therapists as they entered practice.<sup>(2)</sup> This document is the foundation for the certification exam that all massage therapy program graduates must pass to be eligible to register with the CMTO. As such, educational programs adopted the document and shifted curriculum to ensure students could demonstrate these competencies by graduation. This document has evolved over time and continues to be the foundation of massage therapy programs, including the curriculum in Humber College's program.

While we recognize the importance of successfully writing the certification exams for graduates' future careers, the faculty team at Humber College has always believed in focusing the students' educational experiences on success in clinical practice. In order to achieve this goal, it was important to balance competence in the entry-to-practice attitudes, skills, and knowledge, with other skills that allow students to be successful in complex clinical environments. Fraser and Greenhalgh<sup>(3)</sup> suggest that today's health care education must facilitate the development of capability, not just competence.

Competence is what students know or are able to demonstrate and is described in terms of attitudes, skills and knowledge. Capability is "the extent to

which individuals can adapt to change, generate new knowledge, and continue to improve their performance”.<sup>(3)</sup> This is what the faculty team had identified as the missing ability in our students. We wondered what we could change in our approaches to teaching and learning that would support capability.

Capability cannot be learned in an environment primarily consisting of instructor-centred or passive learning strategies.<sup>(3)</sup> Instead, it requires dynamic, integrated, reflective strategies that challenge students to solve complex problems by actively building knowledge. Some members of the faculty team had learned about active learning strategies, such as case method<sup>(4)</sup> and problem-based learning,<sup>(5)</sup> and had tried them in their courses. They pushed the team members to think outside of the learning environments in which they were educated and seek an innovative solution to our capability problem. During our searching, we discovered inquiry-based learning (IBL) and began to consider if this learning strategy would meet our needs.

### **Inquiry-based Learning Philosophy and Principles**

Inquiry-based learning is “a student-centred, active learning approach focused on questioning, critical thinking, and problem solving”.<sup>(6)</sup> The current literature on IBL describes many variations of this approach to learning.<sup>(7-9)</sup> There are differences in which learning activities are considered to be included within the umbrella of IBL, the phases of inquiry, and the amount of structure that can be used and still be called IBL. The flexibility within this model makes it possible for it to be adopted in programs no matter what their size or length. IBL can be an approach used throughout a program or within one class. While there are methodological differences within IBL, there are some elements that we feel strongly underpin the implementation of this method in the Massage Therapy Program at Humber College. These are: a constructivist approach to teaching and learning, student-centeredness, active learning strategies, team-based learning, and ongoing reflection and feedback.

Embracing a constructivist approach to learning is the foundation on which all of the other elements are built. Constructivism is a worldview in which one believes that reality is constructed by individuals within a particular context.<sup>(10)</sup> Furthermore, it asserts that individuals create their own understandings through experiences. Existing knowledge and experiences are used to understand new situations.<sup>(11)</sup> When one believes that one’s understanding of the world is constructed through interactions with it and others,<sup>(10)</sup> one looks for opportunities in the classroom to facilitate this.

What does this approach mean in the classroom? It means “[t]here is no one right way to teach, only better ways depending on the content, the context, the

learners, and the teacher.”<sup>(11)</sup> Key considerations of constructivism are that prior knowledge of a topic is needed and must be activated to support future learning; learners must be actively involved in constructing personal meaning; intrinsic motivation is linked to deeper learning; and students should become more and more autonomous.

### **IBL in the Massage Therapy Program at Humber College**

The decision was made during the spring of our sixth year to embrace IBL and incorporate it into our curriculum. The proposed changes impacted the content of courses, in-class approach to learning, faculty members’ roles, and student evaluation. Based on our reading and the extent of the changes, we decided to introduce IBL into the first year of the program the following fall semester and continue to roll out the changes in subsequent years. The six faculty members who taught in semester 1 and 2 were the first to incorporate changes into their courses. The remaining faculty would adjust their courses as these students progressed through the program.

#### ***Faculty engagement and integration of content***

We started the shift from our traditional approach to teaching and learning by bringing the first semester faculty team together over the summer of 2015. We had three 3-hour meetings over seven weeks. During this time, we shared resources we had found about the principles of IBL, discussed which principles were important to us, and explored how we would evaluate this new approach to learning.

One of the most impactful activities during these meetings was to review the week-by-week content. First, it identified content overlap that we did not know existed and sparked a conversation about which topics would be taught in specific courses. Second, faculty members understood more about what was being covered across courses. This allowed the team to make decisions about how to integrate the topics across courses. For example, we discovered that blood pressure (BP) was being discussed in physiology (What is BP? What factors affect it?), clinical assessment (How do we measure BP? What do the results mean?), clinical skills and techniques (Which techniques are reported to have an impact on blood pressure?), and professional identity and responsibility (What does the current evidence say about massage therapy and BP?). With this information, we created a case that could be used in all classes with hypertension as the main presenting condition. The case could then be used in different courses throughout the program so the students could see how the information from one course was important to the understanding of the information in another course and, ultimately, how everything they were learning came together to treat a patient.

Engaging the faculty in these meetings allowed for the sharing of resources for in-class learning strategies, and multiple discussions of how-will-this-work-in-practice. There were times in the meetings when we all felt elated and excited for the upcoming changes. This was often immediately followed by doubt and concern for what we were getting ourselves into. We had no formal training in IBL, which made the planning and transition more difficult than it might have otherwise been. In hindsight, if we were to start over again, we would begin with some training and make more available as the implementation began.

### **Student-centred and active learning strategies**

A big shift in the classroom was away from the reliance on instructor-centred, lecture-style teaching strategies to student-centred, active learning strategies. We started with the principle of curiosity. When one is curious about a topic, one will ask questions, search for credible information, and apply that information. We looked for topics, questions, projects, and cases that would stimulate discussion and facilitate learning.

To begin with, we instituted home groups. Each student enrolled in a given semester was assigned to a group, usually of four students, and they learned and were evaluated in this group. Some of the strategies used included worksheets, cases, demonstrations, debates, and discussions. Often, the instructor would set up the challenge, perhaps by using learning objectives for the class, and the students would then work in their groups to find information from credible sources and create a response, solution, presentation, or position.

The activities in the classroom asked students to search for answers, both from their textbooks and from internet sources. This created the opportunity for students to learn how to determine the credibility of sources they used and how to properly give credit to those sources. Finding credible information, understanding it, and applying it to the problem or case on which they are working, are all skills that support capability.

Reflective activities were embedded throughout the curriculum so that students could recognize the progress they had made in their learning and could recognize the limits of that learning. One strategy that we incorporated was a learning portfolio.<sup>(12)</sup> This learning portfolio asked students to set goals for the semester, reflect on their progress on those goals, and to comment on experiences they had throughout the term. Another method of reflection was through peer and self-evaluation during integrative learning activities (described below). Again, students had the opportunity to think about what happened, why it was important, and how the experience would inform future experiences or decisions.<sup>(13)</sup>

### **Integration in coursework and evaluation**

Our improved understanding as a faculty team about what content was being learned in which course

enabled increased integration of content. As has already been described above (in Faculty Engagement and Integration of Content), cases were created and efforts were made to reference learning from other courses. This was enhanced by the creation of integrative learning activities (ILA). The purpose of each ILA was to provide students with the opportunity to see how the various concepts they were learning in their courses within a given semester were linked to the professional practice they were working toward.

For example, the students were given a vignette about a patient who presented with a particular condition. Using the vignette, they might be asked to create appropriate questions for a health history interview or to create a script to obtain consent for an assessment plan. Students would then receive additional information and perhaps be asked to determine the anatomical structures involved. They would continue to work in this fashion until the case portion of the ILA was complete.

Depending on the version of the ILA, students may have components other than the written case that would allow them to demonstrate their knowledge of various concepts. For example, they might have been asked to give a presentation on a topic from the case to explore in more detail. Or, they might have an individual assessment to ensure they could apply the information from a case in another situation. The ILA ended with both a peer and self-evaluation, and an opportunity to provide feedback about the experience of the ILA.

### **Student Experience of the ‘New’ Curriculum**

The impact of the curriculum on students and student learning outcomes has not been formally investigated. However, students were empowered through the learning portfolio and the ILA feedback to share some of their experiences of the ‘new’ curriculum.

Some of the negative comments we received centered on a general discomfort with the ‘strange’, new approach to teaching and learning. First, students shared that they felt they were paying tuition for “teachers to teach”, not to teach themselves. It seemed that they did not recognize the instructor expertise required to skillfully facilitate this type of learning strategy. The students could not see the additional work that instructors were doing outside of the classroom so that students could learn in the classroom. Instead, the new approach looked to be a lot more work for students and a lot less work for the instructor. Although this approach requires more work for both parties, this was the resulting perception from the students.

Second, although related, students raised the concern that they were not learning anything. While it is not clear why they felt this, it is suspected that, as the evaluation also changed, students did not see their progress reflected in their grades. In some ways,

students were held to a higher standard. In the past, where a multiple-choice question exam might have measured their knowledge of a concept (or ability to correctly guess), the evaluations now focused on measuring the students' abilities to apply basic knowledge. While this is not directly attributed to IBL, the change in emphasis happened at the same time, so students may have attributed the change to the new learning strategies.

Third, some students did not like working in groups. Students who were focused on grades were concerned that group work would lower their grade and not fully describe their competency in a given area. It was very important to ensure that groups were used as social learning supports, rather than a majority evaluation tool. Some of the group interactions detracted rather than enhanced the learning. We continue to work on how best to use the benefits of groups and socially constructed learning and reduce the challenges of interpersonal conflict.

The positive feedback we received reinforced our reasons for wanting to make the shift to a more active and integrated approach to learning. Students described the value of all of the courses in the given semester. This was particularly rewarding as, in the past, students had failed to see the relevance of physiology to massage therapy. Students also communicated that they enjoyed the 'real life' cases, and that they were beginning to see how all of the concepts came together in these simulated patients.

Students recognized that they could critically evaluate sources of information better and had a good idea of where to find most information. And, despite the general distaste for groups and group work, some did mention that they enjoyed having the support of their group members and valued the opportunity to discuss what they were thinking in order to hone their responses and learning.

### **Future Research, Development and Other Considerations**

As each additional semester continues to be developed using IBL principles, and the first semesters repeat the 'new' curriculum, both instructors and students become more confident in the process. This is likely due, in part, to increased instructor confidence and organization. In response to student feedback, we have thought more about the scaffolding of support provided through the learning strategies to better move the students from instructor-centred to student-centred, and instructor-motivated to student-motivated learning.

#### **Future research**

Perhaps most obvious would have been to evaluate whether or not the 'new' curriculum is better than the 'old' curriculum. While we are monitoring our students' performance on our own internal standardized

examinations and the regulatory authority's certification examinations, these are lagging indicators and do not capture capability, which was the original stimulus for making the change. Instead, we would like to begin by looking at the impact of the ILAs on student learning.

Also of interest is whether or not these skills support graduates in their attempt to challenge the entry-to-practice exams. The tension between training graduates who are capable, and the need for them to pass a standardized exam that continues to rely on rote memorization of knowledge, makes this an important consideration for education programs. Further, we are interested in exploring whether the skills of interest support graduates in practice, as we suspect they do.

### **Future development**

We continue to hone the first semesters that underwent the shift to IBL. We are looking for better ways to incorporate team-based learning in our curriculum. We value what the support groups, or teams, can provide, but we have also seen group fatigue set in as the semesters progressed. We are developing new and innovative ways to use individual, paired, and group strategies.

Training for new and existing faculty is needed. No work has been done to create a way to comprehensively bring new faculty members onboard and to introduce them to this way of teaching and learning. Currently, we use a combination of trial and error and mentorship to communicate the new approach. The development of training materials would support better continuity for students as they progress through the semesters and courses.

We are also working on better ways of communicating what we are doing in the classroom. This has begun with an expanded week-by-week spreadsheet that identifies the topic, learning objectives, learning strategies, and evaluation used in each of the courses. From there, we would like to develop information about each learning strategy such that other instructors may be able to use them if they fit their own philosophy of teaching and learning.

## **CONCLUSION**

Massage therapists are autonomous health care practitioners and must be able to think critically about patients' presentations and determine the most appropriate care. The students' apparent inability to apply their knowledge and skills in new situations, in particular with patients in clinical environments, led the faculty team at Humber College to seek out a new teaching and learning strategy that would enhance the development of capability, not just competence.

Inquiry-based learning principles were embraced in the development of a 'new' curriculum grounded in a constructivist approach to teaching and learning,

student-centeredness, active learning strategies, team-based learning, and ongoing reflection and feedback. The success of this approach was seen in enhanced integration of concepts, improved faculty engagement, and better student use of credible resources in decision-making. Improvements regarding scaffolding of student-motivated learning, use of group work and teams, and communication to new and existing students about the new approach, are needed. In addition, materials and strategies are needed to improve faculty member training.

As no formal research has been done on this new approach to massage therapy education, there are many opportunities for future research. The findings will be useful in the continued development of this innovative application of IBL principles to massage therapy education.

## ACKNOWLEDGMENTS

I would like to acknowledge the hard work and dedication of the massage therapy faculty team who have openly shared their approaches to change the culture of teaching and learning. I would also like to thank the inaugural group of massage therapy students who generously, and frequently, shared their feedback about the experience.

## CONFLICT OF INTEREST NOTIFICATION

The author declares there are no conflicts of interest.

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