

A Faculty Development Program Designed for Transformation of Teaching Perspectives

by

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Abstract

This project presents an educational context in which previous faculty development had failed to lead to consistent use of learner-focused teaching practices. I chose to explore the literature in transformative learning theory and professional development in higher education in order to inform the design of a longitudinal faculty development program that would result in a transformation of teaching perspectives amongst participant medical faculty and the cultivation of a community of practice with a focus on education. After a review of the relevant literature, this project will describe the curriculum for the program, detailing the rationale for the choices made in its development. Finally, I will propose a plan to evaluate the program in order to demonstrate a change in teaching perspective that is exhibited by a change in teaching practices.

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Chapter 1

Introduction

Prevailing educational theory holds that using learner-focused teaching strategies is the way to achieve deep learning in higher education (Gibbs & Coffey, 2004; Kember, 1994). When teaching practices within an organization do not reflect these strategies, it is the role of educational leaders to develop initiatives that will address this deficiency. The goal of any such initiative is a change in the behaviours of faculty such that teaching practices engage students in active participation in their own learning, leading to improved student learning. This project presents the approach of a physician in an educational leadership role confronted with the responsibility to address such a faculty development challenge and a description of the resulting professional learning initiative.

Context for the Project

This faculty development challenge takes place in an Obstetrics and Gynaecology department in a school of medicine. The faculty consists of sixteen physicians who have been in the department from between two to twenty-five years. In general, these individuals are enthusiastic teachers who form a cooperative and collegial group.

The department is responsible for the teaching of all topics related to Obstetrics and Gynaecology at the medical school as well as contributing to local and national continuing medical education. Collectively, they have many years of experience teaching at varying levels of learning. Within the medical school, there are multiple structures for teaching and learning in the undergraduate medical program and in the post-graduate specialty training program. In the first two years of medical school, referred to as the pre-clerkship, members of this department teach in large group lecture or team-based learning settings. In the last two years, referred to as the clinical clerkship, teaching occurs in small groups of approximately fifteen students or one-on-

one clinical teaching in the clinics, on the ward and in the operating room. Post-graduate teaching consists chiefly of clinical teaching as well as small group learning referred to significantly as 'core teaching'. The teaching and learning practices used by faculty for small group teaching is the focus of this project.

Some of the challenges of having physicians implement learner-focused teaching strategies in this department can be traced to their preparation and ongoing training for their roles as teachers. Almost all were recruited to the faculty because of their research or clinical expertise although an interest in teaching was usually part of their desire for a university position. However, understandings of quality teaching practice are anchored in their own experience as learners either at this or other Canadian medical schools. None had any focused training in teaching and learning before joining the Faculty.

Formal training in teaching and learning after joining the Faculty has been variable. All were required to undertake a two-day faculty development workshop called the TIPS (Teaching Improvements Project System) course, which for most of these individuals consisted of instruction in teaching strategies such as objective setting and effective questioning. Several regularly attend the annual national meeting of professors of Obstetrics and Gynaecology, however, their focus at these meetings is primarily their research or administrative roles.

Over the last ten years, there has been a significant curricular review and reconsideration of teaching and learning at this medical school. This was in response to an accreditation survey which found the medical faculty at this school highly reliant on a passive learning, lecture-based curriculum. Accreditation standards have mandated that all courses now deliver the majority of course material in a non-lecture-based format. To achieve this, faculty development was carried out throughout the school in order to show faculty how to work with both large and small groups to achieve more active learning on the part of students. Specific initiatives for this department

included a half-day workshop on Team Based Learning and a large group interactive lecture on small group learning. Some members have also participated voluntarily in other faculty-wide initiatives offered by the School of Medicine. Others have requested assistance from faculty developers as a way to improve their classroom teaching.

As a result, changes have been made in the pre-clerkship undergraduate teaching. On paper, our description of teaching now meets the standards of learner-focused education as set by the accrediting body. Although, teaching in both the undergraduate and post-graduate program must meet accreditation standards, the degree of scrutiny to which these settings have been subjected has been unequal. Clerkship and post-graduate teaching has not received the same level of attention. However, one would expect that if faculty development has led these teachers to change their practices in the pre-clerkship, these same changes should be evident in their clerkship and post-graduate teaching. Looking however, at the teaching practices in these areas, with the exception of the introduction of a simulation lab, minimal change has occurred. Most of the small group learning continues to follow a knowledge transmission model of a teacher at the front of a classroom, doing most of the talking with the intention of delivering information to the learners that will then be applied at some time in the future in the clinical environment.

Although a formal discussion with the members of this department as to why this might be the case has not yet occurred, one can speculate on this. First of all, there has been no demand or expectation from curricular leaders in the clerkship and post-graduate education to mandate this change. Although curricular leaders set the subject matter, the depth and delivery is still left up to the individual teachers. Secondly, it takes time and effort to modify teaching in order to improve learning. It may be that the rewards for this effort are not obvious to the teachers and so their time is devoted to areas such as research and administration where they are likely to receive more professional recognition for their efforts. Finally, it may be that although the teachers have

made behavioural changes in the pre-clerkship, their perspective on what makes good teaching has not changed. The faculty development initiatives did not perhaps offer enough relevant information to change their beliefs or allow them to develop enough confidence in these new techniques. They still may believe more strongly in the teacher-centered techniques that they were exposed to as learners and likely judged to be successful in their own learning. In fact, it appears that faculty development efforts have led to a shift from a teacher-focused approach to a learner-focused approach only where required. The majority of the members of this group of educators have not made any change in their teaching where external demands have not forced it. This suggests that a change in their perspective on teaching and learning has not taken place.

Given that I am a member of this department and started in the same way as the others, one may question why I find this to be important. To understand this, I believe it is worth reflecting on my personal journey in education. In 2000, I was hired to work as a general obstetrician/gynecologist because of my real world experience as a clinician. I was not a sub-specialist or a researcher so my role would be primarily patient care and clinical education of the medical students and residents. Historically in this department, administrative responsibility for formal undergraduate education, that is coordination of the pre-clerkship course and the clerkship, fell to the group of generalists. In 2002, the role of undergraduate education director became vacant and as was customary, I, as the most junior member of the department, was asked to fill it. The role was primarily administrative and experience or expertise in education was not required or expected. During the 2007 medical school accreditation, criticisms about the lecture-heavy curriculum and lack of a learner-focused approach were laid against the school, my courses included. The accreditors expressed surprise that I would be responsible for both pre-clerkship and clerkship and wondered about my ability to do this adequately in the time that I was provided to do it. Unaware of what I did not know about education and what I should be doing to promote

student learning, I did not consider my responsibilities to be excessive. As described above, this accreditation spurred a complete revision of the undergraduate medical curriculum. My role became focused as the clerkship director.

Realizing that I needed additional training in medical education and not yet ready to make the commitment to a master's degree, I participated in the five-week Harvard Macy Institute Program for Educators in the Health Professions. It was here that I was first introduced to concepts such as learning styles, experiential learning and curricular alignment. I recall two particularly important and, in retrospect, transformative moments where I could sense my perspective changing. The first was during discussion of an assigned reading on teaching and learning that presented different teaching perspectives (Arseneau & Rodenburg, 1998). As a physician, I prefer to have evidence before I make a change in my practice. Although this article did not present the usual scientific evidence to which I was accustomed, it did for the first time in my experience, present a rational argument as to why these learner-focused approaches to teaching might make a difference. The other experience occurred during a workshop on qualitative research. I had done the preparatory readings and thought that I had a good understanding of the process. During the workshop, we were asked to look at a data set and work in groups to extract themes. It was during this session, that I realized that my understanding of qualitative research was so much richer having tried and struggled with the process, while discussing it with other learners. It was at that moment that I realized the value of experiential learning. At the end of the program, we had to fill out postcards that would be sent to us several months later with a message to ourselves that we thought would be valuable in maintaining the momentum of our learning in the program. My postcard read, "It is important to remember my commitment to experiential learning as its value has been powerfully demonstrated."

Preparing Myself as an Educational Leader

In 2010, I embarked upon my Master's degree in Education realizing that I needed more knowledge and more credibility as expertise in education began to take on greater importance in the medical school. Some of my most significant insights about teaching and learning came during my course on adult learning taken during the summer of 2012. I was very disoriented in the first week – I was given even more freedom than in previous courses and with it the responsibility to direct my own learning. I was forced to choose my own assignments, create my own assessment strategy and then carry out my own grading! As one of my main assignments, I chose a reflective journal. I did not choose reflection because I enjoyed it, understood it or valued it. I chose it because I thought that with my busy schedule, I would have time for it and I had a vague understanding that it would improve my learning of the course material. However, to my delight, I found the act of reflection illuminating – I was able to see my understanding deepen and discover in a more obvious way how my learning could be applied to my role as an educator. Assigning my own grades to this work, forced me to critically review this work looking for ways it could be improved but also recognizing my own strengths. Thus, by the end of this, the last course in my program, I felt that my perspective on teaching and learning had truly changed. Because my learning had been so 'transformative', and having heard about the concept of 'transformative learning' during my program, I knew that I had to further explore this concept.

One further experience will help to fully understand the rationale behind my interest in this project. From the time of my first experiences in truly 'getting' active learning, I started to incorporate active learning activities into my teaching. At first, it was in the pre-clerkship curriculum, in the form of Team-Based Learning frequently practiced in the medical school. After some successes with that, I introduced learner-centered activities into my clerkship seminars. Again, after a favorable response, I took the bigger step of introducing it into the resident core

teaching. It is not an exaggeration to describe this last attempt as a failure. The residents did not complete the activity with any degree of investment or thought, if they completed it at all. I later heard that it was considered to be a “stupid” idea. On reflection, I considered how I could have better handled the introduction of a new teaching method to learners who were used to a very teacher-focused approach to these sessions. I saw what I could have done differently, but I also realized that I could not change the culture of learning that was present amongst the residents by myself. Shortly after this experience, I was compiling an annotated bibliography on adult learning in medical education for that final graduate course. I was excited by what I was reading; particularly powerful were the concepts of self-regulated learning, intrinsic versus extrinsic motivation, and reflection as an educational tool. I realized then that I needed to find a way to disseminate these ideas to my colleagues in a way that they could understand and be excited by them, too. It was at that moment that the idea for this project emerged. I decided to offer my colleagues an opportunity that would set the stage for their own transformation of teaching perspectives: I would lead them through a process whereby they could become familiar with some of the principles and theories that I found important in my own understanding of teaching and learning while experiencing the active learning strategies and activities that lead to deep learning.

In the next chapters, I will explore the concept of transformative learning and look to the literature on faculty development in higher education and medical education specifically to find guidance on how to achieve this transformation, identifying principles that can be applied in the design of a faculty development program (Chapter 2). I will present a curriculum project to be initiated within this department (Chapter 3), a plan for ongoing evaluation of the project (Chapter 4), and some concluding thoughts (Chapter 5).

Chapter 2

Literature Review

In order to understand why faculty development may not have led to a change in teaching perspective and practice and to plan how to address this dilemma, I have chosen to look to the literature of (a) transformative learning and communities of practice; (b) faculty development in medical education and the broader field of higher education; and (c) the evaluation of faculty development to discover what could be learned and applied to the challenge of influencing changes in teaching and learning practices and perspectives in the context described above.

Transformative Learning

Transformative learning theory, first described by Mezirow in 1977, has undergone evolution in the intervening years under the influence of numerous authors and theorists (Cranton, 2003). The theory is based on the idea that when one is faced with something new or unexpected, and this leads to a questioning of one's ideas, one's own views change. "Transformative learning refers to the process by which we transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so that they may generate beliefs and opinions that will prove more true or justified to guide action." (Mezirow, 2012, p. 76).

There are a few important concepts worth reviewing in order to better understand transformative learning theory. The first is knowledge. Mezirow based his original theory on the three types of knowledge or domains of learning previously defined by Habermas. The first of these is *technical knowledge* described by Mezirow as "learning to control and manipulate the environment or other people, as in task-oriented problem solving to improve performance." (Mezirow, 2012, p.77). This is the type of knowledge that relates to objective information or

facts. Much of the teaching that we consider important in medicine, that is, related to scientific facts and techniques, is technical knowledge and the learning is referred to as instrumental learning. However, how we teach it and the knowledge and skills we need to acquire in order to do so is of another type of knowledge referred to as *practical or communicative knowledge* (Cranton, 2006). This knowledge is based on a shared understanding and interpretation and deals with such subjects as psychology, education, literature and history. Educators in scientific disciplines, including medicine have placed greater value on instrumental learning than on communicative knowledge and have generally applied this value or experience of learning to their practice as teachers (Cranton, 1996). The third type of knowledge important to transformative learning theory is *emancipatory knowledge*. This knowledge comes from questioning and reflecting on our technical or practical knowledge to develop new knowledge and understanding of self and the world around. The creation of this type of knowledge in the individual is the goal of transformative learning.

A second important concept in transformative learning theory is the notion of a frame of reference. This, as defined by Cranton, is the “web of assumptions and expectations through which we filter the way we see the world” (Cranton, 2006, p. 22). A frame of reference has two components – habits of mind and points of view. Mezirow defines habits of mind as “the broad predispositions that we use to interpret experience” (Cranton, 2006, p. 22). There are three categories of habits of mind that could be considered particularly relevant to faculty. *Epistemic* habits of mind relate to knowledge and how we acquire and use such knowledge. These habits shape our perspectives and guide our behaviours as we make decisions about teaching and learning. *Sociolinguistic* habits of mind are related to social norms and cultural expectations. The culture of teaching and learning within a certain context may be shaped or be affected by these. *Psychological* habits of mind may be important as faculty members’ roles in teaching and

learning are connected to their views of themselves. Their willingness to take risk may also come into play. As individuals, we each have a frame of reference, the ideas about the world or habits of mind through which our experiences are filtered and which then forms the basis for our point of view. If we do not question these perspectives, then new knowledge that we encounter is either constructed with these same unquestioning beliefs or rejected when it cannot conform. Habits of mind for medical educators come from multiple strong influences including societal expectations about medicine and about teaching, their institutional culture of teaching, and their own learning preferences and experiences. These will in turn determine their perspectives on teaching and learning and thus their approach.

At the heart of transformative learning theory is the argument that learning occurs when an alternative perspective is encountered and an individual questions his or her own perspective, allowing it to change and become reformed or revised. Mezirow (2012) described ten phases or steps through which one progresses in reaching this transformation. In the years since the theory was introduced, he and others have recognized that several of the original steps can be considered as critical to the resulting transformation (Cranton, 2003). The first is some sort of stimulus for learning. Mezirow described a specific event that he termed a disorienting dilemma although he and subsequent theorists have allowed that this stimulus may be a more gradual process. Regardless of whether it is sudden and distinct or gradual, it causes the individual to reconsider his or her perspective.

In designing faculty development with the intent of transforming teaching perspectives, one must consider how to introduce such a stimulus for learning. For the members of this department, the very notion that they have a teaching perspective may be a new concept. The introduction of the topic and the drive for self-knowledge may serve as a stimulus while having to consider this topic in an in-depth reflective manner may present a disorienting dilemma.

A second requirement for transformation to occur is discourse which Mezirow defines as “that specialized use of dialogue devoted to searching for a common understanding and assessment of the justification on an interpretation or belief” (Mezirow, 2012, p. 78) and “a process in which we have an active dialogue with others to better understand the meaning of an experience.” (Mezirow, 2012, p. 81). Thus the opportunity for discourse must be build into the design of a faculty development initiative. For discourse to result in a change in perspective, individuals must approach it with an openness to listen to and consider alternative perspectives and be willing to reflect and reconsider their own; the need for the environment to be supportive must be made explicit. Additionally, the practice of discourse may not only contribute to the intended learning but also create the foundations of an ongoing dialog about educational matters that provides for learning that continues beyond the program itself.

The most critical requirement for transformative learning involves reflection. Cranton defines reflection as “the process of reconsidering experience ... and reinterpreting and generalizing the experience to form mental structures” (Cranton, 2006, p. 33). For a reflective activity to lead to transformation of perspective, it is important that reflection include an articulation of underlying assumptions (Cranton, 1996). This needs to be followed by critical questioning of these assumptions through further self-reflection or discourse with others. She distinguishes three types of reflection. Content reflection, process reflection and premise reflection consider the what, how and why that when considered can lead to transformative learning. In the case of faculty development, the what relates to the understanding faculty have of how students learn, what do they know about this; the how relates to how they have developed this understanding of learning; the why can get to the understanding of the importance they attach to teaching and their motivation to undertake a process resulting in a change in their understanding of learning.

The importance of reflection to transformative learning has supportive quantitative evidence. Brock (2010) studied university students in order to clarify which of the steps presented by Mezirow are most important in transformative learning. She found that the three crucial steps were critical reflection, a disorienting dilemma about social roles, and trying on new roles. Of these, critical reflection was the one with the most impact.

Cranton (2006) writes about transformative learning within the context of adult learning theory. A summary of this discussion with consideration of how it might apply to the previously discussed faculty development challenge is provided here. Both adult learning theory and transformative learning theory are of particular relevance to this initiative; this faculty not only teach adult learners but are in fact themselves adult learners while the stated goal of this faculty development is transformation of both perspectives and behaviours related to teaching and learning. Cranton reviews the dimensions of adult learning and considers which of these dimensions are also necessary aspects of transformative learning.

One dimension is the voluntary nature of both adult learning and transformative learning. Whether the desire for that learning comes from an internal interest or need or from an external demand, the adult learner must be the one who seeks out and engages in the learning activities for transformation to occur. For the teaching faculty who are the focus of this project, most of the learning events that were intended to result in a change in teaching were imposed upon them rather than voluntary. Thus, it will be important to consider the voluntary nature of the learning in developing a successful faculty development program.

Adults have a preference for self-directed learning. Adult learning theory describes self-directed learners as those who identify their own learning needs, set their own learning goals, choose their materials and resources, and judge their own progress. (Knowles, cited by Cranton, 2006 p.3). Mezirow himself identified self-directedness with engagement in transformation.

(Cranton, 2006). Cranton argues that transformation and self-direction are both developmental processes that work and develop together. For faculty development, the ability to self-direct which is likely well-developed when it comes to medical knowledge and skills, may need to be facilitated when it comes to developing their teaching expertise.

Although adult learning theory promotes learning that is practical or experiential, Cranton questions whether transformative learning necessarily need be (Cranton, 2006). However, most of the faculty development of these individuals has been neither practical nor experiential and perhaps this is a reason for the lack of transformation of perspective.

Adult learning is said to be most powerful when it is collaborative (Cranton, 2006) and Mezirow's emphasis on discourse to facilitate transformation supports this contention. In previous faculty development, the introduction of the material was group-oriented, however, the opportunities for discussion were limited. Most of the ongoing curriculum has been developed alone without collaboration with colleagues.

Both adult learning theory and transformative learning recognize the importance of the experience a learner brings (Cranton, 2006). However, it may in fact be this experience—personal success in teacher-centered approaches and lack of comfort or poor evaluations when attempting learner-centered approaches that have contributed to the current frames of reference of this faculty. This will have to be considered in any planned faculty development.

One final aspect of transformative learning that merits comment is the learning that occurs within the workplace or within a group. Cranton describes collaborative inquiry which is defined as “a process consisting of repeated episodes of reflection and action through which a group of peers strive to answer a question of importance to them.” (Cranton, 2006, p. 47). This is not an unfamiliar practice as these physicians have engaged in collaborative inquiry to address issues related to the use of current medical knowledge. More recently they have undertaken the practice

in considering the challenges of quality assurance and interprofessional communication.

Education has infrequently been the focus of attention.

Communities of Practice

There are several structures available to support collaborative inquiry. Action research, learning communities and communities of practice are identified as key in supporting and continuing the learning that goes on in the workplace (Cranton, 2006; Ebert-May et al., 2011; Kember & Gow, 1994; Loertscher, 2011; McLean, Cilliers & Van Wyk, 2008; Sharpe, 2004; Steinert & Mann, 2006). Indeed, the emergence of action research or collaborative inquiry may be a long term outcome of this faculty development, but the concept of communities of practice is particularly intriguing as this group is in essence already a functioning community of practice, albeit in the realm of clinical work and not education.

The conceptual framework of communities of practice was developed to allow thinking about learning as social participation. Wenger defines communities of practice as “a group of people who share an interest in a domain of human endeavor and engage in a process of collective learning that creates bonds between them.” (Wenger, 2001, p. 2339). He identifies three characteristics as crucial to the identification of a community of practice. The first is a minimum level of knowledge within a *domain* that becomes a shared competence. The second is the notion of *community* in which members interact and learn together. The third is the development of a common *practice*.

There are three dimensions of a community of practice that must be present in order for it to function (Wenger, 1998). First, to be a community of practice requires mutual engagement amongst all individuals who make up the community. It is engagement in the processes of the practice that defines membership. Secondly, all members engage in a joint enterprise which is defined by the participants in the process of pursuing it. This not only defines the enterprise but

also creates mutual accountability in its pursuit. The third dimension of a community of practice is the development of a shared repertoire. This consists of the “routines, words, tools, ways of doing things, stories, gestures, symbols... or concepts that the community has produced or adopted in the course of its existence and which have become part of its practice.” (Wenger, 1998, p. 83). What is the relationship between learning and a community of practice? Learning leads to evolving forms of mutual engagement, better understanding and tuning of the enterprise and continued development of the shared repertoire.

By further developing these dimensions, characteristics of a community of practice can be listed. Wenger (1998, p. 125) identifies that the presence of the following indicate that a community of practice has formed:

- 1) sustained mutual relationships – harmonious or conflictual
- 2) shared ways of engaging in doing things together
- 3) the rapid flow of information and propagation of innovation
- 4) absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
- 5) very quick setup of a problem to be discussed
- 6) substantial overlap in participants’ description of who belongs
- 7) knowing what others know, what they can do, and how they can contribute to an enterprise
- 8) mutually defining identities
- 9) the ability to assess the appropriateness of actions and products
- 10) specific tools, representations, and other artifacts
- 11) local lore, shared stories, inside jokes, knowing laughter, jargon and shortcuts to communication as well as the ease of producing new ones

Searching for these indicators, one can see that they are present within this group as they relate to the clinical practice of obstetrics and gynecology and this is in fact a well-developed and thriving community of practice. However, this process of mutual engagement, the sense of joint enterprise and the presence of a shared repertoire has not emerged for the department's educational role. Members teach in the same courses but these activities are done independently, without consultation, sharing or awareness of the others' teaching practices. Given that within the clinical realm, the dimensions of a community of practice are already present and the interactions intuitive, it is easy to believe that it could emerge within the educational realm as well.

There is debate as to whether a community of practice can be purposefully developed. Wenger, McDermott and Snyder (2002) maintain that it can be with the right cultivation techniques. They do emphasize that the ultimate form that a community of practice might take is an emergent one. Some of their specific suggestions for launching a community of practice include determining the focus of interest or domain, creating a space for the interactions that will build trusting relationships amongst the members of the community, and creating a preliminary design for the community. These suggestions provide the basis for the faculty development program with the intent of cultivating this educational community of practice.

Conceptions of Teaching and Learning

A discussion of approaches to learning and teaching perspectives is appropriate at this point to clarify the aim of this transformation. Biggs defines approaches to learning as the strategies that students devise to "solve the problem their motives have defined for them" (Biggs, 1989, p.12). Thus in identifying approaches to learning both motives and strategies must be considered. The three common approaches that have been identified are surface, deep and achieving. Students taking a surface approach to learning are externally motivated, that is, they

wish to avoid failure. They focus on details and their learning goal is to be able to accurately reproduce them. Students who have a true curiosity about a topic are intrinsically motivated to learn about it. Their goal is to understand the underlying meaning of the topic and they use the strategies of reading, discussion and reflection that characterize a deep approach to learning. The third approach to learning is the achieving approach that students take to get good grades. They are also extrinsically motivated and the hallmark strategy of this approach is optimal organization of time and effort. It is the deep approach to learning that is associated with a complex understanding of subject matter (Biggs, 1989).

Conceptions of teaching can be defined as the “largely unarticulated composites of individual teachers’ assumptions, knowledge and beliefs about teaching and learning.” (Fostaty-Young, 2012, p. 70). Kember (1997) reviewed the research on conceptions of teaching and found that although methods and terminology varied, he could identify two broad orientations to teaching which he termed teacher-centered/content-oriented and student-centered/learning-oriented. Different conceptions of teaching could be placed along this continuum. Kember & Gow (1994) had previously identified that learning facilitation approaches (on the student-centered end of the spectrum) did indeed lead to student learning approaches associated with deep learning. They found that even students who started off with a deep approach to learning, developed a surface approach when they were enrolled in courses exhibiting the teaching methods, learning tasks, surface assessment of learning and high workload associated with a knowledge transmission (teacher-centered) approach to teaching. The authors recommended that in order to improve student learning, faculty development had to change teaching perspectives to a more learning facilitation conception. Trigwell and Prosser (1996) looked at teachers’ intent and strategy and reported a similar finding. When teaching strategies were focused on knowledge transmission the outcome tended to be surface learning; student-focused intents were associated

with strategies leading to deep learning on the part of students. Further studies by these authors reproduced these associations (Trigwell, Prosser & Taylor, 1994; Trigwell, Prosser & Waterhouse, 1999).

The conclusions from the above studies all identified that in order to improve student learning, teachers themselves had to undergo a change in their perspective. Thus faculty development for higher education must not only offer training in effective teaching strategies but also a change in teachers' perspectives from knowledge transmission to learning facilitation; that is, the aim must be conceptual change. In our faculty's experience of faculty development, while they did learn the 'what' and 'how' of teaching, there has not been any consistent change in teaching behaviours suggesting that conceptual change did not occur.

Faculty Development

During the first half of the twentieth century, expertise in clinical medicine was equated with expertise in teaching (Wilkerson and Irby, 1998). Given that the apprenticeship model was the basis of medical education at the time, this view may not have been inaccurate. Although it is now recognized that these skills are separate, most medical teachers like other teachers entering higher education settings do not experience formal preparation for their teaching role; the knowledge about teaching for most doctors comes from observation during their own learning.

Since faculty development began to be taken seriously, the focus on how to improve teaching has been guided by the prevailing learning theory of the times (Wilkerson and Irby, 1998). In the 1970's, a behaviorist approach was adopted. Being a good teacher included setting clear learning objectives, delivering clear and well-organized material to the learner, allowing practice and providing feedback. In the 1980's, constructivist theories with a learner-centered focus came to the forefront. Educational strategies introduced included building on prior knowledge, conceptual scaffolding and contextual learning. Adult learning theory was

incorporated, increasing the use of experiential learning. In the 1990's, the social aspect of learning became important with the introduction of collaborative learning in the forms of problem-based learning and team-based learning. Role models and peers became important in the learning process. Throughout these changes the role of the teacher transitioned from content expert delivering the necessary information to facilitator of student learning. Given that the majority of faculty members in the Department of Obstetrics and Gynaecology were learners prior to the 1990's, it is likely that most have not themselves experienced learner-focused educational strategies.

The setting in which faculty development was achieved also evolved. In the 1970's, it began as individual consultation (Wilkerson and Irby, 1998). Then workshops and seminars were developed. As the recognition of teaching as a separate skill increased, faculty development units within medical schools were created to provide ongoing training and assistance. A culture of teaching excellence emerged and teaching as a form of scholarship was increasingly recognized. Formal longitudinal programs and fellowships in medical education were developed.

Although improvement in faculty teaching skills and student learning has certainly been the goal of medical faculty development (Steinert et al., 2006), it is not clear that this goal has addressed the teaching perspectives amongst faculty. Indeed, it is relatively recently that the need has been expressed for this to become an explicit goal, "it is becoming imperative that institutions invest in and support their teaching faculty in transforming their conceptions." (McClean, Cilliers & Van Wyk, 2008, p. 561). A systematic review of the literature (Steinert et al, 2006) found that faculty development initiatives consisted mostly of seminars, workshops and short courses which cannot be expected to provide the necessary time and processes for transformation to occur. Further, the majority of them dealt with clinical teaching with only a secondary emphasis on small and large group teaching.

Nor is it clear from this review (Steinert et al., 2006) that faculty development initiatives have employed practices that consider transformative learning theory or adult learning theory. Most programs did use multiple methods of teaching including an experiential component although only 57% specifically identified any conceptual or theoretical framework in their design. Leslie, Baker, Egan-Lee, Esdaile, and Reeves (2013) continued this review for more recent articles and found a higher proportion of longitudinal programs, although the majority still lacked any theoretical framework. In a survey of medical faculty developers in Canada, it was noted that most faculty development initiatives continue to focus on teaching effectiveness (McLeod & Steinert, 2010) but surprisingly, the methods employed do not necessarily embrace adult learning theory. For instance, only 65% of faculty development workshops offered the opportunity to practice teaching skills.

Looking to the broader literature in higher education, there are numerous recommendations that faculty developers consider transformative learning theory and adult learning theory in planning faculty development programs (See Brancato, 2003; Cranton, 2006; Ho, 2000; Kasworm & Bowles, 2012; King & Lawlor, 2003; Sharpe, 2004). Cranton and King (2003) offer the opinion that transformative learning should be an explicit goal of professional development.

Brancato (2003) notes that teachers in higher education are poorly prepared for their roles. As the case with medical faculty, most become university teachers based on their discipline specific expertise and not their interest in teaching and learning. A large proportion of teachers in this setting have no formal education on how to be a teacher. Their approaches to teaching and learning come not from an academic understanding of teaching and learning principles and practices but rather from assimilation of their own learning experiences. During the last decades there has been a shift in the demands on teachers—they are being asked to adopt a learner focused

approach that they likely did not experience themselves. Their perspectives on teaching arising from societal norms, institutional culture and personal experience and learning preferences may not be compatible with this relatively new focus on the learner. Knowledge transmission orientations may be quite entrenched and hard to change.

Transformative learning may be specifically stated as the goal of professional development (Armstrong, Doyle & Bennett, 2003). If not, variations on this theme are encountered: “a change in thinking about teaching and learning itself” (Ho, 2000, p. 30); “transform themselves and their perspectives” (Lawlor, 2003, p. 88); “redefinition of mental models” (Brancato, 2003, p. 63). The steps recommended to achieve this change, although displaying some variation, all echo the important components of transformative learning. Early steps require some type of confrontation or challenge of assumption to incite in the individual a desire or need for change. Reflection and self-awareness are required to understand what change is needed. Meaningful learning experiences that encourage deep understanding and allow application and practice, and finally support both in the learning environment as well as in follow-up to the learning.

Guskey (2002) proposes that one must not only pay attention to the steps taken, but also the process by which these steps occur. He describes a model whereby a change in teaching perspective only comes after some benefit in adopting new strategies is apparent. For teachers, that benefit must be an improvement in learning outcomes on the part of their students. Considering Guskey’s model in the medical faculty of interest, this may offer another explanation as to why despite some experience with learner-focused teaching as required in the preclerkship program, the change in teaching perspective did not follow. Based on Guskey’s model, I suggest that the reason for this is the lack of connectivity between these teachers and the results of student assessment. In this context, the teachers do not receive the results of student assessment so have

no way of knowing whether or not changes in their teaching have been successful or not. For the more advanced learners, the clerks and residents, not only do the teachers not receive feedback on student achievement, they have no input into assessment as most of the formal knowledge assessment is in the form of nationally prepared examinations.

If Guskey's contention of a need for evidence of benefit is accurate, and if evidence of improved learning is not available for our learners, then we must seek another source of evidence. A proxy for learning could be learner engagement that the teachers can observe during small group learning. However, an even more powerful source of evidence could be the learning that the faculty themselves experience while engaging in a learner-focused educational initiative. It is for this reason that the proposed faculty development program must employ learner-focused strategies. The faculty will find the evidence in their own improved learning such that they can progress through the steps of transformation.

Reflection is one step in transformative learning that merits special consideration in the context of this particular faculty development initiative. For these educators, reflection is not only a process of transformative learning. The ability to continue to use reflection effectively is a learning goal, as well. It is also the aspect of this program for which I anticipate the most resistance on the part of my colleagues. They are not unfamiliar with the word as it is appearing more frequently in our work environment. In fact, it is such a pervasive term that according to Brookfield, there is a danger of it losing any real meaning (as cited in Hubball, Collins & Pratt, 2005, p. 60). However, it is a practice that as physicians we are now required to undertake. Reflection on learning in clinical practice is required for Royal College Maintenance of Certification. Although, resources for reflection are provided on the Royal College Physicians and Surgeons of Canada (RCPSC) website, there is no requirement that physicians access them and there is no apparent monitoring of the reflection that must be done when logging learning

activities. It is perhaps because of a lack of training and this lack of commitment on the part of the Royal College to enforce and monitor the reflective activities that I can detect a cynicism that has developed amongst faculty about the value and utility of reflection as a learning tool.

Cranton's definitions of reflection and its critical role in transformative learning have already been discussed. Other definitions of reflection found in the literature can be helpful in considering how to apply it in professional development. Boud defines reflection as "a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to a new understanding and appreciation." (as cited in Mann, Gordon & McLeod, 2009, p 597). Hubball et al. (2005) provide an even simpler view related to reflection on teaching practice as "thoughtful consideration and questioning of what we do, what works and what doesn't, and what premises and rationales underlie our teaching and that of others." (Hubball et al., 2005, p. 60).

In a systematic review of the educational and medical education literature, Mann et al. (2009) found models of reflection in the literature across several fields. The authors identified that in all of them a "common premise is that of returning to an experience to examine it, deliberately intending that what is learned may be a guide in future situations, and incorporating it into one's existing knowledge." (Mann et al., 2009, p. 597). Although these authors found that evidence on how to foster reflection was still lacking, they could draw several conclusions that are relevant to this discussion. First, reflection is an effective practice that professionals use to understand complex situations and learn from experience although the tendency and ability to do so is variable. Secondly, reflection is associated with deeper approaches to learning. Thirdly, there are reliable means of assessing reflective thinking and further that the ability to reflect can be developed, particularly in a supportive group environment.

Efficacy of Faculty Development

There is an abundance of literature describing faculty development initiatives (Steinert et al., 2006), but is there any evidence of efficacy or further, is there evidence that faculty development does lead to a change in teaching perspective? Few papers can be found that attempt to demonstrate this. A study by Ebert-May et al. (2011) looked at two programs for university biology teachers with the explicit goal of increasing knowledge about active learning, developing instructional materials and gaining experience in implementing active-learning pedagogies. One was a longitudinal program conducted over three years, the other a five-day workshop. Data included surveys of participants at baseline, mid-program (where appropriate), post-program course reviews looking at instructional strategies in use and a final survey about knowledge, experience and confidence with active learning. The survey data indicated that the program resulted in significant improvement in knowledge and experience with various aspects of teaching. The majority of participants from both programs reported using learner-centered teaching practices in their courses after participation in their program. However, when videotapes of class sessions submitted after the program were reviewed, observation of the videotapes showed that by objective measures 75% of respondents practiced a lecture-based, teacher-centered pedagogy. Of the 25% who did demonstrate a learner-focused pedagogy, analysis identified that this was positively associated with direct experience with active learning strategies and negatively associated with number of years of teaching, class size and the proportion of a faculty member's appointment devoted to teaching. Over a two-year time period following completion of the program, 20% showed improvement while a similar proportion showed a decline in their learner-focused practices. There was no analysis of what factors predicted stability in improvement. It is encouraging that 25% of participants did in fact demonstrate a learner-focused pedagogy. There is, unfortunately, no data on their teaching prior to entering the

program so one cannot with confidence attribute this to the program. The difference between the subjective and objective data in this paper demonstrate the dangers of relying on self-reported behavior as the sole means of evaluation.

Evaluation of a longitudinal faculty development program compared teaching perspectives before and after participation. Reflective learning experiences were purposefully incorporated into this program. The researchers used quantitative data from the TPI (Teaching Perspectives Inventory) as well as qualitative data from a semi-structured questionnaire (Hubball et al., 2005). They found a significant gain in the developmental perspective, noting that perspective's emphasis on deep approaches to learning. Participants attributed their own development during the program to the opportunities for discussion and reflection.

Gibbs and Coffey (2004) reported on a study of university teachers participating in a longitudinal training program with the intent to identify changes in teachers' behavior and approach plus changes in their students' approaches to learning. They used the ATI (Approaches to Teaching Inventory) developed by Trigwell and Prosser which categorizes approaches to teaching and learning as *Information Transmission* which is teacher-focused or *Conceptual Change* which is student-focused. They found that teacher training did result in a change in approach to teaching after the training. The group became less teacher-focused and more student-focused in their conceptions of teaching. The researchers also administered the test to a control group of teachers not completing the training. Although the two groups showed no difference prior to training, as the training group became more student-focused, the control group became even more teacher-focused over time. Teaching skills were evaluated by student questionnaires. The training group's scores improved after training, while the control groups did not change except for the questions on group interaction which got worse over time. Assessment of student learning approaches was also carried out. This showed that students whose teacher had been

trained took a surface approach to learning to a lesser extent than those of the untrained teachers. The increase in deep learning was not significant. The authors explained this by noting that the deep approach scores were already high at the start and also that there may be a lag time before implementation will truly affect student approach to learning.

Light, Calkins, Luna and Drane (2009) investigated whether an eight-month faculty development program resulted in a change in teacher perspective. This change was measured by the ATI given before and after the program and to a control group of untrained faculty, analysis of critical reports written by the participants describing a teaching innovation and in-depth interviews of participants on completion of the program. They found evidence in all three methods of a change in teaching approaches but did not look for demonstrable changes in course implementation.

Finally, an intense faculty development program specifically designed for conceptual change, took faculty participants through the steps of initial self-awareness, exposure to alternative approaches to teaching, further reflection and practice (Ho, Watkins & Kelly, 2001). Evaluation of the results for the twelve participants who completed the program used data from interviews (pre-, post- and after one year), student evaluations of teaching and evaluation of student approaches to studying. It was found that two thirds of participants demonstrated some degree of conceptual change, with half of these also having support from student data. Although participants most valued the self-awareness process, analysis revealed that the aspect with the most impact was the confrontation process involving exposure and critical reflection (Ho, 2000).

The papers described above are examples of the few articles that attempt to demonstrate a change in teaching perspective. These articles notwithstanding, both the general faculty development literature and the medical faculty literature exhibit universal commentary on the paucity of evidence of any effectiveness of these initiatives (Association of Professors of

Gynecology and Obstetrics Undergraduate Medical Education Committee, 2011; Ebert-May et al., 2011; Ho, 2000; Hutchinson, 1999; Kasworm & Bowles, 2012; Mclean et al., 2008; Steinert et al., 2006).

Kasworm and Bowles (2012) conducted a review of transformative learning in higher education which led them to make recommendations as to how to achieve transformation through faculty development. Their review revealed that while earlier studies looked to see if and how transformation occurred, later studies looked to determine if transformative learning could be intentionally designed. They recommended incorporating discourse through dilemma, critical reflection and specific discussion of transformative learning. But it must be noted that these recommendations were made despite a lack of any good evidence that they lead to transformation. In fact, a conclusion of this review was that good evidence of transformation by careful evaluation is needed, as most evidence is based on learner self-reporting. Attention to the state of the learner before and after the learning, the learning environment and the specific strategies used was recommended in future research.

Reviewers of the medical literature have similarly lamented this lack of evidence of effectiveness for faculty development. McLean et al. (2008) even identify this as a barrier to ongoing participation in faculty development on the part of academic clinicians. In the previously cited systematic review of medical education, Steinert et al. (2006) analyzed the literature up to 2002, looking for evidence of effectiveness of faculty development programs. Of over 2500 papers retrieved describing these programs, only 53 recorded outcomes. The authors analyzed these outcomes using a modification of Kirkpatrick's model for evaluating educational outcomes. This consists of levels 1-4 that stratify the content and quality of the evidence. Level 1 is Reaction- participants' views on the learning experience. Level 2A is Learning- changing participants' attitudes or perceptions regarding teaching and learning; 2B is Learning- new

knowledge or skills; Level 3 is a documentation of a change in behavior and willingness to apply new knowledge and skills; Level 4A demonstrates a change in the organizational practice; and Level 4B demonstrates improvement in student learning or performance. Of these 53 papers that met criteria for evaluation outcomes, 74 % assessed reaction and 77% assessed learning. Only 13% reported any change at the organizational level and 6% assessed student/resident learning. Of the 72% that did assess behavior, only 28% used student or resident evaluation data as evidence of changes in teaching behavior, most relying on self-reports.

Lessons from the literature review

What has been suggested by this review is that any new faculty development program should be well-grounded in learning theory. Given the need for a change in perspective, transformative learning theory is a logical place to start planning. Considering this and other aspects of adult learning theory, one can determine that a planned faculty development program should attract voluntary participation, should consider the characteristics of participants in terms of their previous experience and current habits of mind regarding their roles as teachers, should demonstrate an alternative view of teaching and learning, should provide opportunities for reflection, discussion and experiential learning and finally, should seek to develop a supportive and inquiring community where learning can continue.

Steinert and Mann (2006) published recommendations that they identified as supported by the literature on medical faculty development. Additional recommendations for the design of new programs include defining appropriate goals, conducting a needs assessment, and offering diverse educational methods. They suggest that longitudinal programs may be more successful which makes sense given the steps required to achieve transformative learning. They promote peer-coaching and self-directed learning and the concept of communities of practice.

The challenge of incorporating reflection into faculty development has been addressed. Mann et al. (2009) concluded that in order for reflection to be of value, certain contextual factors must be optimized: the environment must be supportive, there must be an authentic context, mentoring and guidance, group discussion and free expression of opinions. The recommendations from Hubball et al. (2005) also emphasized the need for structure and guidance, that reflection be an individual and collaborative experience that is integral to the program, and that it be related to participants' actual teaching.

Steinert (2010) advocates considering the existing collegiality of clinical medicine as a means to develop communities of practice for faculty development. Indeed, Wenger notes "As a locus of engagement in action, interpersonal relations, shared knowledge, and negotiation of enterprises, such communities hold the key to real transformation" (Wenger, 1998, p. 85).

Finally, what is necessary as part of any faculty development program is planned evaluation to determine the success of the program. Time is a precious resource for faculty and there must be some evidence to support their investment. What would define the success of a program of faculty development with the aim of transforming teachers' perspective from teacher-focused to learner-focused? Ideally, evidence at all four levels of Kirkpatrick's model should be sought (Kirkpatrick, 1996; Steinert et al., 2006). Participant satisfaction is important in encouraging continued learning and attracting others. Effective delivery and deep learning should be demonstrated. But what is needed at this stage in the evolution of faculty development is objective evidence of a change in teaching behaviours and the ultimate goal of improved student learning.

Chapter 3

Developing the Curriculum

This paper has presented a faculty development challenge that involves transformation of teaching perspective to a more learner-focused conception of teaching and learning. The review of the literature has provided valuable lessons in the principles to apply and the needs to be addressed in planning faculty development to achieve this aim.

This curriculum was designed based on a course design methodology that is used as a model for course design workshops at the Queen's Centre for Teaching and Learning (Saroyan & Amundsen, 2004). Although I did not have an opportunity to participate in the group workshop, I was able to use the reference as a guide. The steps taken were 1) articulate course content and consider key concepts; 2) define learning outcomes for the program; 3) select and develop instructional strategies; and 4) determine approaches to evaluate participant learning. This chapter will discuss the first three steps. The fourth step will be considered in Chapter 4 Evaluation.

An overview of the planned curriculum for this faculty development program is located in Appendix A. The key concepts of learner-focused teaching, communities of practice and reflection and how they would interact in a professional learning program are shown in Appendix B. How sessions enact principles of transformative learning theory and adult learning theory, use strategies such as reflection and discussion and provide structures that could enable the creation of a community of practice are summarized below.

The program will be presented to the members of the department informally as an initiative to increase our theoretical and practical expertise as well as collaboration as medical educators. Participation in the program will be voluntary in accordance with this principle of adult learning theory.

The intended learning outcomes are defined as follows:

1. The participant will be able to explain the concepts of teaching perspective, approaches to learning, constructivist learning theory and constructive alignment.
2. The participant will become a more reflective teacher.
3. The participant will begin designing more learner-focused approaches to teaching and learning.
4. The participant will engage in ongoing learning with his or her peers.

The learning strategies were selected to provide the participants with resources to lead to a better understanding of the concepts of constructivist learning theory and the importance of a learner-focused approach to teaching that leads to deep learning. A learner-focused approach to teaching is thus both a core concept but also a basis for the learning strategies to be used in the program. There is an inherent contradiction in designing a learner-focused curriculum. For a course to be truly learner-focused, learners must be free to identify their own learning needs and pursue their own goals. Yet I have selected key topics based on what I consider to be important in developing a conception of teaching. This is a difficult tension to reconcile. My rationale in making these choices is based on the previously stated idea that for these teachers, self-direction in the area of education requires some initial guidance. It was also important to identify a domain of interest and provide an initial structure on which to base the development of a community of practice.

My approach has been to build a curriculum that sets a basic formula for each session including assigned preparation, a plan for the session itself and follow-up homework. The learning strategies that make up the preparation, session activities and homework were chosen to

provide opportunities for reflection, discourse and experiential learning. There were also opportunities for self-directed learning and community building through collaboration and peer support.

Session 1: Teaching Perspectives

In the first session of the program the groundwork for transformational learning will be laid. This session will introduce the concept of teaching perspectives.

In preparing for the sessions, participants will complete an on-line tool the Teaching Perspectives Inventory (TPI) to identify their own teaching perspective. The TPI was chosen for several reasons. Firstly, it directly relates to issues of knowledge transmission versus conceptual change, which is the focus of transformation that I have defined. Secondly, it is accessible and convenient such that participants can complete the tool and receive their analysis prior to the first session. Thirdly, it relates to the assigned reading. Completing the tool will stimulate the participants to think about their own teaching practices and prompt their consideration of specific aspects of teaching and learning.

Participants will then complete their first entry in a reflective journal. This will be guided by a series of questions about their own experience and understanding of teaching and learning to stimulate both content and process reflection. The exercise will provide the opportunity to articulate their own beliefs and assumptions leading to insights into their own frame of reference and how it has influenced their teaching perspective. The act of reflection may in itself present a disorienting dilemma as participants may find it challenging to articulate their understanding of an unfamiliar topic.

The final component of the preparation will be a reading on teaching perspectives in medicine. This reading from the medical education literature may be an introduction for some to

this body of literature. Completion of the reading may contribute to further disorientation as they see where their teaching perspective may not fit with their intentions for their students.

During session one, participants will participate in discourse, having an opportunity to share their own experiences of the TPI, see what others found and be able to discuss their concepts of teaching and learning as considered in their reflections, and discuss the article. The remainder of the session will be to discuss and agree on ground rules for the rest of the program: meeting times, location, if and how to share reflection activities. Finally, there will be a brief introduction to The Developmental Perspective, the topic for Session Two.

Homework for the session will be reflection on teaching and learning. In this reflection, emphasis will be on identifying their assumptions about teaching and learning and moving into premise reflection, considering their motivation to pursue this educational venture. Participants will be encouraged to share these reflections and allow others to assist in identifying their assumptions.

Session Two: The Developmental Perspective.

Transformational learning requires an alternative point of view and this session presents an alternative view of teaching and learning for participants to explore together.

Participants will prepare for the session by reading a book chapter from the educational literature. This chapter further elaborates on the Developmental Perspective which was one of the perspectives identified by the TPI and mentioned in the article as it relates to medical education. The chapter provides explanations of educational theories such as constructivism, which informs the understanding of the relationship between teaching and learning from the Developmental perspective, considers the importance of time, context, extrinsic and intrinsic motivation for learning, and learner autonomy as a goal of teaching. It offers some reflective questions teachers

can consider with regards to a learning event and offers some advice about teaching techniques and behaviors that stem from this perspective. The chapter is written in language that is very accessible to a newcomer to the education literature.

During the session, participants will discuss the assumptions about teaching and learning that were identified in the reflective activities of session one. Discussion will focus on members of the group critically questioning their own assumptions and those of others in the group. Then concepts from the article will be discussed, considering them as they relate to medical education. Finally, in pairs they will consider an aspect of their teaching and discuss how these concepts can be used to improve their current lesson plans. This last activity will contribute to the relationship building within the community and begin the process of collaboration in developing educational practices.

Homework will provide experiential learning as they more formally prepare lesson plans discussed during the session. Participants will be asked to discuss their plans with another participant or colleague prior to the next session. An emotional component will be added to the reflection as they are asked to consider their own responses to changes in their teaching - how they feel about trying these practices which reflect a different perspective and the challenges they anticipate in carrying out the lesson plan.

Session Three: Approaches to Learning and Constructive alignment.

During this session, a second aspect of an alternative view of teaching and learning will be the focus, the difference between surface and deep approaches to learning. Participants will think about intended learning outcomes, how the learning activities that we choose can lead to these learning outcomes and finally how we can design assessment that meaningfully identifies whether our learners have achieved the learning outcomes that we intend.

Preparation for the session will consist of reading an article by Biggs (1989), which elaborates on the concepts introduced in the reading of the previous week. This article is more academic in tone but provides the reader with the psychological evidence that underpins the constructivist theory of learning. It is anticipated that this group who are accustomed to using evidence to guide their clinical practice, will gain better appreciation of these new views of teaching and learning. Participants will also be provided with a new type of resource, a short video series on constructive alignment and the SOLO taxonomy, which demonstrates a practical application of the theory. Presenting a framework for learning such as SOLO is helpful as consideration of any framework helps educators to better articulate their own conceptions of teaching and learning (Fostaty-Young, 2012).

During session three, participants will continue to participate in discourse, discussing the article and videos and considering how they relate to their current teaching and how they relate to the ideas introduced by previous readings. They will discuss in pairs how they can further refine their new lesson plans with these ideas. Participants will then be asked to commit to implementing this new lesson plan in their small group teaching before the next session.

Further opportunities for experiential learning and reflection will be provided by the homework which will be to carry out the new lesson plan. They will be asked to reflect upon the process – the preparation and delivery, what went well and what did not and their emotional responses to the experience. They will also be asked to reflect on what new questions are emerging as a result of this teaching experience. This identification of their own learning needs will serve as one of the introductory steps to self-directed learning.

Session 4: Reflection.

The practice of reflection will be examined in this session. One of the goals of this program is for participants to realize the power of reflection in their own development.

Throughout the program, participants will have been required to complete a reflective journal.

The sharing of the journals up to this point will have been a point of negotiation amongst the participants. In this session, they will have an opportunity to reflect on reflection while learning more about it.

Preparation for the session will include a self-assessment of reflection. Participants will select one or two of their previous entries to their reflective journals and assess these using the ICE approach. The three levels of ICE – Ideas, Connections and Extension represent different levels of learning. *Ideas* are the basic building blocks of understanding or content. A higher level of learning demonstrates *Connections*; these can include the connections that the learner makes between different content areas and the connections made to the learner's own experience and understanding. Progressing to the next level, the learner begins to create *Extensions* by applying the acquired learning in new ways or asking questions that require manipulation of this new knowledge. Applying the ICE approach to reflection about teaching and learning, could allow participants, as an example, to document new concepts of teaching and learning; they could process these so that they have a new understanding of their own perspective; and they can then consider how they might use this new understanding for their own growth and for that of their learners. Introduction of the ICE approach will serve the dual role of providing a model which can be used by participants to self-assess while introducing another type of framework to assist in the development of a teaching perspective. They will be asked to then read two articles on reflection in medical education, one a review article on the use of reflection from the medical literature and the other a 'how-to' guide to increasing the use of reflection by learners.

During the session, participants will be asked to share their reflections and then discuss how the readings affected their views on reflection as a personal learning tool. In the second portion of the session, participants will be asked to discuss what other topics are of interest to them and together select a topic and learning activities for the next session.

Homework will be a reflection on reflection considering how they viewed reflection prior to the program and what their experience has been during the programme. They will also be asked to write on reflection as a tool for their own learners considering how to further residency education with the use of reflection.

Session 5: Self-directed learning

For this session, participants will use the education literature to answer the question raised in the reflection from Session 3.

Preparation for the session will be to read one article on teaching and learning. Consistent with adult learning theory, it should be chosen based on a question that was raised by the participant's own experience in teaching allowing them to select their own learning goals and choose their learning resources. Depending on their readiness to explore the literature, the article can be found through discussion of their question with a teaching and learning expert from the medical school or university, a colleague, or their own search of the literature.

The session will be an exercise in further community-building as participants discuss their experience implementing new teaching methods, sharing what went well and what did not. After four sessions of practice in sharing in a supportive atmosphere, there should be enough trust built up in the group to allow disclosure of failure and it will be identified ahead that complete success on the first attempt is not to be expected. Further collaboration will occur during the

second portion of the session where participants present the questions about teaching and learning that they had explored and what they learned from the literature.

Homework will be to revise their teaching sessions based on what they learned themselves or from others.

Session 6: Participants' choice.

This session will serve to inform the group on another aspect of education based on their collective interest. Having the participants negotiate the topic will contribute to the building of the communities of practice.

Subsequent sessions:

It is intended that throughout this program, the identities of the participants has transitioned from member of a clinical department with teaching responsibilities to members of a community of practice with medical education as an important focus. Thus it is hoped that ongoing sessions will occur allowing continued development and collaboration around education. As members gain confidence in their new perspectives, and have successes with their new approaches to teaching, perhaps others outside the group will be interested in joining the community.

Chapter 4

Program Evaluation

I have described an educational challenge in which a change in teaching perspective from teacher-focused to learner-focused has not occurred despite previous initiatives in faculty development. Although, the evidence that this is possible is not robust, this is not to be interpreted as evidence of a lack of efficacy for faculty development. It does show though, that the appropriate efforts have not been made to fully demonstrate whether faculty development is effective in achieving this goal. It is notable that for at least one prestigious medical journal, part of the reviewers' decision for publication of any educational initiative includes a consideration of whether evaluation was planned prior to implementation (Abbasi, 1999).

This chapter is a summary of the evaluation design for the program described in Chapter 3. The evaluation was planned based on an algorithm from Patton (Patton, 2008, p.568-569) which recommended the following steps: consideration of the stakeholders and determination of the boundary of the evaluation; consideration of the primary purpose and intended uses of the evaluation which involved making explicit the goals of the program; prioritizing the evaluation issues; identifying evaluation questions and enabling questions to inform them; choosing methodology for data collection and analysis; and finally a consideration of potential findings and how they might be used. Throughout this chapter, reference to the Joint Committee on Standards for Educational Evaluation (Yarbrough, Shulha, Hopson & Carruthers, 2011) will be made in italics. (*EI, Evaluation Documentation*).

I spent considerable time deliberating and exploring developmental evaluation for this program. However, using Patton as my guide, I chose a traditional program evaluation. First I looked at the contrasts between traditional evaluations and complexity-sensitive developmental evaluation (Patton, 2011, p. 23). I had identified that previous attempts at faculty development had been ineffective in changing teaching perspectives and gone to the literature to guide the solution. My intervention was well-conceptualized and anchored in the literature on transformative learning. The goal is known and the outcomes measureable. Thus, this program appeared to be taking place within a stable situation with a clear purpose. Going further, looking at the degree of uncertainty/degree of conflict matrix presented by Patton, (Patton, 2011, p.87), I judged that the situation falls into the area of the simple space: although there is not complete certainty that the program curriculum will lead to transformation of learning, there is enough support in the literature to give me confidence that the program can succeed; and given the voluntary nature of the program, the participants will likely be close to agreement about the intervention. One aspect of developmental evaluation, real-time feedback, could be applied throughout the program. The distinction here is between program development and program improvement. The feedback obtained through group discussion and interaction will serve as a means of program improvement rather than program development, at least until the completion of Session 5 of the curriculum.

The program itself has been described in Chapter 3. The historical and contextual factors were detailed in Chapter 1. (*A4 Explicit Program and Context Descriptions*)
Stakeholders (*U2 Attention to Stakeholders*)

The Stakeholders Map (Appendix C) depicts the relationship amongst the various stakeholders that potential have an interest in the results of the program evaluation. These comprise the participants in the program, including myself; the other members of the department who teach along side the participants; the department head who is also a teacher but who has a greater interest in the academic productivity of the department than the other department members; myself as a participant and facilitator of the program; the School of Medicine undergraduate and post-graduate programs who are responsible for maintaining accreditation standards and have an interest in student performance and achievement; and the learners, that is, the residents and medical students taught by all members of the department. Additional stakeholders can be considered: the RCPSC which provides professional certification to graduates of our post-graduate program and ultimately, the public who will be served by these learners when they become practicing specialists. These additional stakeholders who have a less direct interest are not included in the map. I will be the primary intended user of the proposed evaluation.

Kingston General Hospital is not really an evaluation stakeholder but is a point of tension to the stakeholders as its primarily clinical agenda can pull both residents and attending staff from their educational role. Another point of potential stakeholder tension are the learners, in particular, the residents who may require a period of adjustment before embracing a learner-focused approach to their teaching. This approach does require a considerable increase in effort on the part of the learner.

Program Logic Model

This logic model (Appendix D) demonstrates how the planned curriculum incorporating elements of transformative learning theory and adult learning theory will lead ultimately to a change in the participants' frame of reference regarding teaching and learning and the goal of improved student learning. In addition to the impacts stated above, attention was given to inputs, activities, and intended learning outcomes. Although it can be argued that some elements within a column can interact with each other, the model is still a predominantly traditional linear logic model.

Evaluation Purpose, Goals and Questions (*U4 Explicit Values*)

As recommended by Patton (2008), the first step in determining the purpose of the evaluation is to make explicit or in this case articulate for evaluation purposes, the goals of the program.

The goals of the program were two-fold: first, to effect a transformation in teaching perspective amongst participants; and second, to develop the basis for a community of practice that will continue beyond the planned curriculum. I sought to design an evaluation that would serve both of these purposes however started by considering each separately.

Primary goal: transformation of teaching perspective.

Medical education experts (Hutchinson, 1999; Steinert et al., 2006) have recommended using a model devised by Kirkpatrick which has been described in Chapter 2. Although originally developed for training programs (Kirkpatrick, 1996), the model has been adapted for use in higher education and is widely used for this purpose

(Praslova, 2010). This framework is ideal for this initiative because it allows for both formative and summative use. As identified by Patton (2008), the distinction between formative and summative evaluation depends on the intended use. As the literature lacks evidence of efficacy in educational initiatives, a summative evaluation with a focus on outcomes is required for this primary goal. This will allow for dissemination of the findings. Thus the primary evaluation question is, ‘Is there evidence of a transformation of teaching perspective amongst participants?’ Using Kirkpatrick’s model to qualify the learning leading to this change of perspective, the following enabling questions were chosen:

- 1) To what extent were the learning outcomes achieved, including a demonstrable change in teaching perspective? (Kirkpatrick’s Level 2)
- 2) To what extent has there been a change in behaviour that demonstrates a change in perspective? (Kirkpatrick’s Level 3)

Kirkpatrick recommends attention to all four levels of evidence (Kirkpatrick, 1996). Levels 2 and 3 were chosen for the summative portion of this evaluation.

Objective evidence for Level 3 beyond self-reports will be sought. Given the identified need for Level 4 evidence, that is a change in student learning, consideration was given as to how to find this. The difficulty in evaluating at this level is found in the lack of connectivity between these teachers and formal assessment of student learning.

Additionally, because of the multiple influences on student learning including the effects of different teachers, and different venues for learning, attributing a change in student learning to this program would be problematic.

As it is hoped that the participation in the learning activities will continue beyond the planned curriculum, formative evaluation will be useful to assist in improving the program. Level 1 evidence, participant reaction, is desirable as it demonstrates participants' interest in learning (Kirkpatrick, 1996) and encourages ongoing involvement by participants and increased participation by others (Steinert et al, 2006). Enabling questions for this purpose are:

- 3) To what extent did participants value the program? (Kirkpatrick's Level 1)
- 4) What were the strengths and weaknesses of the program? (Kirkpatrick's Level 1)
- 5) Which aspects of the program did participants find most helpful to their learning? (Kirkpatrick's Level 1)

Secondary goal: Development of a community of practice.

As the outcome for the second program goal is again well-defined, the linear logic model will be followed as for the first program goal. The second evaluation question is 'Is there evidence that a community of practice has developed?' Again, given the hope that the program will continue, this question serves a formative purpose. The enabling question for this evaluation question is:

- 6) To what extent are the indicators of a functioning community of practice present? (Kirkpatrick's level 3)

After completion of the proposed curriculum, there may emerge a role for developmental evaluation. At that point, the learning goals for the future may be

undefined. Adoption of a reflective practice process as a form of developmental evaluation may be a way to strengthen the community of practice. I will leave this for future consideration, perhaps even as a topic of our continued faculty development.

Methodology and Data Collection (Appendix E)

Given the evaluation purposes, the data needs to be collected from the program participants and their learners. (*U2 Attention to stakeholders*). Kirkpatrick (1996) recommends that to demonstrate attribution of the outcomes to a program, a control group is desirable. Some data from non-participant members of the department will also be collected. Data collection will be done by the following methods:

1. Submission of results of the TPI by participants and non-participant department members to answer enabling question # 1.

This would involve completion of the TPI as part of the Session 1 preparation and again after completion of Session 6. Non-Participant department members will also be asked to complete the TPI twice during the same time frame.

2. Participant surveys to answer enabling questions # 1, 2, 3, 4, 5, 6.

Participants would be asked to complete an online survey about their conceptions of teaching and learning, the change in their teaching practices, their views about the program and the degree of collaboration with their colleagues. They would be asked to provide a description of their teaching practices.

3. Participant interviews to answer enabling questions #1, 2, 3, 4, 5, 6.

Participants would be interviewed about their conceptions of teaching and learning, the change in their teaching practices, their views about the program and the degree of collaboration with their colleagues.

4. Document review – reflective journal submissions to answer enabling question #1, 3, 5.

Participants will be asked to submit copies of their reflective journal entries. These will be analyzed for evidence of a change in teaching perspective, evidence of effectiveness of program and indicators of a community of practice.

5. Document review – submission of teaching evaluations to answer enabling question #2.
6. Interviews with the residents to answer enabling question # 2.
7. Document review – peer assessment of teaching (rubric to be developed) to answer enabling question # 2.
8. Follow-up surveys and TPI to be completed 6 months after completion of Session 6 to answer enabling questions # 1, 2, 3, 6.

For an evaluation to provide useful judgments and recommendations, the design must ensure that there are appropriate resources to collect and analyze the data (*F2 Practical Procedures*). The collection of data will depend on participants' willingness to complete the survey, participate in an interview and submit journal materials and

teaching evaluations. I do not anticipate the time involved in this to present any difficulty either for the participants or the evaluator. Anticipating a small number of participants, data analysis should not require an inordinate amount of time. (*F4 Resource Use*)

There may be hesitancy in submitting journal and teaching evaluations because of concerns about privacy. This will be a point of discussion and if necessary, identifying numbers can be used instead of names for submitted materials.

In order to obtain data that is accurate, I hope to enlist the help of a colleague or perhaps a graduate student outside of the department with an interest in program evaluation to conduct the interviews. This will allow the participants to answer questions freely without fear of offending me as the facilitator of the program. I would also ask that individual to assist in data analysis which will allow data analysis free from bias. (*F3 Contextual Viability, P3 Human Rights and Respect, P6 Conflicts of Interest, U1 Evaluator Credibility, A2 Valid Information, A3 Reliable Information, A8 Communication and Reporting*)

Data analysis (*A1 Justified Conclusions*)

To answer the primary evaluation question regarding evidence of transformation of teaching perspective there will be both qualitative and quantitative data. Qualitative data will consist of submitted journal reflections, participant surveys and transcripts of interviews of participants and residents. Thematic analysis of the data will be done to identify evidence of teaching perspectives. A comparison between the early reflections regarding teaching and learning and the later reflections and interviews will be done.

Limited quantitative data will also be available to answer this question. These will be in the forms of the TPI. Comparison between the TPI completed by participants before and after the curriculum will be done. Comparison of non-participants will also be done in order to determine if any change in perspective can be attributed to the program. Participants will be asked to submit teaching evaluations and quantitative analysis of these will also be done. It is recognized that it may be difficult to demonstrate a statistically significant difference for any of these comparisons due to the small number of participants (five to six) anticipated.

For the second evaluation question, indicators of a community of practice, qualitative analysis of surveys and interviews will be done looking for the indicators listed by Wenger (1998).

Judgments and Recommendations

Although recommendations cannot be made without data, it is possible at this time to consider potential findings and how they might be used to. Regarding the primary evaluation question, that is, evidence of transformation of teaching perspective amongst participants, if this is found to exist, then this will be information that should be contributed to the educational literature through publication in a medical education journal. Use of the information from the formative portion of the evaluation, that is, which aspects of the program contributed to this transformation will also be valuable information worth disseminating.

Information from the formative portion of the evaluation will be helpful in the ongoing development of the community of practice, allowing us to focus and refine our domain, strengthen the bonds of the community and improve our educational practice.

Chapter 5

Conclusion

In this project, I have presented a faculty development challenge that I was inspired to address because of my personal development as an educator. Throughout the process I have been guided by a postcard that is placed on the bulletin board beside my desk that is a daily reminder of my commitment to improving medical education.

To address this challenge I have adopted the frameworks of transformative learning theory and communities of practice and applied these to the development of a faculty development program that has a learner-focused approach to teaching and learning as both a content element and a basis for the learning strategies employed. During the course of the program, interactions of the participants will contribute to community building and a shared expertise as medical educators.

This project is intended first, to satisfy the need I have to extend my own graduate learning in ways that might also benefit other medical educators. The description of theories guiding the development of this professional learning program has served to ground the proposed learning program and provide a rationale for decisions about the program's structure and learning strategies. The inclusion of an evaluation design is a purposeful statement about the importance of evidence-informed decision making in both implementing and assessing the value of the program once it has been established. Finally, it is hoped that this work might contribute to the broader discussion about transforming the quality and outcomes of medical education.

Appendix A

The Curriculum

This is a faculty development initiative designed with two goals. The first is for participants to develop a more learner-focused understanding of teaching and learning. The second is for the members of the group to develop a community of practice around their role as educators.

The intended learning outcomes are defined as follows:

1. The participant will be able to explain the concepts of teaching perspective, approaches to learning, constructivist learning theory and constructive alignment.
2. The participant will become a more reflective teacher.
3. The participant will begin designing more learner-focused approaches to teaching and learning.
4. The participant will engage in ongoing learning with his or her peers.

Session 1) Teaching Perspectives

Preparation:

Online completion of the TPI with a focus on small group teaching of clerks and residents

Guided journal reflection on teaching a learning and learning

Reading: Pratt, D.D., Arseneau, R., & Collins, J.B. (2001). Reconsidering 'Good Teaching' Across the Continuum of Medical Education. *The Journal of Continuing Education in the Health Professions*, 21, 70-81.

Session:

- Group discussion of the TPI results
- Discussion of reflections
- Review of the article
- Introduction to the the Developmental Perspective
- Set parameters for rest of the program

Homework:

- Reflection on teaching and learning – identifying and questioning of assumptions

Session 2) **The Developmental Perspective**

Preparation:

- Reading: Arseneau, R. & Rodenburg, D. (1998). The Developmental Perspective: Cultivating ways of Thinking. In D. Pratt, (Ed.), *Five Perspectives on Teaching in Adult and Higher Education*.

Session:

- Discussion of reflection – assumptions about teaching and learning
- Discussion of the article
- Pair discussion – incorporation of above into the small group teaching

Homework:

- Develop lesson plan using the above ideas
- Share this with a colleague
- Reflection on the above, emotional aspects, whether it is valuable, anticipated challenges

Session 3) **Constructive alignment**

Preparation:

Reading: Biggs, J.B. (1989) Approaches to the Enhancement of Tertiary Teaching.
Higher Education Research & Development

Video: Teaching teaching and understanding understanding. Constructive alignment and SOLO taxonomy.

<https://www.youtube.com/watch?v=AuCG0kdj5DQ&list=PL276AD092AA018A8A>

Session:

Discussion of Biggs article, review ideas from Arseneau and Rodenburg

Pair discussion - Further development of lesson plan

Commitment from group members to try it out

Homework:

Further development of lesson plan using the above ideas

Implement the teaching in a small group session.

Reflection on how it went. Ask a question about what to do now?

Session 4) **Reflection**

Preparation:

Readings:

Mann, K., Gordon, J., MacLeod, A. (2009). Reflection and reflective practice in health professions education: a systematic review. *Advances in Health Sciences Education* 14. (pp 595-621).

Aronson, L. (2011). Twelve tips for teaching reflection at all levels of medical education. *Medical Teacher* 33 (pp 200-205).

Self-assessment of previous entries into reflective journal using ICE approach

Session:

Discussion of reflection as a personal learning tool and its use as an educational tool

Homework:

Reflection on reflection as a personal learning tool

Develop idea of how to incorporate reflection into residency education

Session 5) **Self-Directed Learning**

Preparation:

Reading: One article on teaching and learning – participant to select article based on need identified in reflection from Session 3.

Reflection on teaching experience

Session:

Discussion of how the teaching went
Encourage discussion/advice amongst participants.

Discussion of chosen article and how it helped with question

Selection of topic for last session

Homework:

Revise lesson plan based on reflection and discussion.

Session 6: **to be determined by group**

Appendix B Concept Map

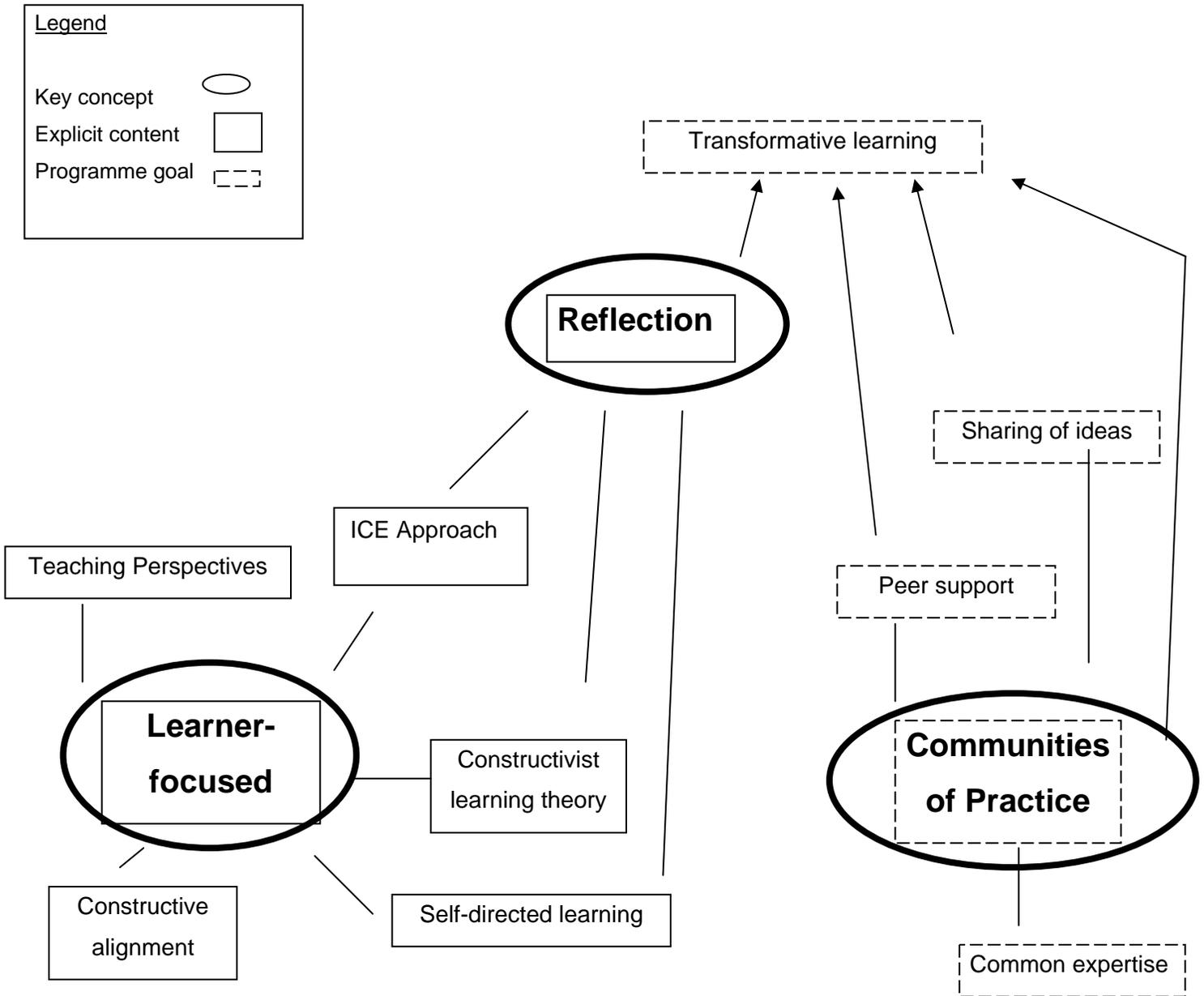


Figure 1: Concept Map

Appendix C

Stakeholders Map

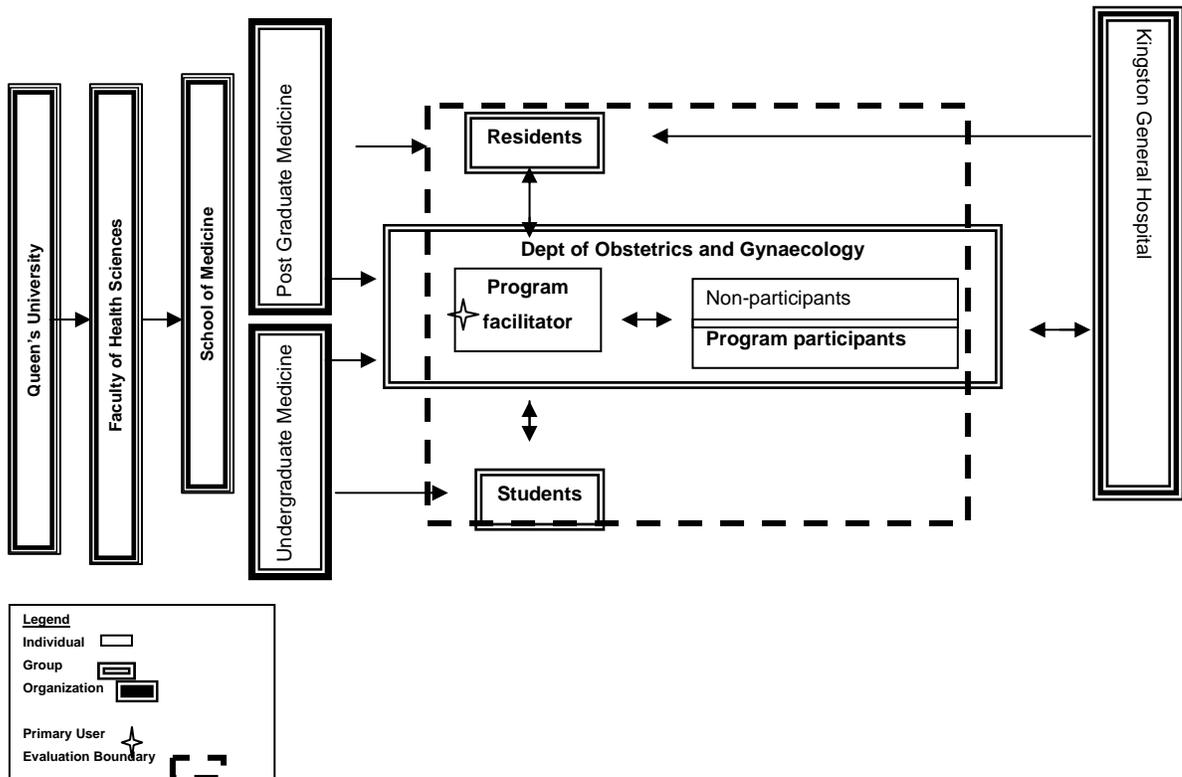


Figure 2: Stakeholders Map

Appendix D

Program Logic Model

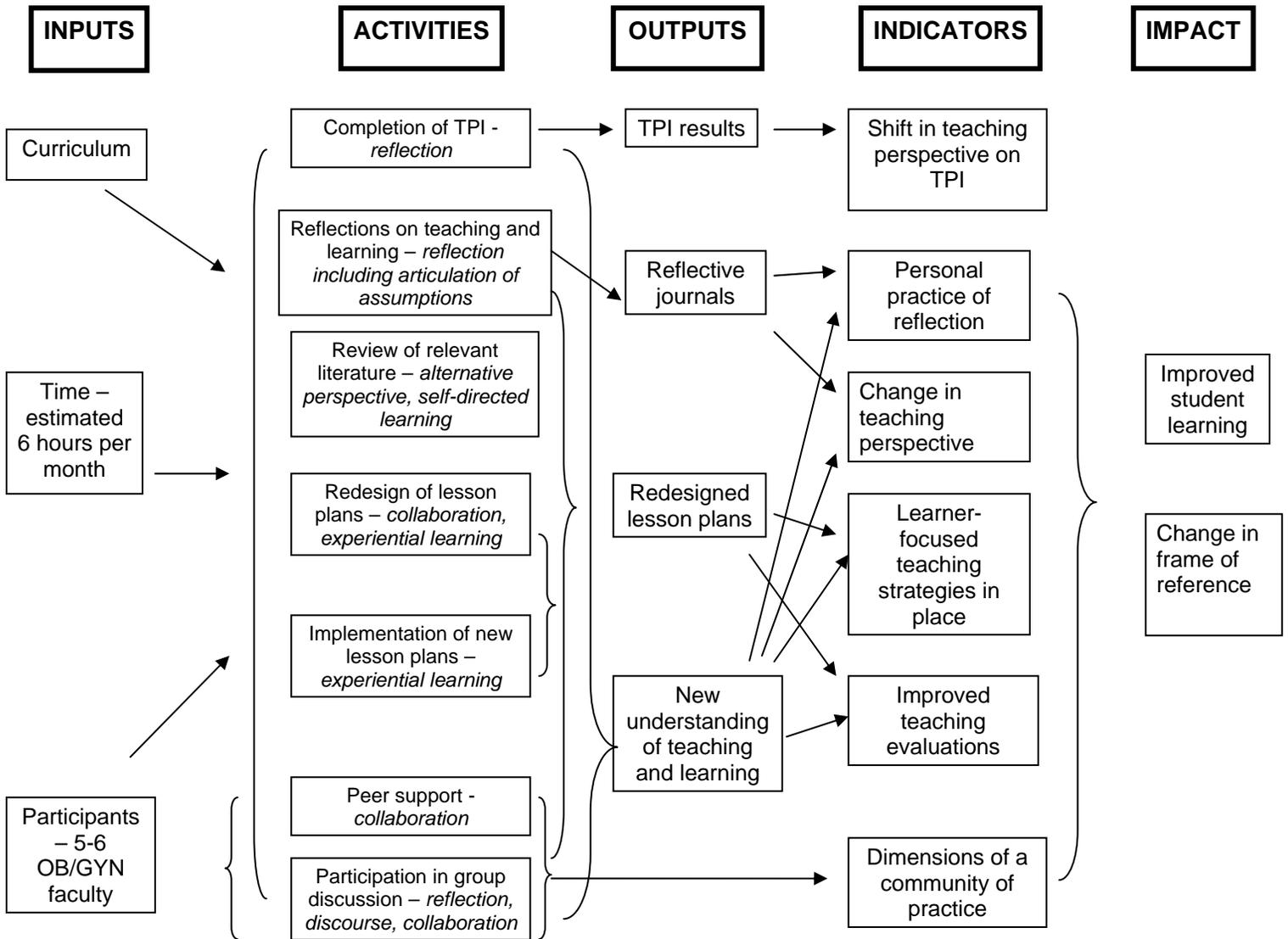


Figure 3: Program Logic Model

Appendix E

Program Evaluation Table

| Evaluation Question 1: Is there evidence of a transformation of teaching perspective amongst participants? | | | |
|--|--|---|---|
| Enabling Questions | Instrumentation | Data collection | Analysis |
| Q1: To what extent were the learning outcomes achieved, including a demonstrable change in perspective? | a. Participant surveys b. Participant interviews c. TPI d. Document review - reflective journal submissions | - surveys, interviews at completion of session 6; repeat survey at 6 months - TPI from participants and non-participants at beginning, after session 6 and at 6 months | Thematic analysis for 1 a, b, d Quantitative analysis for 1c |
| Q2: To what extent has there been a change in behaviour that demonstrates a change in perspective? | a. Participant survey b. Peer assessment of teaching c. Teaching evaluations d. Resident interviews | - surveys, interviews at completion of session 6; repeat survey at 6 months - peer assessment and teaching evaluations at 6 months - resident interviews at 6 months | Thematic analysis for 2a, c, d Quantitative analysis for 2b, c |
| Q3: To what extent did participants value the program? | a. Participant survey b. Participant interviews | - surveys, interviews at completion of session 6 | Thematic analysis for 3a, b |
| Q4: What were the strengths and weaknesses of the program? | a. Participant survey b. Participant interviews | - surveys, interviews at completion of session 6 | Thematic analysis for 4a, b |
| Q5: Which aspects of the programme did participants find most helpful to their learning? | a. Participant surveys b. Participant interviews c. Document review – reflective journal submissions | - surveys, interviews, document review at completion of session 6 | Thematic analysis for 5a, b, c |
| Evaluation Question 2: Is there evidence that a community of practice has developed? | | | |
| Enabling Question | Instrumentation | Data collection | Analysis |
| Q6: Are the indicators of a community of practice present? | a. Participant surveys b. Participant interviews | - surveys, interviews at completion of session 6 and at 6 months | Thematic analysis for 6a, b |

Table 1: Program Evaluation Table

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