## Running head: THE SCHOLARSHIP OF TEACHING IN MEDICAL FACULTY

Factors Influencing the Scholarship of Teaching and Learning

at McGill's Faculty of Medicine

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April 2013

A thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Master of Arts in Educational Psychology

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### Acknowledgements

I am most thankful to Dr. Yvonne Steinert, Director of the Centre for Medical Education, McGill University for giving me the opportunity to present the research proposal of this study at the Centre for Medical Education for peer feedback. My deepest thanks extend to the Centre members for giving their time so generously, for their enlightening remarks and for participating at the focus group.

I would also like to thank Deanna Radford, the former Administrative Coordinator at the Centre for Medical Education for the technical help she offered me with the online survey, and for all the correspondences she forwarded on my behalf. My thanks also extend to Dr. Rafik Tadros for helping with the French translation of the abstract.

I am very grateful to my colleague May Bader for her help with coding of the data, for the feedback she has given me, and for giving her time so generously.

My deepest appreciation and gratitude go to my supervisors Dr. Alenoush Saroyan and Dr. Linda Snell. I would like to thank them for their continuous support and scaffolding, for their constructive feedback and sound advice, for their never-failing patience, and for their constant encouragement.

Last, but not least, I would like to thank all faculty members who took the time to answer my survey. Without them this study would not have been possible.

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### Abstract

In recognition of the importance of the scholarship of teaching and learning (SoTL) in health professions education, faculties of medicine have taken a number of steps. These include acknowledging SoTL in promotion and tenure policies and implementing programs or workshops to encourage faculty to engage in educational research. Despite this, medical faculty members remain typically uninvolved in the SoTL. The aim of this study was to explore perceptions of McGill medical faculty about the SoTL and its value, and to identify perceived factors that enable and/or prevent them from engaging in the SoTL. A mixedmethods research design was used. A focus group and a web-based questionnaire were used as data sources. Study sample comprised medical faculty with known interest in medical education or who engaged in educational leadership. Ten participants attended the focus group; 54 completed surveys. Study results show that most respondents rate educational research equal in value to research in other areas. However, less than one third of respondents thought their institution rates it as highly as their clinical discipline research. Forty-one percent of respondents engaged in the SoTL. There was a positive significant correlation between academic rank and the number of SoTL publications. Main barriers identified in engaging in the SoTL were: lack of time, unfamiliarity with educational research methodology, and lack of funding. Factors perceived to promote engagement in SoTL were: career satisfaction, protected time, institutional acknowledgement, recognition in promotion and tenure decisions, educational research workshops, funding availability, faculty development workshops on teaching, mentors, awards, and supportive team members.

Strategies to address the barriers identified, including a more extensive outreach policy to promote the SoTL, are discussed.

### Résumé

Afin de reconnaître l'importance de scholarship of teaching and learning  $(SoTL)^{1}$  dans l'éducation des professions de santé, les facultés de médecine ont pris un certain nombre de mesures. Il s'agit notamment de la reconnaissance de SoTL dans les politiques de promotions universitaires, de même que l'encouragement des professeurs à s'engager dans la recherche en éducation. Malgré cela, les membres du corps professoral des facultés de médecine ne sont généralement pas impliqués dans SoTL. Le but de cette étude était d'explorer les perceptions de SoTL et sa valeur chez les membres de la Faculté de Médecine de McGill, et d'identifier les facteurs qui leur permettent et / ou leur empêchent de s'engager dans ce domaine. Un plan de recherche à méthodes mixtes a été utilisé. Un groupe de discussion et un questionnaire en ligne ont été utilisés comme sources de données. L'échantillon de l'étude était constitué de membres de la Faculté de Médecine avec un intérêt dans l'éducation médicale ou engagés dans le leadership en éducation. Dix participants ont participé au groupe de discussion et 54 questionnaires ont été remplis. Les résultats de l'étude montrent que la majorité des répondants évalue la recherche éducative de façon égale à la recherche dans d'autres domaines. Cependant, moins d'un tiers des personnes interrogées pensaient que leur institution l'évalue aussi fortement que la recherche dans les disciplines cliniques. Quarante et un pourcent des répondants s'engagent dans SoTL. Il y avait une corrélation positive significative entre le rang

<sup>&</sup>lt;sup>1</sup> Le terme "scholarship of teaching and learning (SoTL) " est utilisé aussi bien en anglais qu'en français.

professoral et le nombre de publications liées à SoTL. Les obstacles identifiés dans l'engagement dans SoTL sont le manque de temps, le manque de familiarité avec la méthodologie de la recherche en éducation, et le manque de financement. Les facteurs favorisant l'engagement dans ce domaine sont: la satisfaction professionnelle, le temps protégé, la reconnaissance institutionnelle, la reconnaissance dans les décisions de promotion, les ateliers de recherche pédagogique, la disponibilité du financement, les ateliers de perfectionnement des professeurs sur l'enseignement, les mentors, les prix et le soutien des membres de l'équipe.

Des mesures pour surmonter les obstacles identifiés, y compris des stratégies du contact direct pour promouvoir la SoTL, sont discutées.

### **Contribution of Authors**

I developed the research questions for the present thesis in collaboration with my supervisors Dr. Alenoush Saroyan and Dr. Linda Snell, collected data, conducted data analysis and prepared drafts of various sections of my thesis. Both my supervisors guided me through the steps of writing the research proposal and refined my research design. They provided feedback and suggestions for revising the draft to make the text clearer and the write up of the document more coherent.

Dr. Snell helped me in conducting the focus group by taking notes and facilitated the recruitment of participants. Dr. Saroyan provided feedback and direction on the selection of the literature on the scholarship of teaching and learning.

Both my supervisors gave me input on the questionnaire that I developed and on the focus group questions. I conducted all the statistical and thematic analysis of data. Dr. Saroyan provided valuable feedback regarding the process of checking the reliability of the results; helped me to understand the process of conducting a check for inter-rater agreement; and advised me to conduct further statistical tests.

An abstract for a poster presentation based on this thesis was accepted at the 2<sup>nd</sup> International Conference on Faculty Development in the Health Professions. Dr. Snell and Dr. Saroyan reviewed the abstract multiple times and provided suggestions for editorial changes.

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When Boyer (1990) published his book entitled *Scholarship Reconsidered: Priorities of the Professoriate*, he stirred still water because he introduced an expanded interpretation of *scholarship*. He introduced *the scholarship of teaching*, in addition to the scholarship of discovery, the scholarship of integration, and the scholarship of application. Though at that time Boyer didn't provide a precise definition of the term, he wanted to stress the value and the importance of effective teaching. He wanted that research-intensive institutes in particular acknowledge that there is scholarship in teaching "Teaching at its best, means not only transmitting knowledge, but *transforming* and *extending* it as well" (p. 24).

Our present interpretation of the scholarship of teaching (SoT) is that research questions posed in its framework are not only limited to the actual act of teaching but can be applied to the whole instructional cycle, including curriculum design, instructional methods, students' assessment, program evaluation, mentoring and publications related to education (Fincher et al., 2000). Also, like any other type of scholarship, the products of the SoT have to be peer-reviewed, publicized so that they can be used and further developed by other researchers (Hutchings & Shulman,1999). The term *scholarship of teaching* has been recently used interchangeably with the term *scholarship of teaching and learning* (SoTL), as the focus is mainly on the end product that is students' learning (O' Meara & Rice, 2005).

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### **Research Rationale**

One of the core missions of faculties of medicine is to provide excellent teaching to their learners, and to graduate physicians who are competent and possess the necessary skills to provide optimal patient care. In order to achieve this goal, and also to help Faculties meet their accreditation standards, many Faculties of medicine have founded divisions or centres for medical education. Among their objectives is the promotion of the scholarship of teaching. One of the main reasons for promoting the scholarship of teaching can be attributed to the shift towards evidence-based best practice in education (Perry & Smart, 2007; Van Der Vleuten, Dolmans, & Sherpbier, 2000).

Given the importance of the scholarship of teaching in health professions education some Faculties - including the Faculty of Medicine at McGill University - have acknowledged the scholarship of teaching in its promotion and tenure policies. Moreover, McGill has implemented programs and workshops aimed at encouraging faculty members to engage in educational research (Steinert, McLeod, Liben, & Snell, 2008). Despite these initiatives, medical faculty members remain typically uninvolved in scholarly activities related to a scholarship of teaching (Goldszmidt, Zibrowski, & Weston, 2008).

### **Research Objectives**

We therefore wished to study the perceptions of McGill medical faculty members about the scholarship of teaching and learning and its value, and to elicit the factors that enable and/or prevent them from engaging in the scholarship of teaching and learning.

# Significance of the study

The published results of this study may help faculty development committees and educational leaders at McGill and other medical Faculties to develop policies aimed at increasing faculty productivity in the area of the scholarship of teaching and learning.

### **Review of Literature**

### Part One

### An Overview of the Scholarship of Teaching and Learning (SoTL)

In this overview I will start first by discussing the definition of the term Scholarship of Teaching and Learning. Points to be covered include how the term developed and changed over time and how the SoTL relates to other types of scholarship. I will also discuss terminology issues such as the difference between SoTL, scholarly teaching, excellence in teaching, schoolroom research and expertise in the SoTL. This will be followed by a brief review of some of the theories and conceptual frameworks that the SoTL can be seen through, and on the notion of whether it is necessary for faculty members who engage in the SoTL to be guided through their research by a theoretical framework. Finally I will discuss the criteria for assessment of the SoTL.

### **Definition of the SoTL**

When Boyer (1990) introduced the SoTL to academia, he did not provide a specific definition for this term. He did not differentiate clearly between SoTL and excellent teaching, or between SoTL and scholarly teaching. One of the examples he used to highlight the scholarship of teaching described a teacher who observes her own teaching and her students' learning and reflects on it with the aim of improving her teaching. For Boyer the faculty teacher is not just a knowledge transmitter but one who can transform and widen his scope of knowledge through reading, classroom interactions with students, and inquiries and comments posed by students. These types of educators possess, as Boyer pointed out, a "transformational agenda" (Hutchings, 2000, p. 8).

Our current interpretation of the term SoTL is based on Hutchings' (2000) elaboration. What characterizes *the scholarship of teaching* according to Hutchings (2000), is that it is related to one's teaching discipline: that research questions related to it arise as a result of a problem encountered in one's own teaching practice or from an observation made during teaching; and that answering the question has the potential of enhancing students' learning. Research questions of this genre are not restricted to the mere physical act of teaching. They can be posed at every step of the entire instructional cycle. Since the aim of educators engaged in the scholarship of teaching is improving students' learning, key questions would focus on "what works" (p. 4), "what is" (p.4), "opportunities for learning" (p.5), and "formulating a new conceptual framework for shaping thought about practice" (p.5). Additional questions might address how learners develop "in terms of civic responsibility" (Hutchings & Shulman, 1999, p.15). As it the case with research, teaching also needs to be exposed to peer review and be publicized. Once this process is followed, it can be further developed by other researchers (Hutchings & Shulman, 1999).

Kreber and Cranton (2000) looked at the SoTL from three different perspectives: (a) one that regards the visible outcome as an "indicator of scholarship"; (b) one that considers SoTL synonymous to "excellence in teaching"; and (c) one that considers scholarly teaching to be associated with reflection based on past teaching experience or based on theory or other research. "We contend that the scholarship of teaching includes both on-going learning about teaching and the demonstration of teaching knowledge" (p. 478). Notwithstanding, ambiguities surrounding the concept of the SoTL, and how it relates to the other types of scholarship persist.

### Ambiguities Surrounding the Concept of the SoTL

Kreber (2001) conducted a Delphi study to explore academics' opinions about the components of the SoTL and the unresolved points regarding this scholarship. Her main objective was to arrive at a unifying definition; she asserted that "Unless the members of the academy come to agree on a definition, it will be very difficult to promote, demonstrate, assess, and institutionalize the concept in our universities" (p. 1). Her research yielded four statements that had the highest consensus and agreement:

- 1. Faculty participating in the SoTL are interested in examining how students learn.
- While interested in student learning, they are also engaged in learning about teaching and sharing their knowledge with their colleagues, thus participating in the "scholarly community" of their field.
- 3. The SoTL has its own characteristics that overlap with characteristics defining other types of scholarship.
- 4. Classroom research is not the same as SoTL.

### Difference between expertise in teaching and expertise in the SoTL.

Another step for further clarifying the SoTL was taken by Smith (2001) who shed light on the difference between expertise in teaching and expertise in the SoTL. In his opinion, the main distinguishing feature lies in the "content of deliberation" (p.73). The process of developing expertise in teaching is private, aiming mainly at improving one's own teaching practice and strategies, and being able to improve students' learning by knowing common areas of difficulties, how to approach them, what works and what doesn't work. Critical self-reflection, as well as consulting and applying the relevant outputs of the SoTL are important steps towards developing expertise in teaching. To develop expertise in the SoTL however, the scholar must disseminate his work and reflect on the feedback he receives. From the very beginning his or her "content of deliberation" is scholarship itself which involves considering various ways to disseminate his or her innovations and to improve his or her research capacities with the ultimate aim of improving his or her future scholarly products.

**Classroom assessment techniques, classroom research and educational research.** Classroom assessment techniques aim to monitor students' learning and how it relates to the stated learning outcomes and set goals. Classroom research can be a form of the scholarship of teaching if it fulfills the criteria of scholarship. However, its main concern is understanding "the 'why' and 'how' questions about learning" (Cross, 1998, p. 8). Whether classroom research is published or not, it should follow a systematic approach to address its research questions and use appropriate research methods (Cross & Steadman, 1996).

Shulman (1987) defines knowledge sources for teaching comprising "pedagogical knowledge", "content knowledge", and "pedagogical content knowledge". Shulman (1987) defines pedagogical content knowledge as "...the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction" (p.8). Paulsen (2001), in her discussion of research and SoTL, points out that "traditional educational research" (p.23) is the main source of pedagogical knowledge, "traditional disciplinary research" (p.23) is the source of content knowledge, and both contribute to pedagogical content knowledge. Classroom research, if guided by pedagogical and content knowledge, will have an impact on the development of "pedagogical content knowledge" and because of this reason can be considered as an example of the scholarship of teaching.

Hutchings (2000) suggests a bidirectional relationship between educational research and the SoTL. Educational research can be integrated, put to application, and tested in one's own practice and the results of the intervention can be published or disseminated in different ways to peers and thus considered an example for the SoTL. On the other hand, successful products of the SoTL can be explored on a wider scale in other contexts and disciplines, and thus can be considered as a base for educational research.

**Relation of the SoTL to other types of scholarships.** The other types of scholarship identified by Boyer (1990) include (a) the scholarship of discovery, which refers to research in one's speciality; (b) the scholarship of integration, which refers to trans-disciplinary connection of knowledge; and (c) the scholarship of application which historically was equivalent to the service component of the duties of faculty members, but currently refers to transferring theoretical knowledge into practical application (Storch & Gamroth, 2002). Boyer (1990) described the relationship between the different forms of scholarship as follows: "....the work of the professoriate might be thought of as having four separate, yet overlapping, functions. These are the scholarship of

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discovery; the scholarship of integration; the scholarship of application and the scholarship of teaching" (p. 16).

### **Terminology Issues**

The use of the term SoTL is not widespread in academic contexts nor is it understood and interpreted in the same way by all. There remain many terminology issues that need further clarification. Terms that are most commonly used interchangeably with SoTL are educational scholarship, excellence in teaching, and scholarly teaching (Kreber 2001).

Educational scholarship. Shulman (1987) introduced the more general term "educational scholarship" which he considers one of the principle sources for the "teaching knowledge base". It includes "research on schooling, social organizations, human learning, teaching and development, and the other social and cultural phenomena that affect what teachers can do" (p. 8). Research in these areas can be both discipline specific or general.

**Scholarly teaching and excellence in teaching.** So, what is the difference between the scholarship of teaching, excellent teaching and scholarly teaching?

Scholarly teaching involves reviewing the relevant literature in order to implement an intervention that was proven to be effective in enhancing students' learning. It is usually sparked by an observation related to improving teaching and learning. The educator analyzes the results of the intervention and compares the post-intervention results with the baseline he or she started with, and shares the outcome with peers. If the intervention proves successful it is incorporated in the course, the educator stops at this point, while the scholarship of teaching goes further to document the results and disseminate it for peer review (Richlin, 2001). It is a disputed point whether scholarly teaching must involve peer review and overt analysis of post-intervention results. It may be limited to using educational evidence gathered form educational theory and research to enhance, improve, innovate, and address an educational problem (Menges & Weimer, 1996).

What about excellent teaching? The SoTL, as Hutchings and Shulman (1999) point out "... is not synonymous with excellent teaching. It requires a kind of going meta, in which faculty frame and systematically investigate questions related to student learning" (p. 13). Fincher and Work (2006) see excellent teaching as what promotes student learning. They consider its prerequisites to be an excellent grasp of the course content knowledge and pedagogical content knowledge as evidenced by a comprehensive course design, implementing appropriate instructional activities and proper formative and summative assessment of students' learning.

However as Moore (2012) puts it: excellent teaching, or effective teaching, or good teaching are terms "open to (mis)interpretation" (p. 110). It is the way we interpret it, whether in the form of measurable end products as test scores, attainable career choices, or it can also be interpreted depending on the philosophy and learning theories that teachers adopt. It can encompass also areas as teachers' expertise, and should not ignore the context in which education takes place and adapt to it.

### The importance of the SoTL

Scholarship of teaching is a necessity if the objective is to improve the practice of teaching. Changing learning approaches and the necessity to address

the needs of learners who are more diverse now as regards to their age, ethnicity, cultural background, and other demographic attributes underscore the urgency to improve teaching. Scholarship of teaching reflects the "wisdom of practice" (Weimer, 1996, p.6) and as such, it is important to document successful innovations, disseminate them, and elaborate on them (Hutchings and Shulman, 1999). Disseminating new knowledge encourages other scholars to build upon it and thus enriching the knowledge base (Perry and Smart, 2007).

In addition, the SoTL increases the value of teaching, because for decades teaching was regarded as an academic activity that did not possess scholarly potential in contrast to traditional discovery research; teaching was regarded as a mere mean for knowledge transfer (Boyer, 1990).

# Theoretical and Conceptual Framework of the Scholarship of Teaching and Learning

A number of theories and approaches have been used to study the SoTL. Among those are:

- 1. constructivist framework;
- 2. transformative learning theory;
- 3. problem solving theory;
- 4. communities of practice; and
- 5. socio-cultural perspective to the SoTL.

# **Constructivist framework.** Kreber and Cranton (2000) rely on a constructivist framework to study SoTL. At the outset, they outline the three domains faculty members build their SoTL on: (a) "curricular knowledge" which deals with the objectives and goals of the program; (b) "pedagogical knowledge"

or "psychological knowledge" which deals with students' cognition; (c) "instructional knowledge" which deals with course design, instructional strategies and teaching that cause effective students' learning.

In their model (see Figure 1), knowledge about teaching and learning is achieved by reflection on these three domains based on past personal teaching experience, research and theory. Reflection could be one of three types as described by Mezirow (1991): *content, process*, and *premise* reflection. Content reflection explicitly examines and describes the problem identified. Process reflection examines the strategies used to solve the problem. Finally, premise reflection is mainly concerned by the reasons for choosing this particular problem and its underlying beliefs and the validity of these beliefs.



*Figure 1.* Constructivist approach to the SoTL. Adapted from "Exploring the Scholarship of Teaching", by C. Kreber and P.A. Cranton, 2000, *The Journal of Higher Education*, *71*(4), 476-495.

**Transformative learning theory.** According to some authors, the scholarship of teaching can be viewed through Mezirow's (1991) transformative learning theory (Cranton 2011; Kreber 2006). Mezirow (1991) described as mentioned before three types of reflection "content, process, and premise reflection". Through process and premise reflection one starts to question the validity of some assumptions. The reflection exercised here is "critical reflection" and "critical self-reflection" (Mezirow, 1991, p. 87). Mezirow (1981) differentiates the term reflection from critical reflection. He regards reflectivity as being aware of a specific perception (i.e., consciousness), while he considers critical reflectivity as part of critical consciousness. Transformative learning occurs when as a result of such critical reflection changes in perspectives ensue. Cranton (2011) states that transformative learning may occur as a result of premise reflection. Conceptions and beliefs are changed and people's behavior changes accordingly.

Cranton (2011) suggested that the transformative learning theory together with the critical theory can form a joint framework in understanding the SoTL. "Using a transformative learning and critical theory framework to understand the SoTL takes us to an emancipatory perspective in which the assumptions, beliefs, norms and values of the discipline, the institution, the community and the state are directly and critically questioned" (p. 76). The critical theory is mainly a politically oriented theory concerned with conflicts between classes, and it encourages people to challenge established ideologies that maintain class differences. One of its tools to establish change is to inform people; thus knowledge generation and formation is one of its cornerstones "The point of theory is to generate knowledge that will change, and not just interpret, the world. In this way, Horkheimer argued, critical theory truly qualifies for that most overused of adjectives, *transformative*" (cited in Brookfield, 2001, p. 11).

In practice, the SoTL is mainly concerned with questions that involve process reflection, such as what works better, how can we improve student learning, how to assess students more reliably, but can also involve premise reflection. Some of its research questions can critically examine topics that may affect the community as a whole. The community can be the institution or even the society. In medicine, for example, ethical issues and professionalism can be a subject for the SoTL.

**Communities of practice.** Communities of practice can be regarded as one of the conceptual frameworks for the SoTL. As Cranton (2001) puts it

Communities based on shared interests or characteristics may perpetuate values pertaining to:

- educator roles
- the meaning and significance of the discipline
- the purpose of education within a discipline
- assessment and accreditation of people in the field
- the role of the profession or trade in determining educational goals
- the relative importance of theory and practice
- the role of research (p. 95)

Duffy (2006) demonstrated how communities of practice formed beyond a single discipline and institution enriched the scholarly productivity of faculty members

in the area of SoTL. This "interdisciplinary community of practice" with members with diverse experiences, talents, and backgrounds provided a wider venue for peer review and exchange of ideas concerning ways to optimize student learning and how to explore and establish these ways.

**Problem-solving theory.** One of the frameworks Kreber (2006) uses to approach the SoTL is close to the problem-solving theory.

The theory makes reference to an information-processing system, the problem solver, confronted by a task. The task is defined objectively (or from the viewpoint of an experimenter, if you prefer) in terms of a task environment. It is defined by the problem solver, for purposes of attacking it, in terms of a problem space. (Simon & Newell, 1971, p. 148)

The "problem space" is one's personal view of the problem and how best to solve it. It is informed by prior experience, research or theory. Kreber's approach follows three steps. The first is setting expected goals, the second is understanding the ways students learn and attain their goals, followed by the last step which is developing appropriate methods to improve student learning guided by reflection based on past personal teaching experience, research and theory.

**Socio-cultural perspective.** As Cranton (2011) puts it "teaching is a social process that takes place in a context" (p. 80). Mårtensson, Roxå, and Olsson (2011) viewed the SoTL from a socio-cultural perspective. According to their view, the SoTL is a necessity for improving student learning and teaching practices. Faculty members will not adopt the SoTL until it is embedded in the culture of their institutions and departments. Becher and Trowler (2001) point out that "By 'cultures' we refer to sets of taken-for-granted values, attitudes and ways

of behaving, which are articulated through and reinforced by recurrent practices among a group of people in a given context" (p. 23). For the desired cultural change to occur Mårtensson et al. (2011) emphasize the need for the SoTL to be integrated in the academic identity of faculty members. Their view agrees with that of Galloway and Jones (2012) who called on faculty members to adopt an "education epistemology" beside their disciplinary academic identity. Such adoption is possible according to the social theories that consider identity to be a lively construct subject to change (Billot, 2010; Henkel, 2005).

For the intended cultural change to be maintained, strategies employed should not impinge on the academic freedom of faculty members. Endangering the academic freedom of faculty members can provoke resistance to any intended changes (Mårtensson, Roxå, & Olsson, 2011). However, such strategies should promote that concept of academic freedom that holds within its notion the responsibilities of faculty members towards their institutions and society (Åkerlind & Kayrooz, 2003; Mårtensson et al., 2011).

The strategy proposed by Mårtensson et al. (2011) is based on the following guidelines:

- Sustainable change must be owned by teachers.<sup>1</sup>
- Informed discussion and documentation is paramount for achieving a quality culture in relation to teaching and learning.
- The driving force for change is peer review among teachers.
- Clarity in vision and careful timing while taking structural measures is a crucial part of leadership. (p. 52)

1. The word 'teacher' is in this text used for academic staff who do both research and teaching. (p. 61)

### The Importance of Having a Theory When Conducting the SoTL

After discussing the theories that researchers see the SoTL through, a related question arises: Do teachers engaged in the SoTL have to have a certain theory or conceptual framework guiding the research they are conducting? Hutchings and Huber (2008) have discussed the place of theory in the scholarship of teaching and they have concluded that it plays an important role in the scholarship of teaching. The presence of a background theory helps the formation of communities of practice, and raises discussions and inquiries related to the scholarship of teaching. Also, research that is based on a theoretical framework guides on to frame questions and to interpret findings coherently. However, having a clear theoretical framework depends on one's own field of specialty, as for example, faculty members in the field of education and social sciences for whom theory represents a prerequisite have an inherent awareness of the importance of having a theory guiding their research. Members from other specialties, may become clear on conceptual and theoretical constructs through consulting relevant literature, or even become aware of the underlying theory during their teaching practice and its related scholarly activities. Thus, not having a clear theoretical framework should not be a barrier towards engagement in the scholarship of teaching. During engagement knowledge about underlying theories is constructed to help with better formulation of research questions and to help in analyzing and understanding the results (Hutchings & Huber, 2008).

### Assessment of the SoTL

As previously outlined, there are ambiguities surrounding the concept of the SoTL, so do these ambiguities also affect its assessment criteria? The criteria published by Glassick, Huber, and Maeroff (1997) remain a cornerstone in assessing the SoTL. These criteria were mainly set to respond to the expanded definition of the SoTL. Glassick et al. (1997) object to having different assessment standards for the various types of scholarship, as these may infer that they are not equal in value. They developed their standards after revising evaluation reports of teachers, promotion and tenure policies of colleges and universities, and consulting scholarly journals, university press, and granting agencies on how they evaluate proposals and manuscripts. They looked at shared elements within and were able to identify six elements: "Clear goals, adequate preparation, appropriate methods, significant results, effective presentation and reflective critique" (p. 35).

However reading through examples of questions posed by Glassick et al. (1997) to see if scholarly work meets the required standards of scholarship raises the question of whether in their view the SoTL equals to competence in teaching (Kreber & Cranton, 2000). For example one of the questions posed to indicate clear goals: "Did the professor clearly state the objectives of the course" (p. 25), and for effective presentation: "did the teacher explain course material clearly" (p. 31). These latter two examples imply good teaching practices and do not fulfill the criteria of scholarship.

In their view, documentation, in addition to being an evidence of achievement, is also an essential mean for communicating with the scholarly community: "Teaching and applied scholarship can remain incomplete acts unless presentation at some point reaches beyond students, clients, or the public in order to connect with colleagues" (Glassick, Huber, & Maeroff, 1997, p. 32). Moreover, documentation is also suggested as a mean for more reflective practice. Documentation is not limited to written articles, but includes also teaching portfolios, course materials, students' results and self-reflection on one's teaching practices.

Kreber and Cranton (2000) developed a model for assessing the SoTL, based on Mezirow's (1991) theory of transformative learning. In their model they apply each kind of reflection: *content, process* and *premise* to each type of knowledge: *curricular knowledge, instructional knowledge*, and *pedagogical knowledge*, with a resultant three by three design that includes nine components (as shown in Figure 2). For each they provide examples of indicators of scholarship.

In any of these nine components, faculty members can demonstrate what they learned about teaching and thus demonstrate scholarship of teaching. They criticize Glassick's criteria as they are mainly evaluating the outcomes, such as new instructional tools, course materials, and so forth. In their opinion outcomes reflect only "instructional" and occasionally "curricular knowledge" but not "pedagogical knowledge", the authors regard the SoTL both as a process and output that involve learning about teaching and students' learning.

Instructional Knowledge Indicators of Content Reflection	Pedagocial Knowledge Indicators of Content Reflection	Curricular Knowledge Indicators of Content Reflection
Instructional Knowledge Indicators of Process Reflection	Pedagocial Knowledge Indicators of Process Reflection	Curricular Knowledge Indicators of Process Reflection
Instructional Knowledge Indicators of Premise Reflection	Pedagocial Knowledge Indicators of Premise Reflection	Curricular Knowledge Indicators of Premise Reflection

*Figure 2.* Components of Kreber's and Cranton's (2000) Model for assessment of the SoTL. Adapted from "Exploring the Scholarship of Teaching", by C. Kreber and P.A. Cranton, 2000, *The Journal of Higher Education, 71*(4), table 1, p. 488.

In their opinion, the main reason for only evaluating SoTL with respect to visible outcomes and not considering gaining knowledge about teaching as part of SoTL is that it is not viewed as a scientifically sound activity. However, the authors argue that the indicators of their model meet standards of any other scholarly work which Diamond (1993) puts as

- Require a high level of discipline-related expertise
- Breaks new ground or are innovative
- Can be replicated or elaborated
- Can be documented
- Can be peer-reviewed
- Have significance or impact (p. 12).

They consider the discipline-related expertise as expertise primarily in teaching. Examples of documentation they provide are teaching portfolios and reflective reports, and they regard publishing in peer-reviewed outlets as an example of scholarship of discovery only. Significance of teaching activities is evident through students' assessment scores, peer discussions, and teachers' evaluations.

However, looking at their model according to the definition of SoTL by Hutchings and Shulman (1999), one can see that some of their indicators do not include dissemination and are just limited to being an excellent teacher or a scholarly one.

To conclude, since the introduction of the SoTL it has been surrounded by ambiguities regarding its interpretation, its relation to other types of scholarship, its assessment criteria, and its underling theoretical frameworks. Nevertheless, the definition of SoTL provided by Hutchings and Shulman (1991) and the assessment criteria by Glassick et al. (1997) remain widely used.

### **Review of Literature**

### **Part Two**

### The Scholarship of Teaching and Learning in Health Professions' Education

In this chapter I will start by reviewing the reasons that lead multiple medical faculties and organizations to increasingly acknowledge the importance and contribution of the scholarship of teaching in health professions' education. This will be followed by a brief review of the barriers that face medical faculty and prevent them from engaging in the SoTL. Finally, some of the initiatives taken by universities and medical organizations to combat those barriers will be explored.

### The importance of the SoTL in Health Professions Education

**To generate evidence in medical education.** With the shift of the practice of medicine to an evidence-based approach, there has been a similar shift in medical education with the introduction of best evidence medical education. Harden, Grant, Buckley, and Hart (1999) assert that the

Best evidence medical education (BEME) is the implementation, by teachers in their practice, of methods and approaches to education based on the best evidence available. It involves a professional judgment by the teacher about his/her teaching taking into account a number of factors - the QUESTS dimensions. The Quality of the research evidence available how reliable is the evidence? the Utility of the evidence - can the methods be transferred and adopted without modification, the Extent of the evidence, the Strength of the evidence, the Target or outcomes measured – how valid is the evidence? and the Setting or context - how relevant is the evidence? (p. 553)

Van der Vleuten, Dolmans, and Scherpbier (2000) emphasize that educational evidences and decisions should not rely on personal conceptions or assumptions.

Patrício and Carneiro (2012) point out that the approaches to create evidence in medical education are as rigorous as in clinical medicine. However, the nature of evidence in medical education differs from that in medicine in that causality cannot be concluded with certainty due to the presence of multiple confounding factors. These confounding factors cannot usually be eliminated, as compared to the usually tightly controlled clinical environment, and hence the name "best evidence in medical education". Both BEME and evidence-based medicine emphasize the importance of the research practical implications, and having the means to transfer the outcome and implement it to inform decision making (Hammick, 2012; Patrício & Carneiro, 2012). Both have the ultimate goal of improving practice. In addition, engaging in BEME sheds attention to areas that warrant further research. Thus, an important field to focus on is the link between set curricula, instructional and assessment methods on one side, and how it relates to future practice on the other side (Whitcomb, 2002).

**To increase career satisfaction.** Another reason for promoting the SoTL is to increase career satisfaction and to retain faculty members, especially those faculty members that have heavy teaching and clinical duties, and who are less involved in traditional discipline-related research (Greenberg & Bickel, 2010; Harris, DaRosa, Liu, & Hash, 2003). An example for the latter group are the clinicians-educators who by definition are "physicians whose primary

responsibilities are patient care and education, and whose research represents only a minor portion of their academic contributions" (Atasoylu et al., 2003, p. 712). More recently Sherbino et al. (2010) defined the clinician-educator as "...a physician with formal training (e.g., graduate degree, robust diploma program, or formal fellowship) in medical education, providing consultative advice for educational projects undertaken by faculty in the health professions". In institutions and disciplines that value the SoTL, engagement by clinicians in this type of scholarship will count towards their promotion and will help them with their academic advancement.

The problem of not having the opportunity to pursue traditional discovery research may be also encountered in nursing, especially for faculty members working at small-sized colleges. This has led some nursing institutes and organizations to review the definition of scholarship. The American Association of Colleges of Nursing (AACN) in 1999 defined scholarship in nursing as

those activities that systematically advance the teaching, research, and practice of nursing through rigorous inquiry that 1) is significant to the profession, 2) is creative, 3) can be documented, 4) can be replicated or elaborated, and 5) can be peer-reviewed through various methods. (p. 373)

The document made reference to the four types of scholarship that Boyer (1990) had outlined. The Association's definition is intended to serve as a guide to faculties and institutions, and allows each to modify and set its own criteria according to mission, resources and facilities. It is also intended to inform nurses in their future career choices (American Association of Colleges of Nursing, 1999).
**To disseminate teaching innovations.** Innovations are defined by Kunstler (2004) as: "It refers to a new product or process within a specified field,....The innovation must become *established* before it is a true innovation; that is, the field to which it applies must accept it as legitimate, as bringing *in* something new, or *nova*" (p.8). Steinert and Snell (2011) point out that teaching innovations "are the result of collective problem-solving, curiosity and creativity" (p. 89). In our era where knowledge transfer knows no boundaries and where scholars are able to telecommunicate, disseminating successful educational innovations "prevents us from reinventing the wheel" as Steinert and Snell (2011, p. 88) put it. In addition, published research, no matter whether the topic is based on a subject area or on teaching, is the way by which many institutes recognize the scholarly activities of their staff members as it positively affects the academic reputation of the institutes (Simpson et al., 2007; Steinert & Snell, 2011).

**To help fulfill the teaching mission of faculties of medicine.** Another reason for promoting the SoTL is the frequent discrepancy between the stated mission of Faculties of medicine towards excellence in teaching and training, and their faculty members commitment and enthusiasm for teaching activities (Harris et al., 2003). Thus promoting the SoTL among faculty members could help the faculties in fulfilling their mission while at the same time encouraging faculty to rely on evidence for enhancing their teaching and their students' learning.

However, and despite the previously mentioned reasons for promoting the SoTL, many barriers face faculty members wishing to engage in such a scholarship.

## **Barriers Facing Faculty Members Wishing to Engage in the SoTL**

Absence of buy-in of principal stakeholders. One of the barriers facing wide engagement of faculty members in the SoTL is the absence of buy-in of principal stakeholders and academic leaders. An illustrating example is reported by Schweitzer (2000): The University of Louisville adopted Boyer's model of scholarship in response to external factors among them the State's legislature which was pressuring the University to increase its attention to education and students, and the introduction of voluntary retirement of faculty members, both of which necessitated the implementation of new promotions rules and adoption of Boyer's model of scholarship. However, this was met by opposition from faculty Senate and members. They demanded that junior faculty members demonstrate scholarship in each distinct domain, and failed to see the potential overlap of different types of scholarship. There was also absence of clear assessment criteria except for traditional research. All these factors led to difficulty in implementation and consequently omitting the Boyer's Model. Nevertheless, their awareness of an expanded definition of scholarship helped them later in acknowledging other forms of scholarly work than the traditional disciplinerelated research (Schweitzer, 2000).

A contributing factor to this lack of *buy-in* or enthusiasm is related to the fact that patient care and research grants represent the major source of income for the most faculty members in Faculties of medicine, and thus affect "promotion and tenure policies". Consequently, teaching and related scholarly activities are less valued (Fincher & Work, 2005; Smesny et al., 2007). They also lead to lack of motivation to engage in educational scholarly activities. For instance, faculty

interested in medical education have reported that due to their perception that educational research is not equally valued by their department or colleagues as research in their specialties, they question spending time on educational research (Zibrowski, Weston, & Goldszmidt, 2008).

**Institutional culture inertia.** Even in universities which officially recognize scholarship of teaching for promotional and tenure procedures, presence of institutional "*cultural inertia*" (Leger, Van Melle, Mighty, & Stockley, 2009, p.1) represents a barrier. Culture inertia refers to a mismatch between an officially stated mission, policies and the actual practices It could reflect the presence of a deeply rooted hidden curriculum. Leger, Van Melle, Mighty, and Stockley (2009) interviewed half of the heads of departments at the Faculty of Health Sciences at Queen's University in Canada to see what the definition they used for SoTL and how it was rewarded in promotion in light of the "Collective Agreement" that specifies "writing and research with respect to pedagogy and innovative teaching shall be assessed as scholarly activity" (p.8). The results indicated that the interpretation of the heads of departments of the term SoTL was variable and that discipline related research was seen as a priority.

Lack of time. Another commonly mentioned barrier is lack of time due to competing research and clinical and teaching duties (Smesny et al., 2007). Zibrowski, Weston, and Goldszmidt (2008) explored lack of time as a constraining factor for pursuing research in medical education. Faculty who participated in the study were a purposive sample with expressed interest in medical education. On further analysis of the time factor, lack of protected time was the prime barrier, in addition to fragmentation of time and competing administrative and leadership duties.

Unfamiliarity with educational research methodology and lack of support to carry on research. Other barriers reported are unfamiliarity with the appropriate research methodology and potential sources of funding, applying for grants, and venues for disseminating scholarly innovations. The unavailability of support staff, absence of role models/mentors in the field of SoTL, insufficient or unavailable resources, and not considering education as an area of scholarship have been identified as additional barriers (Goldszmidt et al.,2008; Harris et al., 2003; Smesny et. al., 2007).

Given the previously mentioned importance of the SoTL some Faculties of medicine and medical organizations have started initiatives to help their members to engage in the SoTL.

# Steps Taken by Institutes and Organizations to Overcome the Known Barriers

**Formation of communities of practice.** There have been several initiatives for the formation of communities of practice to promote among other educational activities the goals of the SoTL and its related scholarly activities. These communities provide a sense of belonging and venue for support and feedback and further development. These initiatives were launched at departmental, institutional, national and international levels.

*At departmental level.* An example of initiatives at the departmental level is the Research Innovation and Scholarship in Education (RISE) Program, introduced by the Department of Psychiatry at Toronto University. This

Department has adopted Boyer's expanded view of scholarship to encourage faculty and students to pursue a career in scholarship related to education in the field of psychiatry and led over five years to a huge number of presentations, and published peer-reviewed articles (Martimianakis et al., 2009).

*At institutional level.* An example of institutional initiatives is the formation of "Academies of Medical Educators" in eight Faculties of medicine in the US. Preliminary reports show that in addition to benefits such as increased acknowledgement of the teaching role, excellence in medicine curricula and instruction, these "Academies" have promoted the scholarship of teaching and have resulted in several-fold increase in the number of publications (Irby, Cooke, Lowenstein, & Richards, 2004).

*At the national level.* An example of national initiatives is the National Clinician-Educator program by the Royal College of Physicians and Surgeons of Canada. In addition to its various goals, two of its explicit goals were "to enhance the dissemination of Royal College educational scholarship" and "to provide a highly visible career platform for emerging dynamic medical educators" (p. 2). An outcome of this has been the publication of multiple peer reviewed joint scholarly articles (Sherbino et al., 2010).

Another example is the formation of the Academy of Surgical Educators by the Royal Australasian College of Surgeons. One of the goals of the Academy is promoting scholarship in education and implementing new teaching innovations. Implicit in this goal is the view that improving patients' care is achievable through better health professions education (Collins & Gough, 2010).

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*At an international level.* An example for a "global community" of practice is the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL) Leadership Clusters formed by universities from the United States, Canada, and Scotland and aims at forming scholarly communities which persist after the project. They have resources for holding conferences, outlets for publications, faculty development activities in this area, opportunities to exchange views, enrich knowledge, go further "peer mentoring", and a web journal entitled "Transformative Dialogues: Teaching and Learning Journal" (Carnegie Academy for the Scholarship of Teaching and Learning [CASTL], 2013; Macpherson & Gurm, 2009).

**Building a "support" infrastructure.** To promote the SoTL, a welcoming and suitable infrastructure is needed. Such examples already exist. For instance, when Queen's University joined the CASTL, its goal was not just to benefit from CASTL's "guidance , expertise and resources and" (Leger et al., 2009, p.3). Through this affiliation, it added value to the SoTL. They founded the Centre for Teaching and Learning in 1992, and installed an environment where faculty members interested in pursuing a career in medical education could find support, through developing programs, workshops, courses, funding and grants to promote SoTL (Leger et al., 2009). A vital step is not only to involve key academic leaders and stakeholders that approve of suggested changes, but also to try to include critics of such a suggested change in ongoing discussions and try to gain their approval (Harris et al., 2003).

Also the importance of infrastructure is evidenced in the RISE program, where the Department of Psychiatry, Toronto University, collaborated with the Centre for Faculty Development and the University of Toronto Wilson Centre for Research in Education in order to achieve its objectives (Martimianakis et al., 2009).

At McGill University, many initiatives have been undertaken to help medical faculty members engage in the scholarship of teaching. Among them was holding a faculty development workshop to help faculty members in writing about their scholarly innovations in the field of education. (Steinert et al., 2008). Also, the Teaching Scholars Program which provides faculty members with in-depth knowledge about education and teaching practices and prepares faculty members for leadership positions in education. At the same time, it promotes their engagement in the scholarship of teaching and renders them members of a community of practice interested in medical education. A visible outcome has been publications in peerreviewed journals and the dissemination of educational activities and research. A similar program entitled Postgraduate Fellowship in Health Sciences and Education exists for residents and fellows (Steinert & McLoed, 2006). As well, there is a Master's Program in Educational Psychology, Health Professions Education, offered jointly between the Department of Educational Psychology and the Centre for Medical Education. Furthermore, the university has offered for many years the Course Design and Teaching Workshop which is multidisciplinary in nature (Saroyan & Amundsen, 2004).

**Changing promotion and tenure policies.** A related key factor is adjusting promotion and tenure criteria and policies in general and those of the Faculties of Medicine in particular to encompass a broader definition of scholarship. Multiple articles in the medical education journals have discussed the need to expand the definition of scholarship, and that institutions should recognize and acknowledge the new scope of scholarship and reward it. For example, Fincher et al. (2000) build on Boyer's and Glassick's work, and outline how medical faculties, organizations and institutions can support the scholarship of teaching. This can be achieved through changing their infrastructure and recruitment policies, and through clearly demonstrating and conveying the message about the important role of medical education. There has been a marked increase in the use of portfolios documenting faculty member's educational activities for promotion and tenure reasons (Simpson, Hafler, Brown, & Wilkerson, 2004).

Besides adopting Boyer's expanded view of scholarship, changing the culture of the institutions helps promote the SoTL. Hafler and Lovejoy (2000) highlight the implementation of "a new teacher-clinician promotion track" (p.650) that relied upon portfolios prepared by faculty themselves and allowed them to adjust their promotion dossier according to their clinical duties by not only listing published articles, but also other scholarly products such as textbooks and electronic resources.

Nora et al. (2000) for example discuss the changing promotion and tenure policies by the University of Kentucky which expanded the definition of scholarship based on Boyer's *Scholarship Reconsidered* (1990). The institution's promotion guidelines and criteria were set differently according to rank, job description, and nature of appointment. However, the guidelines didn't provide a clear distinction between scholarly teaching and the SoTL.

**Outlets for dissemination.** Presence of new outlets for dissemination of educational innovations is also a promoter for the SoTL. An important example is MedEd PORTAL, which was launched online in 2004 by the Association of American Medical Colleges (AAMC). It is an important resource to consult especially in areas related to instruction and assessment. As it is peer-reviewed and widely disseminated, submissions to this outlet can be included for promotion (Reynolds & Candler, 2008).

Well reputed medical journals and medical associations have been also publishing educational research either in their regular issues or in a specific edition. Examples include the Mayo Clinic Proceedings and the Journal of the American Medical Association (JAMA). In addition to making articles available to a wider audience, they add to the academic promotion of educators because published articles count to their promotion (Habermann & Cascino, 2006).

**Changing learning approaches.** In recent years advances in technology has led to introduction of new instructional tools, such as e-learning and simulation. Also the philosophy of teaching has shifted from a teacher-centered approach to a learner-centered approach based on competency. These changes have provided new opportunities for the SoTL (Alsharif, 2010; Fincher & Work, 2005).

Awards. Other incentives such as awards can promote faculty members improve their teaching skills and encourage them to engage in the SoTL. It can

be seen by faculty members as a form of institutional acknowledgement of the value placed on teaching and its scholarship. An example is the "Teaching Skills Attainment Award (TSAA) at the University of Ottawa (Karpenski & Marks, 2011) offered to faculty members engaging in scholarly work related to their teaching activities or to those faculty participating in workshops designed to improve their teaching skills.

To conclude, looking at both barriers and facilitators for the SoTL, the critical role of leadership is doubtlessly emphasized. Even in the presence of factors that cannot be much altered due to competing duties, as for example the time factor, there are still two aspects of leadership worth mentioning and that can promote change. One relates to having leaders in medical education, which allows the formation of communities of practice and implementation of infrastructure changes to promote the SoTL, and the other aspect is related to the buy-in of key academic leaders and stakeholders in order to adjust promotion and tenure policies to encompass the wide scope of scholarship, and to set different promotion expectations for faculty members who are primarily involved in teaching and patient care.

# Methodology

# **Research Design**

In order to answer the research questions, a mixed-methods research design was adopted. The research questions were:

- 1. How do faculty members at McGill's Faculty of Medicine value the SoTL?
- 2. What are the factors enabling and/or preventing medical faculty members at McGill from engaging in the SoTL?
- 3. What suggestions do faculty members have to enhance their involvement in the SoTL?

**Data sources.** Data for the study were generated by a one-hour focus group session which led to refining a survey questionnaire, which was administered to undergraduate and postgraduate program directors at the institution, Osler's fellows, and members of the Centre for Medical Education on an online format.

## **Participants**

**Focus group participants.** Sixty members of the Medical School's Centre for Medical Education were invited to participate in a one-hour focus group session. Ten accepted and attended the focus group session.

Survey respondents. An invitation to complete a web-based questionnaire was sent to a sample of convenience of individuals who are significantly involved in the education of medical students and residents at McGill. This consisted of the undergraduate and postgraduate program directors at the institution (n = 110), Osler's fellows who are experienced clinical teachers and mentors and were selected for an on-going mentorship program (n = 126), and members of the Centre for Medical Education (n = 60). The total number of the survey recipients cannot be precisely estimated as there is much cross-over between the three before mentioned groups. This sample was selected based on their known interest in medical education or clinical teaching, or their active involvement in educational activities as part of their educational leadership duties in the Faculty of Medicine.

Originally this sample of convenience was also intended to include Medical Simulation Centre teachers, Teaching Scholars Program participants, and faculty members who had previously participated in educational activities organized by the Faculty Development Office. However due to either the absence of specific mailing lists, or out of respect for the wishes of privacy from faculty members the latter three groups were not included.

#### Materials

A web-based questionnaire was first piloted and afterwards made available online for 8 weeks (for a copy of the questionnaire, see Appendix A). The questions were informed by the research work carried out by Goldszmidt, Zibrowski, and Weston (2008) and Zibrowski et al. (2008) who explored barriers preventing medical faculty members from engaging in educational research. The questions were also informed by the literature review written by Smesny et al. (2007) who searched for barriers preventing physicians, dentists, nurses, and pharmacists from engaging in scholarship in general. Based also on the literature search, Smesney et al. (2007) discussed suggestions to promote scholarship. Procedure

An institutional review board approval was obtained in February, 2012.

**Focus group session.** Recruitment of focus group participants was done by email, and by oral announcement at the Centre for Medical Education meetings. A one-hour focus group session took place at the Centre for Medical Education. Participants first read and signed the consent form.

*Profile of focus group participants.* The focus group participants showed a great diversity; they varied according to the level of seniority and included senior, midlevel and young faculty members (see Table 1).

Table 1

Level of Seniority	п	Description
Senior	6	Three retired clinicians who have multiple publications
		in the field of medical education
		Retired clinician with an administrative perspective
		University administrator with multiple educational roles
		Clinician who has multiple publications in the field of
		medical education
Midlevel	3	Clinician who has multiple publications in the field of
		medical education
		Educationalist working in a madical school
Voung	1	Clinician with interest in medical education
Toung	1	

Profile of focus group participants

In addition to the moderator, who was the principal investigator, one of the co-investigators observed and took notes during the session. The focus group questions were asked verbally (for a copy of focus group questions, see Appendix B). The session was audio-taped and subsequently transcribed verbatim. Participants, who agreed to receive the preliminary analysis of the focus group data to comment on, were sent a hard copy of the transcription, delivered to them confidentially by internal mail. None of the participants suggested any changes.

Web-based questionnaire. The questionnaire draft was revised and modified after the focus group session. It comprised 20 questions of different types: Multiple choice, yes/no questions, checkbox questions, and open (narrative) response questions. The questionnaire aimed to elicit answers for the research questions. In addition, some questions were about the teaching activities of the respondents. The estimated time for completing the survey was 10-15 minutes. Participants were invited by email to take the survey, which was posted on www.fluidsurveys.com. The consent form for the online survey was attached to the invitation email.

#### **Data Analysis**

**Focus group.** To analyze the focus group data, the audio-recording was first transcribed, segmented by the author, and then treated with thematic analysis. Thematic analysis is a procedure that goes "... beyond counting explicit words or phrases and focus[s] on identifying and describing both implicit and explicit ideas within the data, that is themes" (Guest, MacQueen, & Namey, 2012, p. 10). It is flexible and can serve either as an exploratory or explanatory approach to address the research questions (Braun & Clarke, 2006). Thematic analysis of the

transcript of the focus group data was done according to the guide outlined by Braun and Clarke (2006) as shown in table 2.

To check for reliability of the coding scheme, a graduate student from the same program and the author reviewed first the identified themes. The author then chose 25% of the transcript from non-continuous parts. The chosen pages were coded independently by the author and the graduate student. The percentage of agreement between the two raters was 76% and Cohen's kappa was 0.65.

Table 2

Phases of Thematic Analysis

Phases of thematic analysis				
1.	Familiarizing yourself with your data			
2.	Generating initial codes			
3.	Searching for themes			
4.	Reviewing themes			
5.	Defining and naming themes			
6.	Producing the report			

*Note*. Adapted from "Using Thematic Analysis in Psychology," by V. Braun and V. Clarke, 2006, *Qualitative Research in Psychology*, *3*(2), p. 87, table 1.

**Web-based questionnaire.** Descriptive statistics, Spearman's correlation coefficient for ranked data ( $r_s$ ), and Chi-Square goodness-of-fit test were applied to the quantitative data generated by the survey.

Narrative data (responses) were analyzed according to emerging themes.

Exemplar quotes were chosen to support the analysis.

*Profile of survey respondents.* Table 3 shows the various teaching and teaching related activities survey respondents are involved in.

#### Table 3

Teaching and teaching related activities of survey respondents

Type of activity	%	п
Teaching	100	54
Students'/ Trainees' assessment	93	50
Mentoring	74	40
Curriculum design / Course design	72	39
Program evaluation	63	34

#### Collaboration with colleagues on joint teaching activities. Sixty-one

percent (n = 33) of the respondents worked with colleagues within the Faculty of Medicine on joint teaching activities, 21% of them (n = 7) also worked with colleagues from other faculties on joint teaching activities. Four percent of the respondents (n = 2) worked with colleagues from other faculties on joint teaching activities, but carried no joint teaching activities with colleagues within the Faculty of Medicine.

Fifty-four percent (n = 19) of faculty members who worked with colleagues on joint teaching activities reported dissemination of their innovations, while only 16% (n = 3) of those faculty members who did not have any joint teaching activities reported dissemination of their innovations (see Figure 3). Dissemination was in the form of publications, posters, podium presentations, webinar presentations, and invited talks and lectures. Some respondents also reported disseminating their teaching innovations in workshops, medical education rounds, and meetings.

The context and type of collaboration were within these fields

- teaching within same specialty and multidisciplinary teaching;
- simulation based courses;
- multidisciplinary collaboration in developing virtual patients' cases;
- developing web-based modules;
- the active learning classroom;
- students' assessment;
- residents' assessment;
- program evaluation;
- peer feedback on a course design;
- curriculum development/ course design;
- educational research; and
- faculty development workshop delivery and faculty development initiatives.



*Figure 3.* Percentage of dissemination of teaching innovations among faculty members based on their involvement in joint teaching activities.

*Hours spent on teaching responsibilities.* As regards the number of hours spent on teaching responsibilities: 48% of the respondents (n = 26) spent more than 8 hours a week to fulfill their teaching responsibilities, 13% (n = 7) spent 5-8 hours/week, 22 % (n = 12) spent 3-5 hours/ week, and 17% (n = 9) spent less than 3 hours a week. Most of these hours are spent on teaching (either formal or informal), followed by curriculum/course design, students'/residents' assessment, program evaluation, mentoring, and educational research/projects.

*Extra- training in education / medical education.* Eighty-five percent of the respondents (n = 46) had one or more opportunities for extra training in education/medical education. Sixty-one percent (n = 33) attended faculty development workshops, 20% (n = 11) attended the Teaching Scholars Program, 13% (n = 7) obtained a Master Degree, 6% (n = 3) have a PhD/ other doctoral degree, 7% (n = 4) attended special courses, and 2% (n = 1) finished a fellowship program.

Twenty percent of the respondents (n =11) had a formal degree in education/medical education (Master Degree, PhD/ other doctoral degrees and fellowship program). Sixty-four percent of those respondents (n = 7) published/ disseminated their teaching innovations. Eighty percent of the respondents (n = 43) had no formal degree in education/medical education, only 35% out of them (n = 15) published/ disseminated their teaching innovations. *Academic rank and specialities of the respondents*. Table 4 shows the academic rank of survey respondents.

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Table 4

Academic rank of survey respondents

Academic rank	%	п
Full Professor	15	8
Associate professor	31	17
Assistant Professor	31	17
Faculty Lecturer	19	10
Unknown	4	2

Ninety-three percent of the respondents (n = 50) are clinicians, 5 % (n = 3) are basic scientists, 2% (n = 1) didn't specify.

Academic rank and publications. Sixty-three percent of the full professors (n = 5) had published/ disseminated their teaching innovations, 35% of the associate professors (n = 6) had published/ disseminated their teaching innovations, 41% of the assistant professors (n = 7) had published/ disseminated their teaching innovations, and 30% of the faculty lecturers (n = 3) had published/ disseminated their teaching innovations.

### Results

The results of the focus group and the survey were in general complementary, as regards the enabling factors and the barriers to engaging in the scholarship of teaching, as well as the perception of the value of scholarship in education. However, there was a point of difference in the role of peers in promoting the scholarship of teaching.

# **Focus Group Results**

Thematic analysis of the focus group session revealed the following:

# Familiarity with the term "Scholarship of Teaching" and its

**interpretation.** Most participants were familiar with the term; however they differed in its interpretation. Major ideas that framed their interpretation are the following:

- It is a continuous process of learning about teaching that involves ongoing inquiry and self-reflection on one's own teaching.
- It is a way to improve practice both at the individual level and organizational level

Always a key component is asking yourself how to be better, how can we be better, or how the institution or the country be better, and the ways to answer this is to look at the literature out there to help you answer the question, and the another way is to actually generate your own published peer-reviewed writing. (Participant 1)

 Using evidence in teaching "To be able to teach I have to use evidence" (Participant 2).

- It is a narrow component of the scholarship of education, it is not limited to mere teaching, but involves the whole educational cycle within a specific context and time.
- It involves peer reviewing of one's published writings.

Despite the wide variation in the participants' interpretation of the term, an underlying concept in most of the responses was the role that scholarship of teaching plays in improving practice with subsequent impact on students' learning and patient care "The main reason people come to the curriculum or try to teach is their commitment to their particular professional practice" (Participant 3). Also, during the session, clarification of the definition "scholarship of teaching" was an iterative process.

# Reasons for engaging in the scholarship of teaching.

# External motivating factors.

Supportive environment.

- Working together with colleagues.
- Having role models.
- The Centre for Medical Education as an environment where scholarship is valued and encouraged.
- The culture and tradition of the clinical department in supporting the scholarship of teaching.
- Favorable institutional incentives, reward system, and promotion policies.
   Available resources.
- Having protected time.
- Available grants.

- Having outlets where faculty members can present or publish their innovations.
   *Methodology related*.
- Having formal training in education;
- Manageable research questions.

Other causes.

- System rules and expectations.
- As part of some faculty members' academic duties.
- Seeking evidence-based decisions in the field of medical education.
- Prestige.

# Internal motivating factors.

- Self-satisfaction and interest in education "You would do it even if there wasn't prestige, that's a calling, and you would do it even against significant external odds against you"; "publishing scholarly work in medical education is a reward in itself" (Participant 1).
- Enjoying the art of teaching by better relating to students

More fun, if teaching is a relationship with your students whether big group or 1:1 and you want to be able to relate ... you need to look at what you do well and what you don't do well in that process in order to have the fun of teaching. (Participant 4)

- Improving one's teaching practice and being a role model that inspires students.
- Academic identity.

- Continuous professional development towards excellence; the scholarship of teaching represents a "qualitative jump" (Participant 5) beyond mastering content knowledge and pedagogical knowledge.
- Looking at the scholarship of teaching as a "knowledge translation" link between basic science research and clinical practice.
- As part of faculty members' commitment to their health science specialty
   "They believe in what they are doing, and they would like to see the best
   practices related to the care they give, transferred to their students."; "to
   become a sense of scholarly in your own right, not just a superb practitioner in
   discipline, but a scholar in the way you approach learners" (Participant 3).

Many of the motivating factors mentioned by focus group participants parallel two of the conceptual frameworks previously mentioned to study the SoTL; namely communities of practice and the socio-cultural perspective.

**Reasons for not engaging in the scholarship of teaching.** The reasons for not engaging in the scholarship of teaching can be also divided into both external and intrinsic factors.

#### External factors.

- Lack of time and resources.
- Different priorities and other fields of inquiry "The research arm drives university, its reputation, tenure, promotion. The majority of people who are the research scientists try to avoid education, and therefore they don't want to engage in scholarly educational activity" (Participant 6).

Viewing the scholarship of teaching as inferior to other types of scholarship:
 "It takes a lot of work for people who are clinicians to understand that this is scholarly work in education as well, so that's a challenge" (Participant 3).

# Intrinsic factors.

- Not considering education as an area of scholarship, or being semi-informed about it "Education as an area of scholarship would have not occurred to me",
  "I think there is still a whole lot of people, who may be semi-informed in terms of the science of education who are doing things to whom it would not occur to disseminate across the medical world everywhere" (Participant 7).
- Inability to sit down and write "I hate writing" (Participant 6).
- Unfamiliarity with research methodology in education and its criteria of assessment "Before I started to do it, I didn't have the tools, I didn't know what decent scholarship in medical education looks like" (Participant 1).
- It is not an obligation of the teacher towards his/her students: "My definition would not entirely correspond with ... who felt that there is an obligation on every teacher to have teaching informed by scholarship" (Participant 7).
- Concern about peer's feedback regarding one's own teaching.

A contradictory point mentioned is that feedback is an integral part of the everyday life of faculty members during dealing with students and residents, yet "a certain anxiety" exists when it comes to receiving feedback on their own teaching.

#### The "unique" nature of health professions education.

 Teaching frequently takes place in a non-structured environment concerned mainly with patient care A great deal of clinical teaching occurs in ward rounds ... not uniquely designed to provide education or learning, it is supposed to be providing some patient care....I don't think that occurs that much in engineering, it is something about health professions. (Participant 8)

- Health professions education involves a lot of informal teaching "Many members of the faculty never/rarely give a formal course, but they do a lot of teaching"; "... working with younger people as a team for patient care, they may not perceive this as education, and the students themselves may not perceive this as education" (Participant 8).
- Some faculty members regard themselves as practitioners only "...not everyone comes in knowing he will be a teacher sooner or later, some see it later, some don't ever see it" (Participant 3).

This "unique" nature of health professions education can be seen as a double-edged sword. The challenge of finding a *teachable moment* in a nonstructured environment that is mainly concerned with patient care can act as a motivator to health professions' education scholarship "...and the challenge or the richness of it, is somehow, and that is why I think there is a lot of scholarship in it, is how to blend those two" (Participant 8). On the other hand, competing clinical duties and solely regarding oneself as practitioner can discourage faculty members from engaging in the SoTL.

# Perceptions of the scholarship of teaching in comparison to other types of scholarship.

*Value.* Though in recent times "The value of teaching for medicine went up a notch with granting agencies providing grants for clinicians to get research training, so the scholarship of teaching became attractive" (Participant 3), it is still regarded by many as lower in value than other types of scholarship. This, however, appears to vary by the department. For instance, teaching is highly valued in Family Medicine and Nursing. In other departments, such as Internal Medicine, some colleagues are acknowledging the fact that they are unfamiliar with the SoTL and with its criteria for assessment.

*Methodology.* Though at the beginning the SoTL was considered a *soft science*, now it is as rigorous as any other type of scholarship: "one of the most impressive changes I have seen, the huge difference; the very increased level of sophistication of the researchers, because we have now trained researchers. The quality of research is increasing exponentially" (Participant 7).

#### Web-based Questionnaire Results

In total 58 responses were received, out of them 54 were complete and 4 were incomplete. The analysis of the responses was as follows:

Eighty-two percent (n = 44) of the respondents had ideas about innovations related to their educational activities. Of those 44 respondents, 35 respondents implemented one or more of those ideas. Thirty out of the 35 respondents who implemented one or more of their innovative ideas considered sharing with others their ideas, activities or innovations in teaching, curriculum design/course design, assessment, program evaluation or mentoring.

Thirty-two percent (n = 17) out of the total respondents have submitted manuscripts for publication in the last 5 years on or about their teaching activities. Out of those 17 respondents, 12 respondents had articles related to their teaching activities published in the last five years. The number of articles published ranged from 1 article per respondent to more than 20 articles per respondent with a mean of 9.58 and a standard deviation of 7.49.

Five respondents (one associate professor, two assistant professors, and two faculty lecturers) have not submitted manuscripts for publications, but have disseminated their innovations in other ways. All five respondents had extra training in education/medical education. Other ways for disseminating scholarly innovations included presentations, workshops, invited talks and lectures, posters, webinar presentations and medical education rounds at McGill. In total 41 % (n = 22) respondents disseminated their innovations through these ways.

Figure 4 shows a summary of the teaching scholarly activities of the survey respondents.



Figure 4. Scholarly products resulting from respondents' teaching activities.

Forty-six percent (n = 12) from the faculty that spend more than 8 hours a week to fulfill their teaching responsibilities have published/disseminated their innovations, for faculty that spend 5-8 hours a week, 3-5 hours a week, or less than 3 hours a week, the publishing/disseminating percentage was respectively 14% (n = 1), 50% (n = 6), and 33% (n = 3). There was no significant correlation between hours spent by faculty to fulfill their teaching responsibilities and whether they publish or disseminate their teaching innovations,  $r_s(52) = .132$ , p = .343;  $r_s(52) = .067$ , p = .628 respectively.

There was a significant positive correlation between the academic rank and publishing teaching innovations,  $r_s(50) = .335$ , p = .015; and between academic rank and the number of publication,  $r_s(50) = .382$ , p = .005. Chi-Square goodness-of-fit test for the relationship between the observed number of publications and the academic rank was also positive,  $\chi^2(3) = 176.89$ , p < 0.005. Other Chi-Square test calculations were not possible due to a high number of expected cell frequencies of less than five which would have positively skewed the results. There was no significant correlation between academic rank and dissemination of teaching innovations in whatever form, nor between academic rank and hours spent by faculty to fulfill their teaching responsibilities.

*Reasons for not implementing or disseminating ideas about educational innovations.* The reasons given for not implementing any ideas about educational innovations are lack of time and funding, lack of institutional support, unfamiliarity with educational research, the need to be more technology oriented in order to offer web-based teaching, and restrictions imposed by faculty and government regarding working hours. The reasons mentioned for not considering dissemination of ideas,

activities or innovations in teaching, curriculum design/course design, assessment,

program evaluation or mentoring are as follows (data from open-ended questions)

- lack of time/protected time and resources;
- inability to judge if they are innovative or not, or if they are worth disseminating or not;
- not being sure if others will be interested in them or not, or if they are generalizable or not;
- unsure if their work could meet the requirements of editors;
- no peer support for disseminating joint scholarly activities related to teaching;
- different way of writing between educational articles and specialty articles; and
- "insufficient support in methodology".

# Factors that would encourage faculty members to disseminate their

innovations in education. They are in descending order

- career satisfaction (63%);
- having protected time (60%);
- institutional acknowledgement (54%);
- recognition in promotion and tenure decisions (43%);
- educational research workshop (43%);
- having the opportunity to get advanced training in educational research (40%);
- availability of grants/funding (37%);
- faculty development workshops on teaching (34%);
- having a role model/mentor (29%);
- awards (17%); and

 other factors mentioned are having supportive team members, and being able to judge whether the ideas or teaching activities are truly innovative or not.

### Survey respondents' perceptions of the value of educational research.

When asked about how they rate educational research in comparison to other areas of research (e.g. clinical, epidemiological, basic science), 65% (n = 35) of the respondents rated it equally, 18% (n = 10) were unable to judge, 13% (n = 7) rated it lower and 4% (n = 2) rated it higher. However, when asked about their opinion on how their institution rated educational research, only 22% (n = 12) thought it rated it equally, 54% (n = 29) thought it rated educational research lower, 22 % (n = 12) were unable to judge and 2% (n = 1) thought it rated it higher. 48% (n = 26) of the respondents thought their department's colleagues rate educational research lower than other areas of research, 30% (n = 16) thought they rate it equally, 18% (n = 10) were unable to judge, and 4% (n = 2) thought their colleagues rated it higher.

*Suggestions made by some respondents.* Multiple suggestions were made by respondents to help faculty members document their scholarly teaching activities, and share them with their peers.

One respondent suggested holding a "one day McGill Medical Education Fair" where faculty members share what they are doing, get peer feedback and collaboration and ideas for dissemination, in addition to being recognized by the faculty. This individual also expressed the need for faculty members to attend medical education meetings or conferences as part of their professional development

Maybe a one day McGill Medical Education Fair would encourage us all to come out and present what we are doing, get some faculty recognition, develop new collaborations, solicit feedback and ideas for dissemination etc. In the clinical world, there are already so many meetings and conferences that attending the Med Ed ones has to be added to the demand/need to attend clinical ones.

- Another respondent asked whether there is a dedicated website to help faculty members with the process of implementation/dissemination of innovative ideas, and if such website is present how to make use of it. A similar question was posed by one of the respondents who wondered about the possibility of having portal for medical education ideas "I wonder if we could have some type of Sharepoint or portal for Med Ed ideas?"
- A third respondent expressed the need for "more avenues for sharing teaching innovations and developing collaborative educational activities among various health professions and disciplines."
- Another respondent pointed out that only through making ideas public can one engage in practice improvement "putting your ideas out there is the only way to engage in continuous quality improvement.... Disseminating these in a scholarly fashion provides a structured approach to the measurement of the impact and effectiveness of these interventions".
- Another respondent emphasized the importance of acknowledging educational research in promotion "I do believe that it is of utmost importance for the majority of people, especially junior staff".

## Discussion

In this section the following main points will be discussed

- focus group participants' interpretation of the term SoTL;
- the perception survey respondents hold regarding the value of the SoTL;
- the main facilitators and barriers identified to engage in the SoTL;
- the relationship between academic rank and number of publications;
- limitations of the present study; and
- recommendations to facilitate faculty members engagement in the SoTL, based on both study findings and on suggestions made by the respondents.

# Interpretation of the term SoTL

An important theme that emerged from the focus group discussions was that there wasn't a clear and common understanding of SoTL. As Kreber (2001) points, out a unifying definition of the SoTL is a prerequisite to promote the SoTL and inform faculty members about what it is. However, in this particular context, different interpretations were given, which reflected various concepts and definitions in the literature; from an ongoing inquiry process and self- reflection on one's own teaching (Kreber & Cranton, 2000), to a way to improve practice (Weimer, 1996), to using evidence in teaching (Harden et al., 1999), to the present concept of being educational research related to one's own discipline, being peer reviewed, disseminated and can be built upon (Hutchings, 2000; Hutchings & Shulman, 1999). To conclude, most of the mentioned interpretations represented aspects of scholarly teaching with only a few reflecting the current definition of the SoTL.

# Value of the SoTL

Given the previously mentioned importance of the SoTL, the present study aimed at identifying the factors that enable or prevent faculty members at McGill from engaging in the SoTL. A closely related research question was how do faculty members value or rate the SoTL in comparison to scholarship in their basic or clinical specialities. As Zibrowski et al. (2008) have pointed out, one of the factors that inhibit faculty members from engaging in educational research is a lack of motivation attributed to less value placed on educational research, and hence the return value of time spent on it.

McGill Faculty of Medicine officially recognizes scholarship in teaching (McGill University, 2011). Achievements in this area are counted towards academic promotion. However, and in spite of the fact that most participants in the present study rated educational research equal to other types of research, only 22% thought their institution rates it equally to research carried out within the context of the disciplines. This percentage rose to 30% when asked about their perception of how their colleagues rated research on teaching and learning. Focus group participants had the same general impression that despite being counted towards academic promotion and despite being more rigorous now, research on teaching and learning is still regarded by many as less valued than the scholarship of discovery.

This perception needs careful attention and analysis as it can affect faculty engagement in the SoTL as expressed by focus group participants. A possible explanation for this might be the presence of a hidden curriculum that can lead to a state of *cultural inertia*, where there is a mismatch between officially stated missions and policies and the actual practice (Leger et al., 2009). For instance, focus group participants in the study expressed that some department colleagues are unfamiliar with the SoTL and the criteria used for its assessment and that they do not consider teaching as an area of scholarship. Moreover, some faculty members regard themselves solely as practitioners. In addition, this might also be explained by the discrepancy in revenue generated to the university by specialty related research and educational research (Fincher & Work, 2005).

#### **Barriers to Engage in SoTL**

When looking at the barriers to engage in the SoTL identified by the participants of the present study, most concur with previous findings in the literature. In this study 82 % of the respondents had ideas about innovations related to their educational activities, 65% of all survey respondents implemented one or more of those ideas, and 41% disseminated their innovations either in the form of publications, or other ways as presentations, posters and webinar presentations. The present dissemination percentage is slightly higher than the one reported by Goldszmidt et al. (2008), but this difference can be explained that in the latter study only published articles were included.

**Time.** Lack of time, in particular protected time, is a prime barrier towards both implementation and dissemination of teaching innovations. This is in agreement with other studies (Goldszmidt et al., 2008; Smesny et al., 2007; Zibrowski et al., 2008). To help to overcome the time barrier, the concept of seizing opportunities and turning educational activities into scholarly products should be kept in mind before starting on a project (Steinert & Snell, 2011; Witt & Heinrich 2000). This emphasizes the importance of being clear on the
definition of the SoTL, and offering faculty development workshops targeting the unique context health professions practice and teach in (O' Sullivan & Irby, 2011). This may help them to seize opportunities to change everyday activities to scholarly products, especially that many faculty members have educational responsibilities that can be turned to scholarly products such as course design, simulation courses, program evaluations, and so forth.

**Familiarity with research methodology.** Another barrier mentioned by focus group participants and survey respondents was unfamiliarity with research methodology appropriate for investigating education topics and the criteria of assessment. This comment converges with findings of previous studies (Goldszmidt et al., 2008; Harris et al., 2003; Smesney et al., 2007). The scope of unfamiliarity in the present study is quite wide, and involves areas such as formulating of manageable and worthy research questions, academic writing, dissemination procedures, and use of available resources. A concern expressed by more than one survey respondent was not knowing whether their ideas are innovative or not and worth pursuing and disseminating. This latter point needs special consideration as some faculty members, faced by the challenge of teaching in a non-structured environment, implement new innovations to enhance student learning. These new innovations should be seen as a potential base for scholarship.

Surprisingly, Goldszmidt et al. (2008) found no significant differences among faculty member who had received formal training in medical education and those who had not, particularly with respect to their perceived need for support to pursue research in medical education. One would have expected that formal training in medical education would provide faculty members with the necessary skills to conduct educational research. There was also no significant difference among both groups as regard how many publications they had in the field of medical education. In contrast to formal training, faculty development workshops and short courses on an array of areas have been favoured by faculty (Goldszmidt et al., 2008). For example, at McGill workshops have been given on academic writing (Steinert et al., 2008), course design and teaching (Saroyan & Amundsen, 2004), obtaining grants, and seizing opportunities for scholarship.

In the present study participants with formal training in education (i.e., Doctorate Degree, Master Degree, and fellowship) had higher publication / dissemination rate, but due to their limited number no inferential statistics were done.

Lack of funding. Another barrier reported by survey respondents was lack of research funding, and this is closely associated with the general expression of need for research support and capacity building, expressed by faculty members. A similar finding was reported by Tavakol, Murphy, Rahemei-Madeseh, and Torabi (2008).

Lack of institutional support. Other reasons given by survey respondents for not implementing or disseminating ideas about educational innovations included lack of institutional support, and here again rises the question of why do faculty members hold this perception. Mårtensson et al. (2011) have also touched on this notion and have suggested that a socio-cultural lens might shed light on why there exists a negative perception regarding the importance of the SoTL. They point to the lack of enthusiasm and resistance faculty members may face when they return from educational courses, and would like to implement new ideas, or see old practices change. This attitude is what is known as "*return problem*" (as cited in Mårtensson et al., 2011, p. 58). Also they claim that only through faculty's increased engagement in scholarly teaching activities can institutes achieve a "*cultural shift*" (p.55) based on its faculty members self-identifying as academic teachers.

**Collaboration.** The absence of peer support was a barrier for dissemination of joint scholarly activities. In some cases, this occurred when joint scholarly activities were considered as a duty rather than scholarship. However, looking globally at the figures of the survey, we found that 54% of faculty members who worked with colleagues on joint teaching activities disseminated their innovations, while only 16% of those faculty who did not have any joint teaching activities disseminated their innovations. This might be explained by the fact that working with peers with complementary skills increases productivity (Steinert & Snell, 2011; Witt & Heinrich 2000) and this notion is closely related to the concept of regarding the SoTL as communities of practice (Duffy, 2006). There is also the possibility that some faculty are more aware of the scholarship in teaching and when they are teamed up, they share their knowledge and enrich the group's creativity. This is also known as a "hothouse effect" (Kunstler, 2004), which McGaghie (2009) explains as: "This is achieved when group productivity grows, thrives, and 'feeds on itself'. In a hothouse environment energy and intensity are not consumed, they expand" (p. 578). An additional explanation can be related to the nature of the areas of collaboration in this study. In our case, these included course design, student assessment, program evaluation,

simulations, virtual patients, web-based modules, and active learning classroom. These areas usually involve more opportunities for scholarly activities than the mere act of teaching.

## **Promoters/ Enablers**

Factors considered by survey respondents to promote their engagement in the SoTL are in descending order: career satisfaction, protected time, institutional acknowledgement, recognition in promotion and tenure decisions, educational research workshops, advanced training in educational research, available grants and/or funding, faculty development workshops on teaching, having role models and/or mentors, awards and as previously discussed having supportive team members. These factors converge with those cited in the existing literature. For instance, Hafler and Lovejoy (2000) showed that when Harvard Medical School expanded its criteria of promotion to involve other forms of scholarships and scholarly activities rather than only traditional discipline-related research, a subset of faculty members submitted research articles in the field of medical education. Greenberg and Bickel (2010) discussed the expected effect of widening the scope of scholarship in promotion criteria for clinician / educators. They expected an increase in their career satisfaction, and consequently a lesser probability of their quitting their academic positions. Goldszmidt et al. (2008) explored the perceived needs of faculty members interested in pursuing research in medical education. The main needs identified were need for research support, mentors, and teaching workshops.

Even though that there already exists a supportive infrastructure in the context of the institution where this study was carried out, the opinions expressed

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by survey respondents emphasize the need for more publicity about present resources and support offered. This affirms the necessity to carry out a wider needs assessment (Sherbino & Lockyer, 2011) for faculty members wishing to engage in the SoTL and to form more communication channels with academic units. An important suggestion that can change the perception of the value of the SoTL is to include attending medical education meetings or conferences as part of faculty's professional development.

Focus group participants also placed weight on internal motivators such as personal satisfaction, interest in education, enjoying the art of teaching by better relating to students, improving one's teaching practice, academic identity, and commitment to their health science specialty. These are not surprising outcomes as focus group participants are members of the Medical School's Centre for Medical Education and thus have an inherent interest in medical education and they value the SoTL. In addition, they also emphasized the role the Centre for Medical Education plays in promoting scholarship in education, and the importance of having outlets where faculty members can present or publish their innovations. This latter factor was expressed also as a need by survey respondents. They were looking for venues where they can share their scholarly teaching innovations, be recognized by the faculty, get peer feedback, and form a base for a network for future collaboration. They have suggested a dedicated website, a portal, or educational fairs as means of fostering such relationships. In agreement with their demand, Castiglioni et al. (2013), among other tips, have also discussed the importance of having a mentor and forming a network of

interested peers as a means of promoting engagement in scholarly educational activities.

# **Relationship between Academic Rank and Number of Publications**

In this study there was a significant positive correlation between academic rank and publishing teaching innovations, and between academic rank and the number of these publications. Chi-Square goodness-of-fit test showed also a significant association between the academic rank and the observed number of publications. A similar finding was reported by Hafler and Lovejoy (2000). Sixty-three percent of full professors published / disseminated their teaching innovations in comparison to markedly lower percentages among other ranks, which were 35%, 41%, and 30% for associate professors, assistant professors, and faculty lecturers respectively. A possible explanation is that professors, after reaching a certain level in their career specialty, are more able and willing to afford the time to pursue research in other areas of interest. Because of their senior status, they may also have spent years on educational administrative duties which can in turn provide them with a more scholarly approach to education. Boyer (1990) has discussed the different phases and changing career goals that faculty members experience and has advised universities to provide "creativity contracts" (p.48) for their staff in support of potential changes in career aspirations. One can also wonder if this relationship is similar to a chicken-egg relationship where it is not known what came first (i.e., cause or effect), and that perhaps their publications got them promoted quicker. Another explanation for this finding is that junior and mid-level faculty members are more inclined to other forms of dissemination other than publications, due to less strict acceptance

criteria. However, this significant correlation should be regarded with caution, as the sample size is small and respondents were not randomly selected.

## Limitations

This study is an exploratory one, limited to one centre of medical education. Study participants compromised a sample of a convenience who are interested in medical education or have administrative duties related to medical education. As such, it is not representative of all faculty members. Moreover, many of the interview questions explored perceptions and thus objectivity cannot be assumed. Besides, the survey included some open-ended questions, for which no frequencies could be calculated, nor answers could be ranked.

## Recommendations

The findings of the study convey the notion of regarding the communities of practice as the main conceptual framework for the SoTL. Thus recommendations that arose from this study closely parallel this conceptual framework. These recommendations aim at providing more opportunities for faculty members to engage in the SoTL and to expand the existing communities of practice. They include:

• A more extensive outreach policy to promote the SoTL. This may include "brown-bag seminars" to inform faculty about the SoTL, as some of them won't consider what they are doing scholarly; a dedicated website to provide guidance to faculty members about possible teaching innovations they may like to implement and to answer their related questions; more publicity about awards and grants related to the SoTL; the organization of a possible McGill education fair, where faculty members can share their teaching innovations and ideas.

- Holding faculty development workshops for interested faculty members addressing specific topics such as how to seize opportunities to produce scholarship in education, and how to obtain grants or funding for educational research, hands-on workshops for web-based curricula and E-learning, and other endeavours to render them more technology oriented.
- Having a dedicated online or printed journal, where faculty members can publish their teaching innovations.
- Clear guidelines as whether products of the SoTL disseminated in other forms than publications will be counted towards promotion or will be just added to the teaching portfolio.

#### Conclusion

In addition to looking at facilitators and barriers to engage in the SoTL this study aimed to examine the perceptions of McGill medical faculty members about the value of the SoTL. McGill faculty members value the SoTL, however, a unique finding of the study that needs further exploration is why do faculty members perceive that McGill rates the SoTL inferior to other types of scholarship, despite official acknowledgment of the SoTL in promotion and tenure policies.

Career satisfaction, institutional acknowledgement of the SoTL, and recognition of the SoTL in promotion and tenure decisions are among the principal factors considered by survey respondents to promote their engagement in the SoTL. Thus an encouraging initiative would be highlighting outstanding educational activities, teaching innovations, and awards faculty members receive in relation to their engagement in the SoTL not only in dedicated websites or newsletters, but also on general faculty and departmental websites.

The main barriers reported for not engaging in the SoTL are lack of time, unfamiliarity with research methodology in education, and lack of funding. These factors converge with previous reports in the literature. Specialized medical education units present in the faculty can help faculty members in overcoming some of these barriers, however, there is a perceived need for more publicity on available resources and support offered. There exists a necessity to form more communication channels with the different departments to reach a wider population of faculty members. A possible suggestion would be the presence of a liaison faculty member between each department and these units. Nevertheless, it is quite impressive that approximately two thirds of the survey respondents implemented innovative ideas related to their educational activities and most of them went a step further to disseminate their innovations.

A final word, this study was limited to a special group significantly involved in the education of medical students and residents. Exploration of the perceptions of a representative sample of the wider population of faculty members will add more insight to the information collected.

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# Appendix A

# Web-based Questionnaire

- 1) As a medical faculty member are you engaged in any of the following teaching activities? (check all that apply)
  - O Teaching
  - O Curriculum design / Course design
  - O Students'/ trainees' assessment
  - O Program evaluation
  - O Mentoring
  - 2) Have you worked with any colleagues within the Faculty of Medicine on joint teaching activities e.g. setting a joint course design?
    - O Yes
    - O No
- 3) Have you worked with any colleagues from other faculties, e.g. Engineering or Education, on joint teaching activities as e.g. web-based courses or learning aids?
  - O Yes
  - O No
- 4) If your answer to either question 2 or 3 is yes, please indicate the type and context of collaboration.

\_\_\_\_\_

5) How many hours a week do you usually spend to fulfill your teaching responsibilities? (this includes teaching, curriculum/course design, students'/ trainees' assessment, program evaluation and mentoring)

- O Less than 3 hours
- O 3-5 hours
- O 5-8 hours
- O More than 8 hours

Please provide a short description of how these hours are divided? ------

- 6) Have you ever had any ideas about innovations for your educational activities, new interventions in teaching, or research and development for your teaching?
  - O Yes
  - O No
- 7) If your answer to question 6 is yes, have you implemented any of those ideas?
  - O Yes
  - O No
- 8) If your answer to question 7 is no, which of the following factors were barriers? (choose all that apply)
  - O Lack of time
  - O Lack of funding
  - O Lack of institutional support
  - O Unclear evaluation criteria
  - O Unfamiliarity with educational research methodology
  - O Other, please specify ------

\_\_\_\_\_

9) Have you considered sharing with others your ideas, activities or innovations in teaching, curriculum design / course design, assessment, program evaluation or mentoring?

O Yes

O No

10)

10)	
0	Have you submitted for publication any manuscripts on or about your teaching activities? If yes, how many in the past 5 years?
0	Have you had any articles published? If yes, how many in the past 5 years?
0	Have you disseminated your ideas about teaching in any other way, e.g. posters, podium presentations, MedEdPortal?
	It yes, prease speeny
11) I ini pro so	f you haven't considered disseminating your ideas, activities or novations in teaching, curriculum design/course design, assessment, ogram evaluation or mentoring, what are the main reasons for not doing ?
12) W ini	hich of the following factors would encourage you to disseminate your novations in education? (choose all that apply)
0	Career satisfaction
0	Awards

- O Having a role model/mentor
- O Having protected time
- O Availability of grants/funding
- O Recognition in promotion and tenure decisions
- O Institutional acknowledgement
- O Educational research workshop
- O Faculty development workshops on teaching

- O Having the opportunity to get advanced training in educational research
- O Other, please specify ------
- 13) In general, how do <u>you</u> rate educational research in comparison to other areas of research (e.g. clinical, epidemiological, basic science)?
  - O Equal
  - O Lower
  - O Higher
  - O Unable to judge
- 14) How do you think <u>your institution</u> rates educational research in comparison to other areas of research (e.g. clinical, epidemiological, basic science)?
  - O Equal
  - O Lower
  - O Higher
  - O Unable to judge
- 15) How do you think your <u>department colleagues</u> rate educational research in comparison to other areas of research (e.g. clinical, epidemiological, basic science)?
  - O Equal
  - O Lower
  - O Higher
  - O Unable to judge
- 16) Have you had extra training in education / medical education?
  - O Faculty development
  - O Teaching Scholars Program
  - O Fellowship Program
  - O Master Degree
  - O PhD / other doctoral
  - O Other, please specify -----

\_\_\_\_\_

17) Reg	garding your aca	demic rank, are you?		
0	O Faculty Lecturer			
0	O Assistant Professor			
0	O Associate Professor			
0	Full Professor			
18) Are you a clinician?				
0	Yes	Field		
0	No			
19) Are you a basic scientist?				
0	Yes	Field		
0	No			
20) We	ould you like to a	add any suggestions to help faculty members document		
their scholarly teaching activities, and share them with their peers?				

Thank you for taking the time to complete this survey

## **Appendix B**

#### **Focus Group Questions**

- 1. A known term in the field of education is *scholarship of teaching*. Are you familiar with the term? What do you understand by this term?
- 2. Why would someone affiliated with the health professions engage in the scholarship of teaching? What factors may encourage or prevent you from engaging in the scholarship of teaching?
- 3. Have you ever considered the need to disseminate (by publications, presentations, etc.) the scholarship resulting from your teaching activities, especially if they are innovative interventions? What were your reasons for this? How did you proceed? Where there any factors that helped or facilitated? Where there barriers to overcome?
- 4. How would you compare the scholarship of teaching to other types of scholarship, e.g. clinical or basic research in your health discipline?
- 5. From reading material on McGill website and its policies and procedures it seems that McGill values the scholarship of teaching: Do you think your department or your colleagues in your department value the scholarship of teaching? Please describe why.