Improvement of professors' teaching: Investigating motivating and inhibiting factors

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Abstract

Professors have three main functions in universities: research, teaching and service. This study focuses on the teaching function. Effective teaching in higher education enhances students' learning while ineffective teaching can have detrimental impact on students' learning and their attitudes toward learning. In this regard, it is important that professors have the knowledge base for effective teaching, a base which is growing and changing rapidly. This requires that they engage in professional development activities to improve their teaching. Research suggests that professors are reluctant to dedicate time to improve their teaching. The main purpose of this study was to investigate the contextual and personal factors that contribute to a sense of reluctance or motivation for the improvement of teaching. Goal orientation and implicit theory of teaching skills guided this study to explore personal factors. Results revealed that mastery goal orientation and implicit theory of teaching skills are correlated with the time spent on activities for improving teaching and implementing new instructional methods, respectively. Professors' perceptions of barriers against and support for improvement of teaching were also studied. Recommendations forwarded by professors to enhance their engagement in the improvement of teaching including creating a reward system for teaching, designing more efficient teaching improvement opportunities, building communities of learning and practice, allocating funds for the improvement of teaching and considering teaching time release designated for improvement.

Résumé

Les professeurs de l'université ont trois rôles principaux: faire la recherche, enseigner et rendre des services comme élaborer des programmes d'études. Cette étude porte sur celui de l'enseignement. Puisque l'enseignement inefficace a des impacts nuisibles sur la compréhension des étudiants, il est important que les professeurs sachent comment améliorer leur efficacité de l'enseignement. Il apparaît que les professeurs ne sont pas assez motivés pour s'engager à développer l'enseignement. Les résultats révèlent que ça existe des corrélations entre orientation vers les objectifs, la théorie des implicites compétences de l'enseignement et le temps qui a été mis pour améliorer l'efficacité de l'enseignement et réalisation de nouvelles méthodes pédagogiques, respectivement. Les perceptions des professeurs sur les obstacles existants contre l'amélioration de l'enseignement ont été étudiées aussi. Les professeurs ont été demandés de donner leurs avis sur l'amélioration de l'enseignement. Ces avis comprennent la création d'un système de récompense pour l'enseignement, élaboration des occasions plus efficaces pour l'amélioration de l'enseignement, planification des communautés d'apprentissage et de pratique et désignation de budget pour amélioration de l'enseignement.

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Chapter 1. The Review of Literature

Introduction

Higher education institutions are expected to foster higher order thinking in students to enable them to transfer their knowledge to novel situations and apply their skills in solving real-world problems (Biggs, 1999; Fink, 2003). The learning environment in which students are taught and the teaching methods that they benefit from play an important role in enabling students to gain the abovementioned skills and knowledge. From a social constructivist perspective, learning activities and environments should enable students to interact with the instructor and other students to construct new knowledge (O'Dnnell, 2011). Thus, professors play a significant role in guiding students' learning in higher education. The modeling, coaching, and scaffolding they do in the course of instruction, assist students in their learning processes (Collins, 2006; O'Dnnell, 2011). This requires professors to have essential skills and expertise concerning these effective instructional processes.

Learning about teaching is still important for professors today since their role has changed from transmitting knowledge to supporting and facilitating student learning. Being a contemporary professor is further complicated because of the change in students' profiles. Today's students are more diverse and mature and have broader background knowledge because of greater access opportunities (Vermunt & Endedijk, 2011). Effective teaching practice can enhance students' learning for a number of reasons. For instance, many university classrooms are large and diversified in terms of students' academic backgrounds and achievements. Not only are professors expected to target active students, but they are also supposed to stimulate and engage students who are considered passive learners (Biggs, 1999). Effective teaching and

learning activities, compared to less effective instruction, can engage passive students and reduce the achievement distance between these students and those who are more engaged. To this end, professors should design activities that foster higher level cognitive processes and critical thinking to prompt active participation. Although many professors want their students to be good thinkers, not all are successful in achieving this outcome. This lack of success is partly attributed to employing ineffective teaching methods (Biggs, 1999). In order to assist these professors, it is useful to develop a better understanding of their failure to employ effective instructional methods.

Ineffective teaching can have detrimental consequences on students' learning, such as reducing motivation and increasing negative attitudes towards learning, both of which can result in lower achievement (Atkins & Brown, 2002). Given these potential negative consequences, there is a need that professors learn about effective teaching by engaging in teaching improvement or development activity. However, not all professors are concerned about improving the situation and acquiring appropriate teaching methods (Fink, 2003). What adds another layer of complication is that diverse disciplines and distinctive conceptual frameworks require pedagogical approaches that extend beyond those that are appropriate across the board and target pedagogies that are particular to the subject matter (Hounsell, 1984; Shulman, 1987).

Effective Teaching

According to Atkins and Brown (2002), effective teaching is "a complex, intellectually demanding, and socially challenging task" (p. 1). It is intellectually demanding because it requires a deep understanding of the content of a course. Professors are expected to analyze the content of their instruction, organize ideas and information, employ appropriate strategies, and

design an active learning environment to teach the content. Effective teaching results in deep as opposed to surface learning. It is learner-centred and is oriented to students and their learning (Barr & Tagg, 1995; Devlin & Samarawickrema, 2010).

Effective teaching is socially demanding because it happens in the context of institutions and departments (Atkins & Brown, 2002). This may present a potential concern especially if there are conflicts between goals and values of individual professors and those reflected in departmental or institutional policies. For instance, a professor employed in a university where research is more valued than teaching might feel pressured or be criticized for focusing on teaching rather than research and publication (Carnell, 2007). Therefore, the social context matters for effective teaching.

Carnell (2007) used a novel approach and investigated effective teaching from professors' points of view. Her sample, which comprised eight university professors, described effective teaching as a form of teaching in which learning is transparent, where the dialogue between the instructor and learners enables learning, and where knowledge is generated within communities of learners. The professors in this sample emphasized that both instructors and students have responsibilities in fostering effective teaching. Professors need to consider students' prior knowledge and stimulate them to learn. In sum, teachers and students are co-learners; and knowledge is constructed by collaboration between them (Carnell, 2007; O'Dnnell, 2010).

More than two decades ago, Shulman (1987) introduced three main categories of knowledge base for effective teaching: content knowledge, pedagogical knowledge, and pedagogical content knowledge. He described content knowledge as the knowledge of the

subject being taught, and pedagogical knowledge as the knowledge of teaching strategies, including classroom organization and management, and the knowledge of how students learn. Pedagogical content knowledge, a newly introduced concept, was defined as the "amalgam of content and pedagogy" (Shulman, 1987, p. 8) that distinguishes a content specialist from a pedagogue. This necessarily encompasses instructors' professional understanding of the discipline as well as a solid grasp of effective ways of instructing in that discipline. Shulman (1987) also suggested that curriculum knowledge as well as knowledge of learners and educational context are essential to effective teaching. In short, disciplines have a vast knowledge base which includes the knowledge of appropriate pedagogies that professors must learn about and be prepared to use them to refine their instructional methods (Guskey, 2000). Doing so would normally require that professors engage in teaching development and improvement. This is particularly important because, at the time of hire, professors are expected to have an advanced degree in their discipline but they are not required to have any pedagogical training prior to their employment. The absence of such training makes on-going learning about teaching relevant and in most cases a necessity if the intent is to provide students with effective instruction.

Although there is some consensus that effective teaching is systematic versus thoughtless, stimulating versus boring, and caring versus uncaring (Atkins & Brown, 2002; Biggs, 1999; Noddings, 2001), it is important to note that effective teaching should meet the requirements of the context and depends highly on goals of instruction (Atkins & Brown, 2002; Devlin & Samarawickrema, 2010). Context also underscores the role of professors' pedagogical content knowledge, as highlighted by Shulman (1987); different contexts and disciplines demand different teaching methods.

The above observations underscore the importance of development and improvement of teaching for professors in order to successfully deal with teaching demands of their job and for them to learn about new pedagogical and applied pedagogical strategies in their disciplines (Van Eekelen, Boshuizen, & Vermunt, 2005). Professors can acquire, improve, and develop effective teaching by learning and practicing various instructional methods (Atkins & Brown, 2002). A discussion of different forms of improvement and development of teaching follows.

Improvement of Teaching

Caffarella and Zinn (1999) distinguish between three forms of professional development by which university professors can improve their teaching: 1) self-directed learning, 2) formal professional development, and 3) organizational professional development. Self-directed learning encompasses the activities professors plan and implement on their own. Learning by and teaching, including reading materials for lectures, revising previous courses, and designing new courses are examples of self-directed learning. Formal professional development comprises learning that takes place in meetings, workshops, and conferences at regional, national or international levels. In contrast to self-directed learning and formal professional development that take place at the level of the individual, organizational development is systematically planned and targets changes and improvements at the level of the organization. Since organizational development is not the focus of this study, I shall not expand on it further. In the following paragraphs, I present a short review of self-directed learning and formal professional development activities that target teaching improvement.

Self-directed learning and self-regulated learning. Self-directed learning is one of the ways to improve teaching and it often the starting premise for professional developments

(Cafarella & Zinn, 1999). In self-directed learning, professors are responsible for most of the detailed decisions for their learning. In such instances, it is important that they identify and are able to address the actual problems or issues for learning (Bartimote-Aufflick, Brew & Ainley, 2010; Van Eekelen et al., 2005). Self-regulation and critical reflection can help professors achieve this purpose, whereas lack of regulation can produce problems related to learning about teaching (Bartimote-Auflick et al., 2011; Lindblom-Ylänne, Nevgi & Trigwell, 2011).

Different researchers have attempted to model the processes of self-regulation for learning (e.g., Pintrich, 2000; Winne and Hadwine, 2008; Zimmerman, 2011). Among these models, Zimmerman's model of self-regulation (SRL) is particularly appealing because it incorporates different motivational constructs in each phase. Zimmerman's (2011) model has three phases: the forethought, performance, and self-reflection. In the forethought phase, learners engage in task analysis by setting goals and planning strategically. Self-motivation beliefs such as self-efficacy and interest impact initiation and continued engagement in task analysis. In the performance phase, self-control and self-observation strategies are adopted by learners. Metacognitive monitoring is a critical strategy for self-observation. Volition strategies, as part of self-control strategies, are employed to motivate learners with challenging and long-term goals (Heckhausen, 2007). In the self-reflection phase, learners adopt self-judgement strategies to reflect on and evaluate their performance. Causal attribution in this phase can impact learners' motivation. Attributing failure or success to controllable or uncontrollable causes will have different consequences for motivation. Reflection on previous tasks affects the subsequent cycle of forethought. These three phases in Zimmerman's (2011) SRL model are related to each other in a cyclical form. Motivation constructs that have been incorporated in each phase play an

important role in shaping learners' experiences. This model is a useful lens to examine students' self-regulation processes.

Bartimote-Auflick et al. (2011) argue that the Critical Self-Regulation model (CSR) is more appropriate for adult learners since they are not exposed to pre-set learning goals. The CSR model differs from the SRL model in regard to the phase, entitled 'prior phase', that has been added before the forethought phase in Zimmerman's (2011) model. Bartimote-Auflick et al. (2011) argue that because adult learners, and university professors in this case, are not exposed to pre-set learning tasks, they require considering higher order goals for themselves and their students. The prior phase in the CSR model plays an important role to help professors make right choices for learning by reflection-for-action, in which they reflect on the higher order goals to see whether these are appropriate for learning and in this case, for learning about teaching. Consequently, the CSR model is considered more appropriate for professors.

Professors need to engage in self-directed learning, to some extent, to learn about effective teaching and to improve their instruction. A critical self-regulated professor is likely to make appropriate choices for learning, plan effective strategies, be more motivated during the course of learning and consequently be more successful in his/her learning processes about teaching.

Formal professional development. Attending meetings, workshops and conferences is a form of engagement in formal professional development to improve teaching (Caffarella and Zinn, 1999). Other forms are written descriptions of effective teaching and collaboration and consultation with experts or peers (Sunal et al., 2001). Although some interventions of this nature have failed to make sustained changes in teaching practice and in enhancing students' learning, there exist also examples of successful experiences. A well-designed and thoughtfully

planned workshop can deepen instructors' knowledge and develop their practice (Guskey, 2000; Ko, Wallhead & Ward, 2006; Saroyan & Amundsen, 2004). Coherence between learning activities and connecting theory and practice by engaging participants in active learning are reported to be effective (Birman, Desimone, Porter & Garet, 2000; Garet, Porter, Desimone, Birman, & Yoon, 2001). The context, the duration of the event and the target population are important design elements that can have an impact on the success or failure of professional development activities. For instance, a short, one-day event is likely not to have a long-term effect on target participants. In contrast, there are examples of multiple-day events with successful and long-term change (Saroyan & Amundsen, 2004; Sunal et al, 2001). Apart from the abovementioned activities, building learning communities and communities of practice are novel forms of teaching improvement.

Professional learning communities and communities of practice. There is a growing body of literature that highlights the importance of professional learning communities and communities of practice in development and improvement of teaching (Carnell, 2007; Cox, 2006; Eib & Miller, 2006; Jones 2010; Smith et al., 2008). Learning communities and communities of practice are effective contexts in which to enhance the skills and knowledge of community members. Individuals within the community have shared goals, values and personal practices. They engage in collective learning and benefit from supportive leadership (Hill, 2012; Hoadley, 2012). Recent research has examined how learning communities and communities of practice can enhance and promote different instructional methods or improvement of teaching among university professors. For instance, in a study carried out in Calgary, researchers promoted delivery of courses by distance programs (Eib, & Miller, 2006). Before the study began, there were only a few professors with expertise and willingness to engage in online

learning and distance education. Some showed evidence of motivation, but they were sceptical about the effectiveness and success of online courses. The researchers designed an 'institute' using an inquiry approach to learning. The professors shared their questions and concerns about teaching and implementing new technologies and discussed them in the frequent events that were held by the researchers. The focus of the institute was on enhancing effective teaching, but not primarily on online teaching or distance education. However, five years after implementing the institute, in addition to enhancing effective teaching, a big growth was observed in the number of professors offering online courses. This is one of the successful experiences of development of teaching in communities of practice.

In another study in the University of Brighton, Jones (2010) investigated how building communities of practice among faculty members with teaching fellowships can enhance teaching and learning as well as professional development. She conducted a small-scale qualitative study on nine teaching fellows in 2008-2009. The study revealed that collaboration in communities of practice resulted in more successful projects compared to previous projects without such collaboration. Local communities of practice proved to be very supportive and helpful for instructors to overcome various challenges during the course of the fellowship. Carnell (2007), in her study of professors' conceptions of effective teaching, also emphasized the role of community to support professors in being effective. Professors acknowledged the role of collaboration and dialogue with colleagues in small groups as a mean of enhancing effective teaching. In another study, the impact of the learning community on teaching and learning for professors in science, technology, engineering and mathematics was investigated in Howard University, USA (Smith et al., 2008). In this study, researchers designed a learning community by providing faculty members with different seminars, courses, meetings and teaching

experiments. The aim was to foster the scholarship of teaching and learning and reflective practice. The study showed that being part of this learning community was very effective for enhancing teaching and learning in the mentioned disciplines.

In summary, learning communities and communities of practice can enhance teaching and professional development among university instructors. The results are in line with the social constructivist approach that learning is enhanced by social interaction and sharing knowledge among individuals. The empirical studies presented above also acknowledge the validity of this concept for professors' learning. It is argued that since faculty development is considered an ongoing need and long-term goal, community building is essential to achieving sustained outcomes (Eib, & Miller, 2006).

Apart from the learning and practice aspects, communities of learning and practice can establish a sense of connectedness among professors and address potential problems associated with the sense of lack of belonging and lack of community in the workplace. The sense of belonging and connectedness are vital for continuous development and improvement (Eid & Miller, 2006; Feldman & Paulson, 1999). Change and enhancement in teaching cannot take place without engaging professors in activities that target improvement and development of teaching. However, engagement itself will not guarantee future success. There is a need for well-designed events appropriate for different contexts (Guskey, 2000; Sunal et al., 2001).

Motivation to Improve Teaching

Although engagement in activities related to the improvement of teaching is important, not all professors are concerned about, seek, or welcome such opportunities (Fink, 2003; McCrickered, 2012). There are different drivers of professors' motivation and willingness to

engage in the improvement of teaching. Contextual and personal factors are reported as the main motivational drivers for professional development and learning about teaching (Caffarella & Zinn, 1999; Vermunt & Endedijk, 2011).

Contextual factors. Tagg (2012) recommends starting from the structure of workplace to investigate professors' attitudes toward change. Professors experience different motivating and inhibiting factors within their institutions for improvement in teaching. For instance, the supportive teaching environment proposed by Feldman and Paulsen (1999) can promote improvement of teaching. In such an environment, teaching is considered as important as research; a vision that is communicated when hiring new faculty members and in tenure and promotion policies. Teaching is encouraged within professional learning communities among faculty members, chairs and administrative staff. Additionally, in such an environment, there is a unit especially established to promote effective teaching. This unit provides faculty with various resources and programs such as consultation, training, conferences and grants for teaching (Carnell, 2007; Feldman & Paulson, 1999). According to Feldman and Paulson (1999), this kind of environment enhances professors' motivation for the improvement of teaching and teaching well. In contrast, an environment in which academic performance is measured by the quality and quantity of research performance may demotivate faculty members from engaging in teaching development activities. In such contexts, although departments or chairs may appreciate efforts made and time spent on effective teaching, professors may feel less advantaged if they have fewer publications compared to colleagues who have more publication in prestigious journals. The imbalance between extrinsic rewards and promotion for research and teaching activities communicates the message that teaching is less important than research (Carnell, 2007). Even though recent actions in institutions may place greater emphasis on teaching,

teaching is considered to be less important in promotion and tenure (Hardre & Cox, 2009). This may demotivate professors to focus on teaching and to engage in teaching development activities (McCrickered, 2012; Serow, Brawner, & Demery, 1999). Most professors in higher education have a full complement of teaching, research and service responsibilities (Fink, 2003). Spending extra time and effort on the improvement of teaching will have a cost for them. Eccles (2005) asserts that if the value of an activity is higher than its cost, or if there is a reasonable expectancy of success in the activity, individuals tend to undertake that task. If professors do not feel that their department or institution values the time and effort they put toward teaching, they are less likely to take part in teaching improvement (Fink, 2003). These observations highlight the importance of contextual factors on professors' engagement in the improvement of teaching.

Studies investigating barriers against and support for improvement of teaching. Research has also been carried out to identify barriers and supports that faculty members experience with respect to the improvement of teaching. Time constraint is reported as one of the main barriers (Brownell & Tanner, 2012; Lind, 2007; Sunal et al., 2001). Lack of resources for the improvement of teaching and insufficient training (Brownell & Tanner, 2012; Sunal et al., 2001) as well as lack of incentives for teaching well and the push to advance research are viewed as barriers for the improvement of teaching (Frost & Teodorescu, 2001; Lind, 2007; Santo, Engstrom, Reetz, Schweinle & Reed, 2009; Serow, Brawner, & Demery, 1999; Serow, Van Dyk, McComb & Harrold, 2002; Tagg, 2012). These studies mainly report barriers against the improvement of teaching. Other studies have investigated supportive factors. Collaborative work with colleagues, recognition of improvement of teaching, support systems at workplace (e.g., funds, and resources) and a supportive teaching culture in departments have been identified as factors that support the improvement of teaching (Caffarella & Zinn, 1999; Feldman and

Paulsen, 1999; Frost & Teodorescu, 2001; Lind, 2007). Stakeholders and faculty developers need to be aware about professors' attitudes toward change and teaching improvement in order to develop appropriate and effective strategies to motivate them (Berman & Skeff, 1988; Sunal et al., 2001).

Personal factors. Apart from contextual factors, personal factors and professors' motivational beliefs are important determinants for engaging in the improvement of teaching. Individuals' motivational beliefs have cognitive, affective and behavioural impact on their choices and achievement in different academic settings (Eccles, 2005; Thadani, Breland & Dewar, 2010). For instance, some instructors may avoid changing their instructional practice since change may imply that there is a deficit in their actions that needs improvement (McCrickered, 2012). This view of change has its roots in individual's goal orientation and implicit theories of teaching skills. These two motivational constructs have implications for individuals' help-seeking patterns, the learning opportunities they take advantage of, and their reactions to success and failure (Butler, 2007; Dweck and Master, 2009). Improvement in teaching can be considered a learning opportunity or a form of help seeking in which instructors try to enhance their teaching skills. In this study, I have focused on goal orientation and implicit theories and investigate the relationship between the constructs and professors' motivation for improvement in teaching. The discussion of these two theoretical constructs, goal orientation and implicit theories, follows.

Theoretical Framework

Goal orientation. Goal orientation can be conceptualized as a motivational orientation that directs individual behaviours in achievement-related tasks and settings (Maehr & Zusho,

2009). This theory was mainly developed to examine students' goal endorsement in challenging situations (Senko, Hulleman, & Harackiewicz, 2011). Goal orientation has been primarily categorized into mastery and performance goals. A distinction can be made between the two goals in regard to an individual's approach to competence, ability and effort. Individuals with mastery goal orientation tend to develop their competence, whereas individuals with performance goal orientation are interested in demonstrating their competence or outperforming others. Ability is considered an innate characteristic for individuals with performance orientation. For individuals with this orientation, putting lots of effort into performing a task is considered to be equal to lack of ability. In contrast, for individuals with mastery orientation, effort is a useful and welcomed concept, since ability can be developed by effort. Endorsing each of the goals has different cognitive, affective and behavioural consequences. Within this dichotomous view of goal theory, performance goals are perceived as detrimental to some extent for student learning, while mastery goals are deemed as advantageous (Maehr & Zusho, 2009; Senko, Hulleman, & Harackiewicz, 2011). However, there are also differing perspectives. Performance goals can be defined in a different way using approach and avoidance distinctions. From this perspective, performance goals are not entirely detrimental. The negative aspects of performance goals are attributable to performance-avoidance goals (avoid doing a task for fear of appearing less talented). According to Senko et al. (2011), individuals with performance-approach goals tend to demonstrate their abilities or outperform others. They believe that the new category of performance-approach goal can have positive consequences for individuals' achievement. Moreover, work-avoidance goal orientation is another category that pertains to individuals who want to perform a task with little effort and avoid extra work (Butler, 2007).

The definitions presented above have been primarily developed for students in achievement settings. However, in recent studies on goal orientation, this concept has been expanded to include instructors (Butler, 2007; Nitsche, Dickhäuser, Fasching, & Dresel, 2011; 2013; Retelsdorf, Butler, Streblow, & Schiefele, 2010). The rationale is that schools or universities are not just places for students to learn. Teachers and professors are also supposed to engage in learning to enhance their professional skills (Butler, 2007). In this regard, teachers and professors can be considered learners who may face challenges in their professions; and in addressing these challenges they may achieve different levels of outcomes. Therefore, achievement goal orientation can be considered an appropriate lens to examine teachers' and professors' academic performance. Goal orientation for teaching purposes is described by Butler (2007) by the following terms: a) instructors with mastery goals will be interested in learning and developing their professional skills, b) instructors with performance-approach goals will tend to demonstrate their superior teaching skills and outperform colleagues, c) instructors with performance avoidance goal will try to hide their inferior teaching skills, and d) instructors with work-avoidance goals will aim to finish their days with little effort and to avoid extra work. These categories of goals have been used in studies on teaching goal orientation.

Studies have reported a relationship between teachers' goal orientation and their attitudes toward further training (Nitsche et al., 2013), teachers' interest in teaching and instructional practices (Retelsdorf et al., 2010), and teachers' intrinsic and extrinsic motivation for continuous learning (Ng, 2010). According to Nitsche et al. (2013), individuals with a higher mastery goal orientation display a more positive attitude toward teaching improvement and report higher numbers of attended training workshops. These individuals are concerned about improving their professional skills and knowledge and welcome training workshops to acquire further

knowledge. In contrast, individuals with work-avoidance goal orientation are less likely to attend further training. Since attending workshops is associated with additional work, it is not welcomed by these instructors. Furthermore, mastery goal orientation is reported to be a positive predictor of interest in teaching and instructional practices while there is a negative relationship between work-avoidance goal orientation and the mentioned constructs (Retelsdorf et al., 2010). Interestingly, in these studies no relationship between performance goal orientation and the above constructs has been revealed. It is important to note that the abovementioned studies were conducted mostly with teachers in school settings. There is a need for more research to investigate these constructs in relation to college and university professors.

Implicit theory of teaching skills. Individuals differ in the way they view their personal traits (e.g., intelligence, ability, personality, etc.). The perception of personal traits has been named implicit theory or self-theory and has been classified into two distinct categories of entity and incremental theory. The concept was initially introduced by Dweck (1999) as implicit theory of intelligence but has been expanded to other personal traits in different studies. Basically, individuals' implicit theory of intelligence is determined by their approach to the concepts of intelligence and ability and whether they see these as fixed (entity theory) or malleable (incremental theory). Implicit theory shapes individuals' motivational frameworks and has widespread impact on their cognition and behaviours. It impacts their goal orientation, their beliefs about effort and failure, the strategies they use to cope with failure, and their choice of learning opportunities. In general, individuals with incremental theory endorse mastery goals and tend to approach challenging tasks. They welcome the learning opportunities that target their weaknesses. Individuals with entity theory tend to endorse performance goals. They do not value efforts, because exerting effort is seen as a sign of low ability. In the face of failure, these

individuals show helpless reactions and sometimes dishonesty. However, individuals with incremental theory try to increase their efforts to succeed (Dweck and Master, 2009; Thadani, Breland, & Dewar, 2010).

The bulk of research on implicit theory has been done on students' theories and the way these theories impact students' learning and behaviours. Recently, Thadani, Breland, and Dewar (2010) expanded the implicit theory of intelligence to teaching skills and conducted a study on college instructors. They investigated the relationship between college instructors' beliefs about the malleability of teaching skills and their professional development preferences. As in the case of the implicit theory of intelligence, they relied on entity (where teaching skills would be fixed) and incremental (where teaching skills would be malleable) theory. This study revealed a negative relationship between entity theory of teaching skills and college instructors' willingness to participate in professional development activities. McCrickered (2012) discusses the impact of professors' implicit theories and their attitudes toward change. She argues that professors with entity theories seem more reluctant to employ new instructional strategies. The reason is that they think they have a fixed repertoire of teaching skills and that they cannot really improve them. In contrast, professors with the incremental theory may welcome change as they think they can change their skills by effort and practice. These assertions do not have an empirical base and further research needs to be carried to on this motivational construct about college and university professors since implicit theory can have widespread impact on professors' learning processes.

Problem Statement

It has been asserted that many professors in higher education are disconcerned, reluctant or even resistant to improving their teaching and to employing innovative strategies in their teaching (Berman & Skeff, 1988; Fink, 2003; McCrickerd, 2012; Radloff, 2009; Sirum, Madigan, & Klionsky, 2009). Their reluctance can result in their employing ineffective or less effective teaching methods. As discussed above, ineffective teaching can be detrimental to students' learning while effective teaching can stimulate and enhance learning (Atkins & Brown, 2002; Biggs, 1999). With respect to the importance of effective teaching and the improvement of teaching, it is essential to understand the contextual and personal motivational drivers underlying professors' reluctance or motivation for engagement in improvement of teaching. Inhibiting factors should be addressed and motivating factors should be reinforced to encourage professors to improve teaching.

Goal orientation theory and implicit theory of teaching skills are the theories that have guided the investigation of barriers against and supports for the improvement of teaching in the present study. An additional variable that is explored in this study is the status of the professor and whether or not the individual is tenured. Previous research has looked at group differences in other contexts. For instance, studies have compared perceptions of tenured and pre-tenured professors toward grant writing (Boyer & Cockriel, 1998; Walden & Bryan, 2010). Results indicate that tenured and pre-tenured faculty members have different perceptions of barriers against and support for grant writing. Consideration of tenure and promotion is a more significant motivator for pre-tenured faculty members compared to tenured faculty members. There is a paucity of research on differences between pre-tenured and tenured faculty members with regard to engagement in teaching and improvement. Tenured and non-tenured professors

experience different motivations and pressures on teaching, research and service. Thus, they may differ in their perceptions of barriers against and support for teaching accordingly. For example, if as asserted, research has higher importance in tenure policies (Hardre & Cox, 2009), a pre-tenured professor may perceive research as being more meritorious than teaching or more important for the tenure evaluation process. For these professors, that teaching activities, compared to research activities, will have lower value and higher cost for these kinds of professors. This emphasis on research can distract professors from focusing on teaching (Frost & Teodorescu, 2001). Differences between pre-tenured and tenured professors in perceptions of barriers and support should be taken into account when reluctance for improvement of teaching is being addressed.

Research Questions

The following research questions were investigated to identify underlying factors that impact professors' motivation for improvement of teaching.

1) What are professors' perceptions of motivating and inhibiting factors for professional development to improve their teaching?
2) What is the relationship between professors' goal orientation and implicit theory and their engagement in professional development activities as related to teaching?
3) Are there any differences between pre-tenured and tenured professors in perceptions of motivating and inhibiting factors in regard to improvement of teaching?
4) What are professors' recommendations to remove barriers and to reinforce participating in teaching development activities?

Research Hypotheses

The following hypotheses were formed to investigate the relationship between goal orientation and implicit theory and professors' engagement in improvement of teaching.

a) Professors with mastery goal orientation are likely to attend more workshops to improve their teaching (positive relationship).
b) Professors with work avoidant goal orientation are likely to attend fewer workshops to improve their teaching (negative relationship).
c) Professors with mastery goal orientation are likely to allocate more time to improve their teaching (positive relationship).
d) Professors with work avoidant goal orientation are likely to allocate less time to improve their teaching (negative relationship).
e) There is a relationship between professors' implicit theory of teaching skills and their implementation of new instructional methods (negative relationship between variables: individuals with a lower score, which points to incremental theory, are likely to report more time being spent implementing new instructional methods and vice versa).
f) Previous studies reported no relationships between performance goal orientation and engagement in improvement of teaching. I will explore the relationship between these construct in the current study.

Chapter 2. Methodology

This study employed a survey design with the purpose of a) understanding the perceptions of barriers against and supports for the improvement of teaching, and b) exploring the relationship between professors' goal orientation and implicit theory of teaching skills on the one hand and their participation in activities related to improvement of teaching on the other hand.

Context and Participants

The research site was McGill University, a research intensive university in Eastern Canada. Participants were faculty members representing different disciplines and varying in rank and experience. The data gathering was conducted in June and October 2013.

Sample Size and Sampling Procedures

The target sample size for this study was 40 participants. Since I planned to make comparisons between pre-tenured and tenured faculty members with respect to their perceptions of teaching improvement activities, recruiting 20 participants in each comparison group was deemed sufficient to ascertain power. Thus, a total number of 40 participants was targeted for this small-scale study. To recruit the participants, an email was sent from the Teaching and Learning Services (TLS) to provide McGill faculty members who had participated in workshops run by TLS with general information about this study. Faculty members who were interested in participation were asked to contact the researcher directly. This email resulted in recruiting only 5 participants. Since one of variables of interest in this study was workshop attendance, I decided to approach faculty members who had participated in workshops by distributing

information through TLS. This could have provided me with a good pool of faculty members who had participated in a number of workshops greater than zero. However, I did not get a high response rate.

I then made personal visits in selected Faculties and departments (e.g., Education, Engineering, Law, Physics, Art, English, etc.) and knocked on every door in June and October 2013. Thirty-eight additional faculty members were recruited in this way. At the same time, an email was sent from some departments on behalf of the researcher to invite faculty members to participate in the study. These departments were mostly medical science departments, in which professors hold few office hours because of clinical or laboratory practice. This resulted in recruiting two more participants. A total number of 45 participants were thus recruited for this study. All participants were presented with basic information about the study prior to their participation. They agreed to participate in the study by signing the consent form and subsequently filled out a questionnaire that was developed for this study. Appendix B and C include the questionnaire and the consent form.

Selection of the Method

The survey design was deemed appropriate for this study as the aim was to collect faculty opinions and motivation about improvement of teaching. A survey can provide the researcher with individuals' knowledge, feelings, values and perceived behaviours and can be carried out via self-administrated questionnaires or interviews (Fink, 2008). A self-administrated questionnaire was considered appropriate for this study.

The Questionnaire

The survey prepared for the present study consisted of 14 questions. The first two questions elicited demographic data about participants' years of teaching experience in and outside McGill and their rank. One question pertained to the importance of research, teaching, service and teaching improvement for faculty members. Three questions elicited participants' engagement in different activities related to teaching improvement, such as attending conferences or workshops, reading articles about teaching, talking to colleagues about teaching, and research or publication on teaching in their disciplines. Two questions focused on faculty members' time allocation to activities related to research, teaching and service. Four open-ended questions addressed perceptions of barriers against and support for improvement of teaching and recommendations for improving the current situation to enhance faculty engagement in improvement of teaching. The last question consisted of two scales for measuring participants' goal orientation and implicit theory of teaching skills. Appendix B includes a copy of the questionnaire. Participants were asked to fill in the questionnaire only once. The time required of them was no more than 15 minutes.

Scales. Teachers' goal orientation and implicit theory of teaching skills were two variables of interest in this study. In order to measure these variables, two scales were included in the questionnaire. The recent literature on goal orientation (Shim, Cho & Cassady, 2012; Butler, 2007; Nitsche, Dickhäuser, Fasching & Dresel, 2011; 2013; Ng, 2010; Retelsdorf, Butler, Streblow & Schiefele, 2010; Retelsdorf & Gunther, 2011) provides insights into the use, advantages and disadvantages of scales. For instance, the scale developed by Shim, et al. (2012) does not target work-avoidant goal orientation. The scale designed by Ng (2010) captures extrinsic and intrinsic goals, but neither was the focus in the present study. Nitsche, et al. (2011)

developed a 5-point Likert scale with 36 items focusing on different aspects of instructors' professional life. For instance, for mastery goals, they considered three competence facets: competence in pedagogical knowledge, content knowledge, and pedagogical content knowledge. For performance goals, they defined four groups to which instructors try to demonstrate their competence or to avoid appearing less competent. These groups included the principal, colleagues, students, and self. This scale was validated with 495 teacher trainees and 224 in-service teachers. Nitsche et al. (2013) subsequently utilized it in their study of teachers' goal orientation. This scale was initially adopted for the present study and used in a pilot conducted with three faculty members. The feedback received from the pilot group was that the scale was very ambiguous. Following this input, Butler's (2007) Teacher Achievement Goal Orientation Questionnaire was considered an alternative option to measure professors' goal orientation. According to Butler (2007), this scale was validated using 320 teachers who responded to this self-report measure. Apparently, the entire questionnaire consists of 16 questions. Respondents rated their responses on a 5-point Likert scale. In none of Butler's publications about teachers goal orientation (Butler, 2007; Butler & Shibaz, 2008; Retelsdorf, Butler, Streblow & Schiefele, 2010) has the questionnaire been presented in its entirety. Furthermore, I could not get access to the questionnaire by contacting her by email. However, she includes 8 items of the questionnaire and a table summarizing all items in her publication (Butler, 2007; see Appendices D and E). I developed the other 8 items according to the summary table. Since the Teacher Achievement Goal Orientation Questionnaire was primarily developed for school teachers, some revisions were made to adapt the questionnaire to the context of higher education. The empirical literature does not offer a scale to measure the goal orientation of university professors. The Teacher

Achievement Goal Orientation Questionnaire, which has been used for school teachers, is the scale available. Its choice, while justifiable, is a limitation of the current study.

Although the reliability score reported by Butler (2007) is slightly lower than that reported by Nitsche. et al. (2011), Butler's (2007) Teacher Achievement Goal Orientation Questionnaire was clearer to the pilot participants. Thus, it was chosen as a measure of goal orientation in this study. Indeed, this measure has been employed in other research studies on school teachers (Butler & Shibaz, 2008; Retelsdorf, Butler, Streblow & Schiefele, 2010; Retelsdorf & Gunther, 2011).

With respect to the scale for implicit theory of teaching skills, the scale developed by Thadani, Breland and Dewar (1999) was used in the questionnaire. This self-report measure consists of three items, rated on a 5-point Likert scale. The items for this scale are: "You can't really teach someone how to be a great teacher; great teachers are born, not made", "You can't really change how well a teacher helps students understand topics or gets students to think critically" and "Someone's teaching may improve a little with training and experience, but it can't be hugely improved" (Thadani, Breland& Dewar, 2010, p. 11). The scale is reported to have good reliability (α = .86), and there is also initial evidence of convergent validity.

Correspondence between Research Questions and the Questionnaire

Table 1 below shows the correspondence between the research questions and questionnaire items. Question 1 and Question 4 are reflected in the four open-ended questions. The two scales for goal orientation and implicit theory of teaching skills as well as questions measuring professors' allocation of time and engagement in improvement of teaching provide

data for the hypothesis related to Question 2. Analysing the current data and comparing the results for pre-tenured and tenured faculty members provide an insight to answer Question 3.

Table 1

Correspondence between research questions and questionnaire items

Research Questions	Questionnaire Item
Question 1	Are there any incentives that might motivate you to engage in teaching improvement activities? Are there any barriers that might prevent you from engaging in teaching improvement activities?
Question 2	Goal orientation scale Implicit theory of teaching skill scale Professors engagement in the following activities: Free/paid workshops TLS workshop Teaching conference Reading articles about teaching Talking to colleagues about teaching Research on teaching Publication on teaching Professors' allocation of time on the following activities: Research Service Teaching Teaching a course Preparing materials Supervision Participation in teaching development activities Researching on teaching Preparing materials for a new course Revising a course Planning new instructional methods
Question 3	Participants' rank Perceptions of barriers against and support for teaching improvement
Question 4	Do you have any recommendations for increasing engagement in teaching development activities? Do you have any recommendations to remove barriers to motivation in engaging in teaching development?

Variables of Interest

Participants' scores pertaining to goal orientation and implicit theory of teaching skills were independent variables in the present study. Professors engagement in and allocation of time for activities related to improvement of teaching and implementation of new instructional methods were dependent variables of interest. Participants' rank was the grouping variable. Table 2 shows variables of interest in this study.

Table 2

Summary of variables of interest

Type of variable	*Variable names*
Independent variables	Professors' goal orientation: Mastery goal orientation Performance-approach goal orientation Performance-avoidance goal orientation Work-avoidance goal orientation Implicit theory of teaching skills
Dependent variables	Engagement in improvement of teaching Allocation of time for improvement of teaching Implementation of new instructional methods
Grouping variable	Professors' tenure status: Pre-tenure Tenured

To measure goal-orientation, the following four scores that were obtained from the goal-orientation scale in the questionnaire were used in the analysis: MasteryGO (mastery goal-orientation), WAvoidantGO (work avoidance goal-orientation), PApproachGO (performance approach goal-orientation) and PAvoidantGO (performance avoidance goal-orientation). The score obtained from the scale pertained to implicit theory (ENT) was used to measure the

implicit theory of teaching skills. Incremental theory was associated with lower values and entity theory was associated with higher values. Goal-orientation and implicit theory of teaching skills were considered independent variables in the present study.

With respect to engagement in professional development activities related to teaching, the following elements were incorporated into the questionnaire to operationalize this construct:

1) Workshops_Sums: This variable is the sum of the free workshops, paid workshops, TLS workshops and teaching conferences attended by professors.
2) TLKtoColleagues: frequency of discussion about teaching with colleagues (Since there was no consistent format in the response for this element in the data, I considered only whether a professor talked to colleagues [equal to 1] or did not talk to colleagues [equal to 0].)
3) Article: number of articles about teaching read by professors (Since there was no consistent format in the data, I considered only whether a professor read an article [equal to 1] or did not read an article [equal to 0].)

The following elements elicited participants' allocation of time for the improvement of teaching. Professors were asked to consider the time they spent on teaching improvement activities, revising courses and implementing new methods out of their total teaching time.

1) TDactivities: time being spent on teaching development activities (%)
2) ReviseCourse: time being spent on revising courses (%)
3) NewMethod: time being spent on implementing new instructional methods (%)
4) TimeforTD: the last three elements together form the aggregate variable of time for improvement in teaching (%)

Implementing new instructional method (NewMethod) was also another dependant variable in the study.

Pilot Testing

As mentioned earlier, the questionnaire used in this survey consisted of the questions developed by the researcher and the two scales for goal orientation and the implicit theory of teaching skills. This combination was pilot tested before the actual data gathering. The pilot study participants were similar to the targeted sample, as recommended by Fink (2008), and were drawn from the faculty members of McGill University. The main focus of the pilot was to test the clarity and face validity of the questions. The researcher asked the pilot participants first to read and respond to the questions in the questionnaire. Then, she reviewed each question with the pilot participants, discussing the specific ways in which the questions were interpreted. The researcher also discussed the appropriateness of the questionnaire to produce relevant data to investigate the research questions. Necessary revisions were made following to the pilot testing.

Data Sources and Analysis

Data sources for research questions 1, 3, and 4 were the responses for the four open-ended questions in the questionnaire (See Table 1). Qualitative analysis, specifically thematic analysis, was used to analyze these data, and the analysis was carried out in five steps. First, responses to the open-ended questions were segmented and entered into the first column in the analysis table. The response for each question was considered as one segment. The reason was that each question pertained to different ideas (e.g., support for improvement of teaching, barriers against improvement of teaching, recommendations to improve the situation, and

recommendations to remove barriers). Second, the themes representing each segment were identified and placed in the next column. Third, these themes were clustered into higher order categories which were then used to generate the frequency tables. The analysis of questions 1 and 4 ended at this step. With respect to question 3, the fifth step was performed to create two frequency tables according to participants' ranks. The table was used to compare the responses of pre-tenured and tenured professors to the open-ended questions.

Since responses to the open-ended questions were mostly short in length, I utilized the same wordings that participants used in the questionnaire. This can be considered low inference only insofar as participants used the expressions and terms to imply the same meaning. However, this was not verified. The first round of qualitative coding to identify the themes was done in September 2013 for the 34 collected questionnaires that were available at that time. To ensure reliability, a second round of coding of these data was performed again by the researcher in November 2013. For the rest of data that were collected in October 2013, one of my lab members and I coded the data separately to identify the themes to ensure reliability. The two versions of coding were then compared and contrasted and the more appropriate themes were adopted for each segment. We then clustered the data and categorised these themes separately. The inter-rater reliability score was 89%.

Other than the open-ended questions, all items in the questionnaire provided data for research questions 2. Correlational analysis, Pearson correlation coefficient, was employed to test the hypothesis for research question 2.

Chapter 3. Results

In this section, general demographic information about participants, the data about their perceptions of importance of academic activities, and the time spent on these activities are provided. These are followed by the presentation of the results of each research question separately.

Demographic Information

Forty-five McGill faculty members agreed to participate in this study by signing the consent form and responding to the questionnaire. Participants represented different disciplines and varied in rank and experience. Table 3, 4 and 5 comprise information about participants' disciplines, ranks, and years of experience. Distribution of participants' years of teaching experience in total and in McGill University are illustrated in Figures 1 and 2.

Table 3

Frequency table of faculties to which participants are affiliated

Faculty name	*Frequency*
Art	13
Education	6
Engineering	5
Law	1
Management	4
Medicine	3
Science	13
Total	45

Table 4

Participants' ranks as pre-tenure and tenured

	Rank	*Frequency*	*Percent*	*Valid percent*
Valid	non-tenured	22	48.9	50
Valid	tenured	22	48.9	50
	Total	44	97.8	100
	Missing	1	2.2	
Total		45	100	

Table 5

Mean and standard deviation for participants' years of experiences

Variables	*M*	*SD*	*Valid Number*	*Missing Number*
Total years of experience	14.26	12.04	44	1
Year of experience at McGill	11.58	12.14	44	1

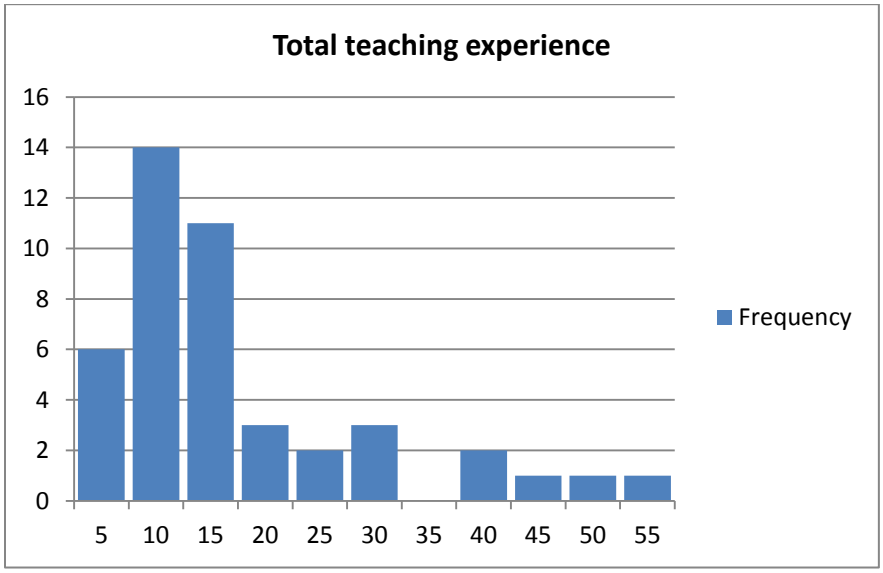

Figure 1. Histogram of participants' total years of teaching experience

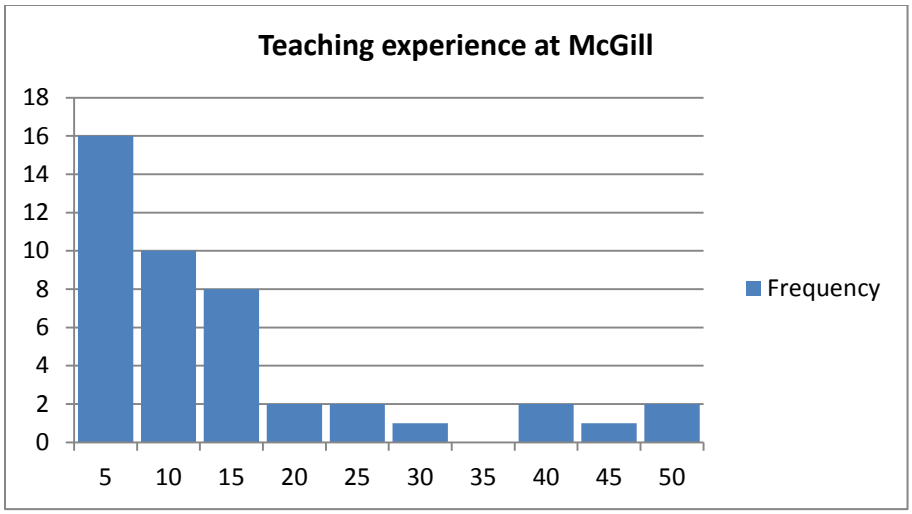

Figure 2. Histogram of participants' years of teaching experience in McGill University

Time Allocation for Teaching, Research, and Service

One question in the questionnaire elicited information about the time professors spent on teaching, research and service activities. Table 6 includes the mean and standard deviation pertaining to these data. Participants reported that more than 75% of their time was spent on research and teaching and around one fifth of their time was allocated to service related activities. Time for teaching and research were not significantly different from each other (t = .95, df = 40 and p >.05).

Table 6

Mean and standard deviation for time being spent on research, teaching and service

Variables	*M*	*SD*	*Valid Number*	*Missing Number*
Time on research	36.34	15.17	41	4
Time on teaching	40.49	15.49	41	4
Time on service	23.17	12.83	41	4

Importance of Teaching, Research, Service, and Teaching Improvement

Participants were also asked to rate the importance of teaching, research, service and teaching improvement, using a scale of 1-4, 1 being not important and 4 being the most important. Table 7 shows the means and standard deviations of these data. Research was not significantly more important than teaching, but the difference is very close to being significant ($t = 1.79$, $df = 43$ and $p = .08$). On the other hand, teaching improvement was perceived to being significantly more important than service ($t = 2.22$, $df = 43$ and $p < .05$). However, the time spent on teaching improvement was significantly lower than the time spent on service ($t = 7.59$, $df = 47$ and $p < .05$). This result suggests that although professors perceive service as less important than the improvement of teaching, they actually spent more time on service.

Table 7

Mean and standard deviation for importance of research, teaching, service and teaching improvement

Variables	*M*	*SD*	*Valid Number*	*Missing Number*
Importance of research	3.61	.78	44	1
Importance of teaching	3.29	.51	44	1
Importance of service	2.52	.55	44	1
Importance of teaching improvement	2.79	.59	44	1

Question 1

What are professors' perceptions of motivating and inhibiting factors for professional development to improve their teaching?

To answer this question, the following two open-ended questions in the questionnaire provided data: 1) Are there any incentives that might motivate you to engage in teaching improvement activities? 2) Are there any barriers that might prevent you from engaging in teaching improvement activities? Thematic analysis was employed in four steps to analyze participants' perception of incentives and barriers. The results of analysis of perceptions of incentives and barriers are presented separately.

Perceptions of incentives. Table 8 is the frequency table of the categories of incentives for improvement of teaching that have been derived from the original data. Table 1 in Appendix F comprises the original themes and their corresponding frequencies for incentives. Relevant themes are presented beside each other in that table.

Table 8

Perceptions of incentives: categories

Categories	*Frequency*
Greater value for teaching	11
Professional reward (7)	
-promotion	
-tenure	
-merit pay	
Greater recognition and support for teaching improvement (4)	
-award grants for course/teaching development	
Time release	9
-having more time (3)	
-teaching time release (4)	
-release form service obligations (2)	
Intrinsic motivation	6
-being self-motivated (3)	
-employing new ideas for improvement	
-having a good class	
-students' interest	
Teaching improvement activities	5
-teaching improvement activities itself	
-more flexible scheduling	
-format of the activities: have student component instead of post-process info	
-teaching improvement outcomes (2)	
Learning	5
-enhance students learning (3)	
-learning outcomes (2)	
Teaching evaluation:	4
-more efficient student evaluation	
-teaching evaluation itself	
-decline in students evaluation	
Less research pressure	1
Other	7
-more tailored tutoring style	
-respect	
-connection between research and course content	
-students with low performance	
-change in course assignments within units	
-large class	
-budget for TA to develop courses	

Perceptions of barriers. Table 9 is the frequency table of the categories of barriers for improvement of teaching that have been derived from the original data. Table 2 in Appendix F displays the original themes and their corresponding frequencies for barriers. Relevant themes are presented beside each other in that table.

Table 9

Perceptions of barriers: categories

Categories	*Frequency*
Lack of time	18
Workload	6
University is not conducive to teaching	6
Teaching improvement activities: Timing (2) Outcomes of the activities (3)	5
Priorities Time to research is prior (3) Time to service is prior	4
Too much Administration energy	2
Other -Lack of meaningful assessment of teaching -High student evaluation: what aspect to improve -Lack of resources -Inefficient, complicated and ever-changing IT resources -Class size -No barriers	6

Question 2

What is the relationship between professors' goal orientation and implicit theory of teaching skills and their engagement in professional development activities as related to teaching?

There are three constructs in question two: professors' goal orientation, implicit theory of teaching skills, and participation in improvement of teaching. Table 2 in the methods section includes the description of variables pertaining to these three constructs.

Distributions, means and standard deviations of the dependent variables are shown in Figure 3 to Figure 5 and in Table 10.

Table 10

Mean and standard deviation for dependent variables

Variables	*M*	*SD*	*Valid Number*	*Missing Number*
Workshop_Sums	.69	1.26	39	6
TimeforTD	17.81	9.5	37	8
NewMethod	6.05	5.44	37	8

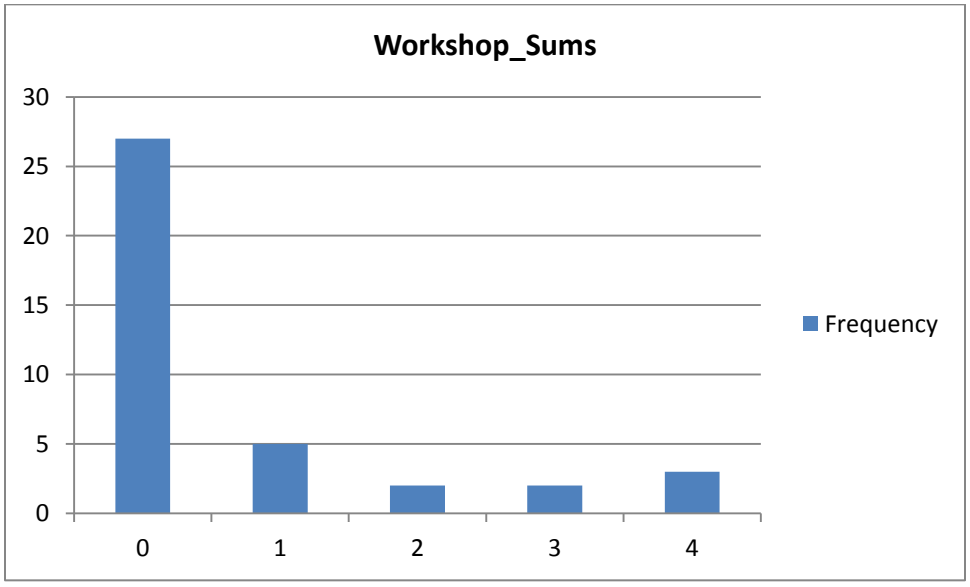

Figure 3. Distribution of the Workshop_Sums variable

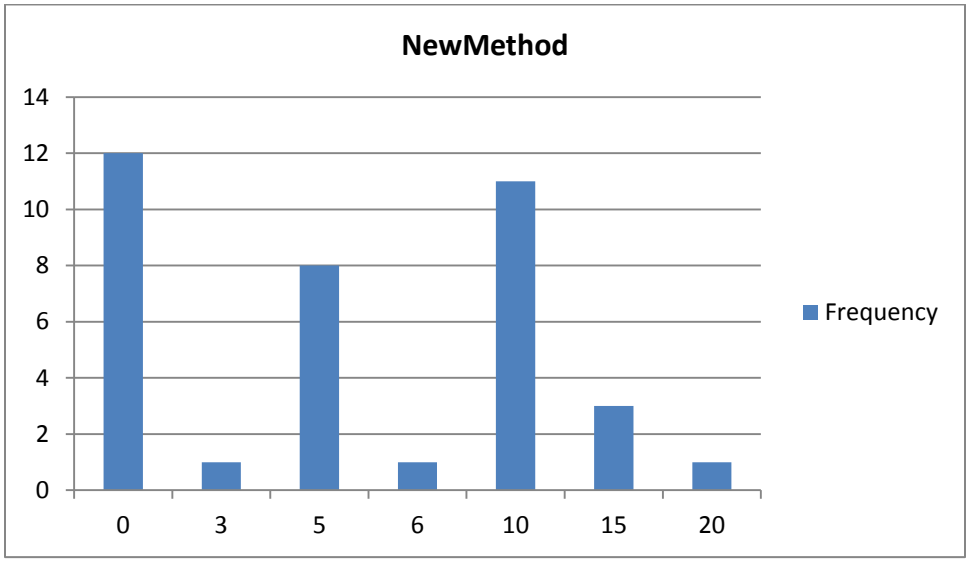

Figure 4. Distribution of the NewMethod variable

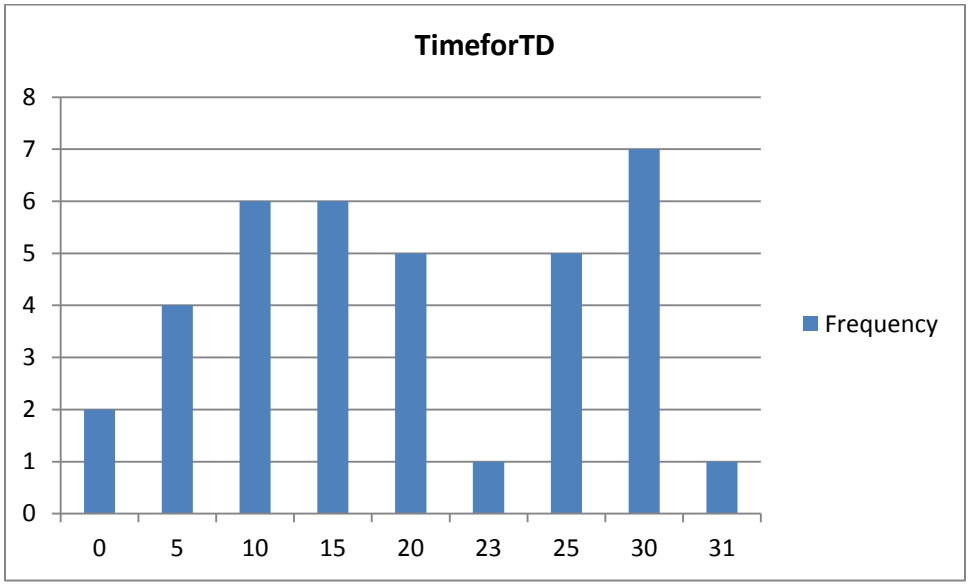

Figure 5. Distribution of the TimeforTD variable

Research hypotheses. As discussed previously, five hypotheses were formed to investigate the second research question. Each hypothesis and its corresponding results are presented in the following section.

a) Hypothesis 1: Professors with mastery goal-orientation are likely to attend more workshops to improve their teaching (positive relationship).

MasteryGO and Workshop_Sums were two variables of interest in this hypothesis. Correlation analysis was performed to test this hypothesis. The analysis revealed no relationship between these two variables.

b) Hypothesis 2: Professors with work-avoidance goal-orientation are likely to attend fewer workshops to improve their teaching (negative relationship).

Correlational analysis was executed to investigate the relationship between WAvoidantGO and Workshop_Sums variables. No relationship was found between these two variables.

c) Hypothesis 3: Professors with mastery goal-orientation are likely to allocate more time to improve their teaching (positive relationship).

Time allocation for improvement of teaching was reflected in the TimeforTD variable. Like before, correlational analysis was performed to investigate the relationship between the variables. The Pearson's correlation coefficient between MasteryGO and TimeforTD was medium and significant (r = .383, p = .019). This result suggests that professors who endorse mastery goals are likely to spend more time to improve their teaching.

d) Hypothesis 4: Professors with work-avoidance goal-orientation are likely to allocate less time to improve their teaching (negative relationship).

No significant relationship between TimeforTD and WAvoidantGO was revealed from the correlational analysis.

e) Hypothesis 5: There is a relationship between professors' implicit theory of teaching skills and their implementation of new instructional methods (negative relationship between variables: individuals with a lower score, which points to incremental theory, are likely to report more time being spent implementing new instructional methods and vice versa).

Correlational analysis revealed a significant relationship between the ENT and NewMethod variable with r = -.395, p = .016. The Pearson's correlation coefficient was medium. This result suggests that professors with incremental theory of teaching skills are more likely to invest in acquiring new instructional methods compared to professors with entity theory.

f) Hypothesis 6: Since there is no consensus in the literature with respect to performance goals, this study also aimed to explore the relationship between performance goals and engagement in professional development activities related to teaching. No relationship was found between these variables. Table 11 includes the summary of the relationship between goal orientations and implicit theory on the one hand and allocation of time and attendance in workshops on the other hand.

Table 11

Summary of the relationships between independent and dependent variables

Variables	*Workshop_Sums*	*TimeforTD*	*NewMethod*
MasteryGO	-.035	.383*	-
WAvoidantGO	-.097	.1	-
ENT	-	-	-.395*

**p<.05*

Question 3

Are there any differences between pre-tenure and tenured professors in participating in teaching development activities in regard to their perceptions of motivating and inhibiting factors?

Similar to the question 1, the two open ended questions in the questionnaire elicited participants' perceptions of barriers against and support for the improvement of teaching. Thematic analysis was performed to analyze the differences between pre-tenured and tenured professors in regard to their perceptions of motivating and inhibiting factors. The results of the analysis for perceptions of incentives and barriers are presented in Tables 12 and 13, respectively.

Table 12

Perceptions of incentives: comparison between pre-tenured and tenured participants

Categories for pre-tenured faculty	*Frequency*	Categories for tenured faculty	*Frequency*
Greater value teaching for Reward: promotion (2) Any incentives Greater recognition and support	4	Greater value for teaching Reward: promotion and Reward: merit pay (3) Greater recognition and support (2) Grant for course/teaching development	7
Time release Teaching reduction (2) More time Lower administrative and service obligations	4	Time release Teaching time release (2) More time (2) Lower administrative and service obligations	5
Intrinsic motivation Being self-motivated (2) Having a good class	3	Intrinsic motivation Students interest New ideas to improve teaching	2
Teaching improvement activities More flexible scheduling Format: have student component instead of post-process info Teaching improvement outcomes	3	Teaching improvement activities Teaching improvement activities Teaching improvement outcomes	2
Learning Enhance students' learning (2) Learning outcomes(2)	4	Learning Enhance students' learning	1
Teaching evaluation More efficient student evaluation Teaching evaluation itself	2	Teaching evaluation Teaching evaluation itself Decline in students evaluation	2
Less research pressure	1		
Other Connection between research and course content	1	Other More tailored tutoring style Respect Promotion and tenure process Students with low performance Change course assignments within units Large class Budget for TA to develop courses	7

Table 13

Perceptions of barriers: comparison between pre-tenured and tenured participants

Categories for pre-tenured faculty	*Frequency*	Categories for tenured faculty	*Frequency*
Lack of time	9	Lack of time	8
Workload	2	Workload	4
University is not conducive to teaching	5	University is not conducive to teaching	1
Teaching improvement activities: Timing (2)	2	Teaching improvement activities: Outcomes (3)	3
Priorities: Time to research is prior (2) Time to service is prior	3	Priorities Time to research is prior	1
Too much administration energy	1	Too much administration energy	1
Other	3	Other	4
Inefficient, complicated and ever-changing IT resources	1	Lack of meaningful assessment of teaching	1
Class size	1	High student evaluation: what aspect to improve	1
		Lack of resources	1
		No barriers	1

Question 4

What are professors' recommendations to remove barriers and to reinforce participation in teaching development activities?

The following two open-ended questions in the questionnaire provided data for this research question: 1) Do you have any recommendations for increasing engagement in teaching development activities? 2) Do you have any recommendations to remove barriers to motivation in engaging in teaching development? As in question 1, thematic analysis was conducted in four steps to analyze participants' recommendations. The results of analysis are presented in Table 14. Table 3 in Appendix F includes the original themes extracted from the data.

Table 14

Categories of professors' recommendations to improve situations for the improvement of teaching

Categories	*Frequency*
Teaching improvement activities	15
Consider more flexible timing for workshops	
Tailor to different disciplines	
Offer training in accordance to professors' needs	
Create opportunities for self-study by preparing ready-to-use materials	
Modify the format of teaching improvement activities	
Hands-on experiences	
On-site activities	
Teaching acting class	
Short in length focused in topics	
Make teaching improvement informal	
Provide menu of possible service for teaching improvement	
Provide quantitative evidence for efficiency of teaching improvement activities	
Greater value for teaching	13
Professional rewards (8)	
Value good teaching for tenure, promotion, salary and merit	
Provide more rewards and incentives for exercise in teaching	
Greater recognition and support for teaching (5)	
Create more administrative support and recognition	
Value teaching more	
Stop only focusing on grant writing and research	
Community building within departments	4
Create social structure to exchange ideas	
Make TD local in departments	
Define joint projects for faculties on course design	
More budget for	4
TD activities	
TAs to help develop courses	
Resources that enhance teaching/learning knowledge	
Teaching tools	
Course release time	4
Designated for faculties (especially juniors) to engage in TD	
Designated for experienced faculty to lead TDs	
Reduce service obligation	3

Reduce class size	2
Design an effective teaching evaluation system	2
Make teaching development a requirement	2
No significant barriers	2
Foster conceptual change about teaching skills	1
Less push toward technology	1

Chapter 4. Discussion

Supports and barriers for the improvement of teaching (Question 1)

Professors were asked to express their perceptions of various barriers against and potential incentives for the improvement of teaching via a questionnaire. The results were presented in the previous section and in Tables 8 and 9. The discussion of the barriers and incentives follows.

Time and workload. Lack of time was the most frequently mentioned barrier for the improvement of teaching with 40% of the participants perceiving this as a barrier. Conversely, being given more time to improve teaching was considered to be an incentive for engaging in the improvement of teaching. Time constraint has also been reported to be one of the main barriers in the literature (Brownell & Tanner, 2012; Lind, 2007; Sunal et al., 2001). Similarly, reducing course load and service obligations are mentioned as potential incentives because they can free up more time that can then be dedicated to the improvement of teaching. Workload was the second most frequently stated barrier. Research, teaching and service occupy the time of professors (Fink, 2003). The combined volume of work in these areas reduces the chance of engaging in extra activities to improve teaching. Given their heavy workload, professors in the current study stated that if they could get course reduction or course release time, they would have more time to engage in teaching improvement. Frost and Teodorescu (2001), in the study of professors' recommendations for instructional reform, found that professors expect universities to protect their time; by either decreasing the course load or by increasing the number of teaching faculty. Professors should then be able to use the time release for the

improvement of teaching. These results are consistent with findings of the current study about time release and course reduction. Respondents in the present study suggested considering teaching time release designated specifically for teaching improvement, especially for junior faculty members who have less teaching experience. They also recommended considering course release for senior faculty members who have the expertise to lead teaching improvement activities.

Furthermore, professors reported high load of administration and service obligations as a barrier and the reduction in service obligation as a potential incentive for engaging in teaching improvement activities. The data pertaining to the importance of teaching improvement and the time being spent on relevant activities support the perception. Although teaching improvement is perceived to be significantly more important than service, the time being spent on teaching improvement is significantly lower than the time being spent on service. Professors recommend reducing service obligations to enhance engagement in improvement of teaching.

Greater value for teaching.

Reward or endowment for improvement of teaching. Participants stated that creating rewards and incentives for teaching well and the improvement of teaching can significantly impact the value of and the engagement in activities related to the improvement of teaching, whereas lack of incentives and value would be considered as barriers. Research on motivation suggests that extrinsic rewards can undermine intrinsic motivation (Deci & Moller, 2005; Deci, Koestner, & Ryan, 1999). This has led some researchers to assert that rewards may not be essential to motivate professors to engage in teaching improvement (Berman & Skeff, 1988). However, according to the expectancy-value theory of motivation, expectancy of success and the subjective task value determine the choice of tasks. Subjective task value includes interest or

enjoyment value, attainment value, utility value and cost of performing in a task (Eccles, 2005). The interplay between these four factors determines the overall subjective task value. For instance, consider a case where there is no reward for the improvement of teaching or teaching well. When teaching is not valued, engagement in improvement activities could be viewed as a distraction from a more important task, for example research (Frost & Teodorescu, 2001; Serow, Brawner & Demery, 1999) and will have a cost for professors. Although engaging in teaching development activities can have enjoyment value for some professors, the high cost of engaging in such activities may inhibit them from engaging in this activity. A similar notion, articulated as "loss, gain and endowment" is proposed by Tagg (2012). When faculty members who spend time on teaching and improvement gain little and observe that their research-oriented colleagues receive more rewards such as tenure, advancement and remuneration, they may assign higher priority to research. Many faculty members see tenure, promotion and merit pay linked to research productivity (Tagg, 2012). Indeed, teaching seldom ranks as the most important factor for tenure and is not sufficiently rewarded and recognized in comparison to research (Chalmers, 2011; Hardre and Cox, 2009). In some cases, decisions for tenure, merit pay and promotion do not even take teaching excellence into account (Frost & Teodorescu, 2001). In the current study, the lack of reward and endowment as well as the lack of recognition for teaching efforts were viewed as significant barriers. As voiced by one participant, the University culture is not conducive to teaching since the university policies de-emphasize teaching and put pressure on research performance. Such a perception would signal to professors that they should follow this policy and place lesser emphasis on teaching. The pressure placed on research and grant writing was also seen as barriers to the improvement of teaching. Conversely, reducing pressure on research was viewed as a potential incentive. Professors recommended that teaching quality

should be taken into account for promotion, tenure and merit pay and that rewards and incentives need to be earmarked for teaching improvement. These comments correspond with the message conveyed in the existing literature (Tagg, 2012; Frost & Teodorescu, 2001).

Recognition and support. Participants acknowledged that lack of recognition and support from departments or administration could be a barrier for the improvement of teaching. This is consistent with previous findings in the literature (Feldman & Paulsen, 1999; Frost & Teodorescu, 2001; Tagg, 2012). Furthermore, they mentioned that greater recognition and support can motivate them and recommended that this should be taken into account. Elsewhere, it has also been asserted that effective change will not take place unless universities recognize, value, and support professors' effort toward teaching excellence (Sunal et al., 2001). Supporting improvement activities should be provided from the levels of schools and departments (Frost & Teodorescu, 2001). Typically, departments play an important role in hiring new faculty members and in tenure and promotion processes. If there is no recognition of teaching, the gains of teaching and improvement will be invisible as professors will not waste their time and energies on teaching (Tagg, 2012). Departments and universities should consider teaching as a priority (Frost & Teodorescu, 2001). In the current study, some participants mentioned that they could not take time from research and service to engage in teaching. Data pertaining to the importance of research and teaching support the participants' statement (See Table 7). Teaching is perceived to be less important than research by participants; the difference is close to being significant. This finding can also be viewed positively. Since professors are typically more interested in research than in teaching, universities can take this opportunity to highlight the importance of the scholarship of teaching and learning by creating concrete incentives for research on course design and pedagogy in different fields (Tagg, 2012). Offering incentives such as small grants

for course and teaching development could also be a positive step. This will benefit both the researchers and the wider population of professors in universities.

Teaching improvement activities. More flexible timing for teaching improvement activities and modifying the format of these activities were stated as potential incentives. Conversely, bad timing of workshops was seen as a barrier for participating in teaching improvement activities. With respect to the format of the activities, participants pointed out that teaching improvement activities that offer hands-on-experience are more effective than those merely exposing professors with information to be used in their future practices. Participants did not expand on this idea with more detail by discussing alternatives. However, the following insights from the literature can be useful. Cognitive apprenticeship, mentoring and collaboration and consultation with experts can improve and develop teaching (Collins, 2006; Frost & Teodorescu, 2001; Sunal et al., 2001). For instance, after attending sessions that enhance professors' knowledge about teaching and learning, professors can be assigned to peer experts to practice in authentic contexts. Professors can consult with the experts in planning one or two authentic teaching sessions and designing corresponding learning activities. They can also receive feedback from experts who observe their teaching sessions. This extra element can be incorporated into teaching improvement activities that are offered in the university. Since professors do not receive any pedagogical training prior to taking on teaching responsibilities, collaboration and consultation about teaching in authentic settings could potentially be a positive experience and could improve their instructional skills. Colleagues are also potentially a good resource that can help their peers improve their teaching. As one participant suggested, professors should be required to observe one or two colleagues every year. They can give each other feedback and learn from their strengths and weaknesses. Although considering this as a requirement is

debateable, this idea can be promoted in departments or in formal or informal learning communities and communities of practice.

Outcomes of the teaching improvement activities were perceived as barriers and potential incentives in the current study. Demonstrating the true benefits of teaching improvement activities by providing research evidence about effectiveness of these activities was considered a potential incentive and was recommended. Conversely, lack of evidence was considered a barrier because of the potential of casting a doubt on effectiveness of such activities.

Teaching evaluation. Participants in the current study considered teaching evaluation as an incentive for the improvement of teaching. In contrast, lack of meaningful teaching activities beyond student evaluation was viewed as a barrier for the improvement of teaching. Participants expressed that a decline in evaluation could lead to modification of and improvement in instruction. Berman and Skeff (1988) suggest that faculty members may not be aware of their strengths and weaknesses but an efficient system could inform them about possible deficiencies. Sunal et al. (2001) also argue that creating cognitive conflicts are essential for the success of professional development activities, because change cannot take place when professors do not experience dissatisfaction over their practice. Centra (1993) lists four conditions for the student evaluation that can lead to improvement in teaching. First, the evaluation must inform professors about their weaknesses. Professors' perceptions about their own teaching can be far different from what their colleagues and students perceive (Blackburn & Clark, 1976). Thus, an effective teaching evaluation should reduce the gap between what professors perceive and what they deliver to students in classrooms. Furthermore, the focus of evaluations must shift from judging performance to guiding improvement (Frost & Teodorescu, 2001). Second, professors must value the evaluation. Third, they must know or be advised how to use the information to

improve their practice. This emphasizes the necessity of existence of resources or services that offer support on campus for the improvement of teaching, in case professors need these; this service is available at McGill. However, two of the respondents in this study recommend that McGill should support faculty members for improvement based on their needs. For instance, lack of language training and IT skill trainings based on faculty members' demands are mentioned as barriers against improvement, since enhancing these skills without receiving any training can be time consuming. The final condition listed by Centra (1993) pertains to the importance of professors' motivation to use the evaluation information for improvement. Not all professors are intrinsically motivated to use this information; extrinsic motivators are needed. Valuing good teaching for promotion, tenure and remuneration can be examples of extrinsic incentives. One suggestion is to use more than one mechanism to evaluate teaching to increase the validity of the results (Frost & Teodorescu, 2001). As mentioned above, teaching evaluations must inform professors about possible deficiencies in their teaching; otherwise this source may not be effective. Once areas of improvement have been identified, then the institution ought to have available resources and provide expertise to help professors address the identified areas.

Intrinsic motivation. Apart from extrinsic factors, the motivation to improve teaching was partly intrinsic for around 25% of the participants. They were rewarded by enhancing students' learning, having a good class, the interest that students demonstrated for learning and about the subject matter and by employing new ideas to improve teaching.

Other. Some of the barriers and incentives identified by respondents could not be categorised into larger categories. A brief discussion of these follows.

A potential incentive for the improvement of teaching identified in the study is to ensure that there is a stronger connection between content of the course and ones research. Such a comment may have been prompted because of the time constraints experienced when preparing a course outside the area of ones research. However, this may also suggest that there is a less positive view towards teaching because it could imply that teaching has the second priority. Another suggested incentive for improvement was to rotate course assignments in departments or units. When a professor teaches a course for many years and receives no negative feedback, s/he is less likely to restructure the course. However, redesigning the course may lead to further enhancement in student learning. A third listed incentive to improve teaching had to do with the poor performance of students. A suggested incentive was to allocate funding for teaching assistants to help professors in developing new courses. This, however, may also have an inadvertent negative impact as there is research evidence about ineffective instruction by teaching assistants at the undergraduate level (Serow, 2002; Serow, Brawner, & Demery, 1999). Given these findings, it might be more beneficial if teaching assistants were to help professors broaden their teaching and learning knowledge rather than by taking over the instruction. Finally, having a large class was perceived both as an incentive and as a barrier. Contradiction of this nature is discussed below.

Paradoxical or inconsistent findings. One of the interesting outcomes of the present study was the inconsistency in participants' recommendations and perceptions of barriers and supports. For instance, in one case, being assigned to teach a large class was perceived as a barrier for the improvement of teaching. This is understandable since engaging, scaffolding and interacting with many students at the same time can be difficult. Although there is little consensus on the effect of class size on the quality of teaching (Akerhielm, 1995), research

suggests that small classrooms are more effective in enhancing students' learning (Finn, & Achilles, 1999). However, a contradictory view was also forwarded. One professor stated that s/he would be more motivated to teach well if s/he had more than 100 students in her/his class.

Motivational belief and engagement in the improvement of teaching (Question 2)

In addition to perceptions of barriers and support for the improvement of teaching, the relationship between goal orientation and implicit theory of teaching skills and engagement in teaching improvement activities was examined in this study. Results supported two of the five hypotheses. The first hypothesis pertained to the relationship between mastery goal orientation and time allocation for improvement of teaching. The results reveal a significant positive relationship between the two variables. This means that professors with mastery goal orientation are likely to allocate more time for activities related to improvement of teaching. This finding is consistent with the literature on teachers' goal orientation (e.g., Nitsche et al, 2013). The second significant finding was that there is a positive relationship between the implicit theory of teaching skills and implementing new instructional methods. This finding suggests that professors with incremental theory of teaching skills are likely to spend more time on implementing new instructional methods as they believe that they can enhance their teaching by practice and efforts and that new teaching methods can be successfully employed with practice. In contrast, professors with entity theory believe that they have a fixed amount of teaching skills and efforts cannot result in any significant change in their teaching. Thus, they are less likely to change their instructional practices (McCrickered, 2012). Others (for example Thadani, Breland & Dewar, 2010) have also found a negative relationship between entity theory of teaching skills and a willingness to participate in professional development activities.

There is something to be said about the hypotheses that were non-significant. Two examined the relationship between workshop attendance and goal orientation. Since around 70% of participants reported that they had attended no workshops, the mean for this variable was very low (<1). This low rate of attendance shows no relationship between Workshop_Sums variable and goal orientation (See Table 10 and Figure 3). A similar pattern was evident in the percentage of time spent on teaching improvement activities. Sixty-seven percent of participants reported no time allocated to activities related to the improvement of teaching. This finding was paradoxical as the mean score allocated to the importance of teaching improvement was close to 3 (very important). That is, although professors perceived the improvement of teaching as something important, they did not participate in formal activities designed for that purpose and relied mainly on self-directed activities and discussion with colleagues. The above observations raise the question of why professors tend not to attend formal activities. The results of research question 1 provide some insights for this low rate of attendance. Participants articulated some potential incentives that can enhance their engagement in teaching development activities as well as some barriers that stop them from engaging in such activities (e.g., the need for more flexible timing, doubt about effectiveness of the activities, etc.). Lack of time and workload are the most frequently stated barriers. Creating rewards and credit for the improvement of teaching are among the most mentioned potential incentives. The low rate of attendance can be attributed to the mentioned barriers, but there are other personal factors that can be considered reasons for this low rate. Although the current study failed to find a relationship between motivational beliefs and workshop attendance, there are studies that have shown significant relationships between goal orientation and implicit theory of teaching skills and attendance in teaching development activities (e.g., Nitsch et al., 2013; Thadani, Breland & Dewar, 2010). Conceptual change on

reframing teaching as something that can be improved by practice can impact participants' motivation, as suggested by one professor. Workshops, for instance, might offer an indirect approach by targeting professors' implicit theory of teaching skills. Additionally, offering workshops and events with the purpose of enhancing students' motivation or solving their motivational problems can be effective. A discussion of different motivational theories (e.g., goal orientation) and their implications for students' learning in an active and collaborative learning environment can indirectly impact professors' motivational beliefs and prompt them to think about their own beliefs.

In contrast to participation in teaching improvement activities, 69% of the participants reported that they read articles related to teaching (See Table 4 in Appendix F). This can be considered a signal that respondents are more interested in engaging in teaching improvement activities that offer time and place flexibility. As one participant suggested, it would be useful to create opportunities for independent study by recommending useful and targeted readings and relevant information. The information can be sent by email to faculty members who have expressed an interest in a specific topic or they can be posted on blogs or websites. Another suggestion along the same line was creating packaged learning resources since receiving ready-to-use materials can save time. The centre that is responsible for enhancing teaching and learning in the university could distribute the learning resources among faculty members to promote teaching improvement.

Furthermore, more than 95% of respondents stated that they talked to their colleagues about teaching (See Table 5 in Appendix F). This finding points to the possible potential of forming learning communities and communities of practice in units, departments and the university to enhance teaching. These communities can hold formal and informal events with

the purpose of improving teaching. Participants also recommended creating such social structures within departments to exchange ideas with colleagues. Learning communities and communities of practice have shown to be effective mechanisms for enhancing teaching (Carnell, 2007; Cox, 2006; Eib & Miller, 2006; Jones 2010; Smith et al., 2008). This is a good opportunity for teaching and learning centres in universities to localize the teaching improvement activities in departments and to attract more professors by holding regular events to discuss teaching issues.

With respect to time for the improvement of teaching, professors reported that they spend nearly 18% of their total teaching time on this endeavor. This time includes time for revising courses, implementing new instructional methods and participating in teaching improvement activities. This is in addition to the time spent on teaching, preparation for classes, grading students and supervision. Comparing the total time for the improvement of teaching (M = 17.81%) with the time spent in participating in teaching improvement activities (M = 1.62%), out of total time that professors devoted for teaching, it is clear that professors spent most of their time on self-directed activities of revising course and implementing new methods. This calls our attention again to the question as to why professors tend not to attend formal activities designed for the improvement of teaching. Future research should investigate this question in more depth.

Difference between pre-tenured and tenured professors (Question 3)

The third research question was formed with the purpose of exploring the differences between pre-tenured and tenured professors with respect to perceptions of barriers and incentives. Tables 12 and 13 include comparisons between the categories of incentives and

barriers as perceived by pre-tenured and tenured professors. A short discussion of the results follows.

Pre-tenured and tenured professors in this study referred to similar incentives with balanced frequencies. One point, however, warrants further attention. This has to do with the university culture. Around 25% of pre-tenured professors stated that the University culture is not conducive to teaching. Conversely, this was stated only once by a tenured professor. Pre-tenured professors expressed that they experience pressure in demonstrating excellence in research performance. They perceived that the University de-emphasizes teaching and they have to follow this policy in order to ascertain their success and therefore cannot take time from research or service to engage in the improvement of teaching. A possible interpretation of this difference between pre-tenured and tenured faculty members could be that tenured professors benefit from a more secure job position so that they feel more autonomous to spend time on activities that interest them. The University culture consequently can have less impact on their choice of activities. Whether this is a perception or a reality, it seems to be having an impact on non-tenured faculty and needs to be further explored.

Recommendations for removing barriers against improvement of teaching (Question 4)

Professors were asked to make recommendations to improve the current situation for the improvement of teaching. Table 14 includes a summary of the recommendations. The discussion follows.

Teaching improvement activities. Fourteen recommendations pertained to activities related to the improvement of teaching. These range from the timing of teaching improvement workshops to format. As one professor recommended, offering workshops at different times and

days of the weeks, would enable professors with different responsibilities, including those who have clinical practice, to benefit from them. Others suggested offering activities that are tailored to different disciplines because they believe that instructional methods and design vary by discipline. While there is a place for general pedagogies, the differences between disciplines merit recognition (Becher, 1994). Shulman's (1987) notion of pedagogical content knowledge also acknowledges the validity of this suggestion. Some reported that they did not participate in teaching development activities because they could not find appropriate training for their needs offered through University units. Making a menu of possible services for the improvement of teaching can be helpful, as is proposed, to provide insights about available supports in campus or other centres. Another recommendation was to use authentic settings for teaching development activities by offering hands-on-experience opportunities and on-site teaching development. In regard to the abovementioned recommendations, one could conclude that at least some professors are not familiar with the services available in the University and some are not even aware that a unit such as TLS exist. This is despite the fact that TLS provides a menu of its services on its website and offers teaching consultation for the improvement of teaching.

Greater value and support for teaching excellence.

***Creating rewards and incentives*.** One of the most frequently cited recommendations was putting in place mechanisms for the formal recognition of good teaching. Among these were assigning teaching awards and valuing teaching in tenure, promotion and merit considerations. Professors proposed acknowledging good teaching in some way rather than merely considering bad teaching in decisions related to these academic milestones. Tagg (2012) has also proposed that universities should restructure their reward and endowment systems and value outstanding teaching. Similarly, Olmesdahl (1997) acknowledges the importance of equitable system of

rewards for excellence and effectiveness in teaching. There are studies that reveal a positive impact and the significance of teaching awards on enhancing the quality of teaching and recognition of teaching in higher education institutions (Brawer, Steinert, St-Cyr, Watters, & Wood-Dauphinee, 2006; Sorcinelli, & Davis, 1996). However, measuring teaching excellence still remains a debateable issue (Magin, 1998; McLean, 2001).

Greater recognition and support. Professors recommended that more recognition and support from departments and the University for teaching and improvement are needed. Research findings also support this recommendation that teaching is not sufficiently recognized (Chalmers, 2011). Supportive teaching culture and departmental culture can be important in the improvement of teaching in higher education institutions (Feldman & Paulsen, 1999; Knight & Trowler, 2000). Supportive and effective department chair, faculty development programs on campus and recognition of teaching for tenure and promotion decisions are among characteristics of such culture. Participants in the present study suggested reducing pressure on research and grant writing was one way to increase professors' engagement in the improvement of teaching, presumably by freeing up time. Others have written about balancing teaching and research demands as a way to create more conducive environments for teaching and if an institution wants to engage faculty members in quality teaching (Knight & Trowler, 2000). There is perhaps a need for institutions to clarify their mission and expectations about teaching so that professors, especially junior faculty members, are informed about the value of teaching for their professional advancement (Frost & Teodorescu, 2001). Universities should stop creating any incentives or rewards that link hiring and promotion to research and undervalue teaching (Tagg, 2012) if they expect to see change in the quality of teaching. Findings of the present study affirm this point.

Community building. As discussed above, learning communities and communities of practice are effective social structures to enhance learning and teaching and are recommended as a means to improve teaching (Frost & Teodorescu, 2001). There are four recommendations pertinent to building communities for the improvement of teaching. Professors suggest localizing improvement of teaching within departments, planning discussion sessions to talk about teaching issues and defining joint projects on course design so that faculty members can work together in a community of practice. Engaging in teaching fellowships and joint work on course design can, as well, enhance the scholarship of teaching and learning and benefit the wider population of professors (Cox, 2006). Furthermore, the university can involve faculty members to design the change by creating social structures through which they can collaborate together. Building online learning communities can be effective for improvement processes. For instance, creating blogs and social networking groups focusing on the improvement of teaching is one possibility. These can offer further time flexibility and can link professors from different backgrounds worldwide.

Allocate funding for improvement of teaching. Allocating resources and services that enhance professors' knowledge of teaching and learning was one of the recommendations forwarded by participants. An earmarked budget for this purpose could feed into teaching improvement services available for professors' use, teaching tools, resources that enhance their knowledge and recruiting teaching assistants who help professors increase their teaching and course development skills. However, the funding should not lead to replacing professors with teaching assistants in teaching courses since this can have a negative impact on students' learning (Serow, 2002; Serow, Brawner, & Demery, 1999).

Teaching time release for improvement of teaching. Teaching time release was perceived as a potential incentive for the improvement and is recommended by some professors. As mentioned in the discussion of barriers and incentives, professors, especially junior faculty members, could be offered teaching time release to focus on teaching excellence (Frost & Teodorescu, 2001). Faculty members who have expertise in quality teaching and improvement can be offered time release and money to lead teaching improvement activities as suggested by the participants in this study.

Other. Professors suggested reducing service obligation so that they can have more time to spend on teaching improvement. Reducing class size was mentioned twice as a recommendation. There are inconsistent findings about the effect of class size on the quality of teaching (Akerhielm, 1995). For instance, there are studies that report weak or no relationship between class size and student evaluation of teaching (Fernandez, Mateo, & Muniz, 1998; Mateo & Fernandez, 1996). However, reducing class size has also proven to have positive impact on students' learning and classroom management (Finn, & Achilles, 1999). Designing an efficient teaching evaluation is also suggested. The suggestion to engage professors in the development of an effective teaching evaluation is an interesting one as it might serve as a strategy to involve professors in the scholarship of teaching and learning. Mentkowski and Associates (2000) involved faculty members in developing a plan to enhance teaching and learning in a college. They held regular weekly meetings among professors and organized three university-wide institutes to take professors' ideas into account. This collaborative work resulted in unexpected growth of the institution in terms of teaching and learning.

Two professors in the present study recommended making teaching improvement a requirement. While this is an interesting idea, this might not necessarily result in improvement

and can create further workload and bureaucratic burden without having an impact on the quality teaching (Frost & Teodorescu, 2001). It would be perhaps better to create a supportive culture that values teaching excellence and concurrently create rewards that motivate professors to enhance their teaching skills. Finally, it is interesting to report that two tenured professors stated that they do not perceive any barriers against which they can make recommendation. Perhaps tenured professors benefit from higher job protections, they feel more autonomy to pursue their interest.

Conclusion

This study shed light on the barriers and supports that professors perceive to engage in the improvement of teaching. Addressing these barriers and reinforcing the supports can lead to further engagement in teaching improvement activities. Findings from the research hypotheses highlight the importance of motivational beliefs in participation in activities targeted for the improvement of teaching. Mastery goal orientation and implicit theory of teaching skills was shown to be correlated with the time professors spent on improving their teaching. Creating conceptual change on reframing professors motivational beliefs can impact their participation in teaching improvement. Low rate of participation in formal professional activities was an interesting but an unexpected finding of this study that needs further attention. One of the primary steps toward quality teaching is to train professors and enhance their teaching skills. Building communities of learning and practice in departments is an interesting solution to the abovementioned problem that can lead to greater engagement of professors and possibly draw in those who are not frequent users of teaching services. This is proposed by participants and suggested in previous studies. Greater publicity of available teaching services is also recommenced to ensure that professors aware of all possible opportunities.

Various recommendations were made by participants to increase the engagement in teaching improvement. Designing more efficient teaching improvement opportunities, creating rewards and endowments for teaching excellence, allocating funds for the improvement of teaching and considering teaching time release designated for improvement are among the recommendations. Some of these recommendations and professors' perceptions of barriers and supports (e.g., University is not conducive to teaching) suggest that the University should change its policies about teaching and put more emphasis and value on teaching. Around one fourth of pre-tenured professors in the current study perceived that the University culture is not conducive to teaching and considered this as a barrier. Elsewhere, it has been argued that lasting change requires that universities transform their culture into a supportive teaching culture (Feldman & Paulsen, 1999; Frost & Teodorescu, 2001). The reason is that professors' perception about the importance and meaning of teaching are drawn from the institutional cultures with which there are affiliated. Expecting professors to value teaching while the university or departmental culture values research or devalues teaching is not reasonable. Clarifying teaching goals and professors' commitment for teaching by universities can be helpful in informing professors about the meaning of teaching and their expected roles in their institutions (Frost & Teodorescu, 2001).

Change can be initiated by making teaching a priority. Universities should encourage faculty members to enhance the scholarship of teaching and learning by valuing research on pedagogy and teaching excellence in different disciplines. Projects can be defined in institutions to engage professors from different disciplines and with different ranks to develop a plan for change. Brownell and Tanner (2012) assert that academics have made the current policies and regulations about teaching and research and their impact on professional advancement; they need

to take steps again and make policies that transform university cultures into a culture that values teaching excellence.

Limitation

Since this study employed a survey design, the general limitations that are associated with survey design is applicable to this study. Although data that are produced from a self-report questionnaire are valid, one limitation is that the questionnaire may draw a picture that is different from what is practiced in reality. This study did not have the potential to triangulate the results by analysing different sources of data. These two points can be considered threats to construct validity in this study. A second limitation concerns the validity of the questionnaire. The researcher did not validate the questionnaire prior to the start of data gathering. However, the scales used in the questionnaire (by Butler, 2007 and Thadani, Breland & Dewar, 2010) have been validated in previous studies. Another limitation pertains to the Workshop_Sums variable as a dependant variable. Although the sample represented different disciplines and varied with respect to rank and experience, it did not result in obtaining a pool of faculty members with reasonable workshop participation; around 70% of participants reported that they had not attended any workshops. This weakens the relationship between workshop attendance and goal orientation. Finally, in the qualitative analysis, while using participants' wording can be considered low inferences, further elaboration was not elicited to ensure what the intended meanings of the expressions were

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Appendix

Appendix A: Ethics approval certificate

McGill

Research Ethics Board Office
James Administration Bldg, room 429
845 Sherbrooke St West
Montreal, QC H3A 0G4

Tel: (514) 398-6831
Fax: (514) 398-4644
Ethics website:www.mcgill.ca/research/researchers/compliance/human/

Research Ethics Board II
Certificate of Ethical Acceptability of Research Involving Humans

REB File #: 507-0513

Project Title: Professors motivation for teaching improvement: investigating motivating and inhibiting factors

Principal Investigator: Zaynab Sabagh

Department: Educational&Counselling Psychology

Student Status: Master's Student

Supervisor: Prof. Alenoush Saroyan

Approval Period: **May 13, 2013-May 12, 2014**

This project was reviewed and approved in accordance with the requirements of the McGill University Policy on the Ethical Conduct of Research Involving Human Participants and the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. The REB-II reviewed this project by delegated review.

Lynda McNeil
Manager, Research Ethics

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* All research involving human participants requires review on an annual basis. A Request for Renewal form should be submitted 2-3 weeks before the above expiry date.
* When a project has been completed or terminated a Study Closure form must be submitted.
* Should any modification or other unanticipated development occur before the next required review, the REB must be informed and any modification can't be initiated until approval is received.

Appendix B: Questionnaire

Name: _____ Department: _____

……

Dear Professor,

Thank you for agreeing to participate in a study that I am conducting for my master's thesis on professors' engagement in teaching development activities. The task involved is to fill out a short questionnaire that will not take you more than 15 minutes. Thank you in advance for your time. If you have any questions regarding the items listed below, do not hesitate to ask me.

1) How many years have you been teaching at McGill? _____

2) How many years of teaching experience do you have outside McGill? _____

   If you are tenured, specify the year you were awarded tenure: _____

3) Circle the response that best answers the question.

Please specify the degree of importance of the following academic activities for you:

The most important means it is your first priority.

Very important means it has a great value for you, but it is not your first priority.

Somewhat important means you cannot consider yourself a faculty member without engaging in this activity.

Not important means that as a faculty member, you don't feel you need to engage in this activity.

	The most important	**Very important**	**Somewhat important**	**Not important**
Research	4	3	2	1
Teaching	4	3	2	1
Service	4	3	2	1
Teaching improvement	4	3	2	1

4) In the **last academic year**, have you engaged in any of the following teaching development activities and if so, how many times?

- Participated in a paid workshop outside the institution focused on teaching.

  (Yes / No), (Obligatory / Voluntary). How many times? _____

- Participated in a free workshop focused on teaching.

  (Yes / No), (Obligatory / Voluntary). How many times? _____

- Read articles about teaching.

  (Yes / No). How frequently? _____

- Talked to colleagues about teaching.

  (Yes / No). How frequently? _____

- Participated in TLS workshops.

  (Yes / No). Specify names: _____

- Attended a teaching conference.

  (Yes / No). How many times? _____

Please provide names of any other teaching development activities not included in the list and specify how many times you have participated in them.

_____

_____

5) Have you done any research on teaching in your discipline?

NO YES

6) Have you published anything on teaching in your discipline?

NO YES. Specify the source(s). _____

7) During the **2012-2013 academic year**, what percentage of your time did you actually spend on each of the following activities?

Teaching ____ Research ____ Services ____

8) During the **2012-2013 academic year,** what percentage of your teaching time (count as 100%) did you spend on each of the following activities?

Activity	**Percentage**
Teaching a course	____
Preparing for teaching an assigned course (including reading student assignments and grading)	____
Supervising graduate students	____
Participating in a teaching development activity	____
Doing research or writing a paper on teaching	____
Preparing materials for a new course	____
Revising a course	____
Planning for implementing new instructional methods in your course	____
	100%

Please add any other tasks and their corresponding percentage if not on the list above.

_____

_____

9) Are there any incentives that might motivate you to engage in teaching improvement activities?

_____

_____

_____

10) Are there any barriers that might prevent you from engaging in teaching improvement activities?

_____

_____

_____

11) Do you have any recommendations for increasing engagement in teaching development activities?

_____

_____

_____

12) Do you have any recommendations to remove barriers to motivation in engaging in teaching development?

_____

_____

14) The following items pertain to TEACHING. Please circle the response that best answers the question.

I feel I had a successful day at the university when…	*Strongly disagree*	*Disagree*	*Neutral*	*Agree*	*Strongly agree*	*Not Applicable*
My classes were cancelled because several students were absent.	1	2	3	4	5	N/A
My chair commended me for having higher teaching ability than most of my colleagues.	1	2	3	4	5	N/A
My classes did better than those of other professors.	1	2	3	4	5	N/A
Students' questions made me think.	1	2	3	4	5	N/A
My colleagues praised me for having high teaching abilities.	1	2	3	4	5	N/A
Teaching in class made me want to learn more about teaching and developing my skills.	1	2	3	4	5	N/A
I received feedback that my lecture plans were among the best.	1	2	3	4	5	N/A
My students commended me for having higher teaching ability than most of my colleagues.	1	2	3	4	5	N/A
I didn't have any assignments to mark.	1	2	3	4	5	N/A
I saw that I was developing professionally and teaching more effectively than in the past.	1	2	3	4	5	N/A
My colleagues did not say that I have low teaching abilities.	1	2	3	4	5	N/A
No one in class asked a question that I could not answer.	1	2	3	4	5	N/A
My colleagues commended me for having higher teaching ability than other colleagues.	1	2	3	4	5	N/A
My class did not do worse than those of other professors.	1	2	3	4	5	N/A
The chair did not say that I have low teaching	1	2	3	4	5	N/A

abilities.						
The material was easy so I did not have to prepare my lectures.	1	2	3	4	5	N/A
My students praised me for having high teaching abilities.	1	2	3	4	5	N/A
My classes were not behind other classes.	1	2	3	4	5	N/A
I learned something new about teaching or about myself as a professor.	1	2	3	4	5	N/A
The students did not say that I have low teaching abilities.	1	2	3	4	5	N/A
I got by my teaching without working hard.	1	2	3	4	5	N/A
My chair praised me for having high teaching abilities.	1	2	3	4	5	N/A

Please circle the response that best answers the questions

You can't really teach someone how to be a great teacher. Great teachers are born, not made.	1	2	3	4	5	N/A
You can't really change how well a teacher helps students understand topics or gets students to think critically.	1	2	3	4	5	N/A
Someone's teaching may improve a little with training and experience, but it can't be hugely improved.	1	2	3	4	5	N/A

Are you interested in receiving a summary of the findings of this research by email? YES NO.

If yes please provide your email address: _____

Thank you again for your time and willingness to participate in this study.

Zaynab Sabagh

MA Candidate in Educational and Counseling Psychology, Learning Science

McGill University

Appendix C: Consent form

McGill

Informed Consent Form

Department of Educational and Counselling Psychology (ECP)

Dear Professor,

I am writing to invite you to participate in a study that I am conducting for my master's thesis on professors' engagement in teaching development activities. The time required of you is no more than 15 minutes. Details are provided below. I thank you in advance for your time and willingness to give me 15 minutes of your time.

Participant ID: _____

Project Title — Professors' motivation for teaching improvement: investigating motivating and inhibiting factors

Statement of Consent — By signing this form you are agreeing to participate in a research project being conducted by Zaynab Sabagh (master's student in ECP) under the supervision of Dr. Alenoush Saroyan.

Purpose — There are two main goals for this research project:

1) To investigate the relationship between professors' goal-orientation and implicit theory of teaching skills and their participation in teaching improvement activities.

2) To explore professors' perceptions of motivating and inhibiting factors for engaging in professional development activities to improve their teaching.

Procedures — The procedure will involve completing a short paper and pencil questionnaire. The questionnaire will take no more than 15 minutes to complete.

Confidentiality — All information collected in the study is confidential within the limits explained below. Once you hand in the completed questionnaire, your name will be removed and replaced with a numeric code. This code will be used for maintenance and analysis of data. Pseudonyms will be used in publications and conference papers. The data will be kept in a locked drawer and a password-protected computer in a locked lab in the Education Building at McGill University (3700 McTavish Street). I, as a principal investigator, and my supervisor will have access to the identifiable data. All data will be destroyed after 7 years.

Risks	There are no known risks from this experiment.
Benefits: Freedom to Withdraw and Ask Questions	The experiment will yield data on your goal orientation and implicit theory of teaching skills and the overall findings will help us learn more about motivating and inhibiting factors behind professors' engagement in teaching improvement activities. Participation is voluntary and you are free to ask questions and/or to withdraw from participation at any time without penalty or loss of benefits to which you are otherwise entitled. You also have the right to refuse to answer any question. If you have any questions or concerns regarding your rights or welfare as a participant in this research study, please contact the McGill Research Ethics Officer at 514-398-6831 or lynda.mcneil@mcgill.ca

Student: Zaynab Sabagh

McGill University

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E-mail: Zaynab.sabagh@mail.mcgill.ca

Printed Name of Participant

Signature of Participant

Research Signature

Date

Academic supervisor: Dr. Alenoush Saroyan

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Appendix D: Butlers' Teacher Achievement Goal Orientation: 8 original items

Table

Butlers' Teacher Achievement Goal Orientation: 8 original items

Goal orientation	*Original items*
Ability approach (Performance approach)	My classes did better than those of other teachers on an exam
	The principal commended me for having higher teaching ability than most of my colleagues
Mastery	I learned something new about teaching or about myself as a teacher
	I saw that I was developing professionally and teaching more effectively than in the past
Ability avoidance (Performance avoidance)	No one asked a question that I could not answer
	My class did not do worse than those of other teachers on an exam
Work avoidance	Some of my classes were cancelled because pupils were on a school trip
	The material was easy and I did not have to prepare lessons

Appendix E: Butlers' Teacher Achievement Goal Orientation: Abbreviated items

Table

Butlers' Teacher Achievement Goal Orientation: Abbreviated items

Goal orientation	*Items (abbreviated)*
Ability approach (Performance approach)	Praised for high ability
	Classes scored higher than others
	Principal says one of best teachers
	Lesson plan was best
Mastery	Learned something new about self
	Class made me want to learn more
	Pupil's question made me think
	Saw that teaching better than before
Ability avoidance (Performance avoidance)	Principal didn't say have low ability
	Pupils didn't ask hard questions
	Classes didn't do worst on exam
	Classes not furthest behind
Work avoidance	Didn't need to prepare lessons
	Got by without working hard
	Didn't have any work to mark
	Some classes were cancelled

Appendix F: Tables

Table 1

Perceptions of incentives: original themes

Original themes	*Frequency*
Valuing teaching for promotion	1
Tying teaching and teaching development with professional advancement	1
Consider teaching on merit pay	1
Tying teaching and teaching development with pay	1
Credit for innovation and technology use	1
Any incentives on teaching improvement	1
Recognition from departments for teaching and teaching development	1
Greater recognition for teaching and teaching development	1
Support form departments	1
Allocating grants for teaching development and course development	1
Having more time	3
Teaching reduction	1
Reducing course load	1
Teaching time release	2
Lower administrative duties	1
Release from service obligations	1
Self-motivated	3
New ideas to improve teaching	1
Student interest	1
Having good class	1
More flexible schedule of teaching development workshops	1
Format of teaching development: have students component not post-processed info	1
Demonstration of the true benefit of teaching development	1
Guarantee that teaching development activities work	1
The teaching development activities itself	1
Enhancing student learning	2
Enhancing student teacher learning	1
Enhancing math teaching	1
Learning outcomes	1
More efficient student evaluation	1
Decline in student evaluation	1
Teaching evaluation	2

Less research pressure	1
More tailored tutoring style	1
Respect	1
Connection between research and course content	1
Promotion and tenure process	1
Students with low performance	1
Change course assignment	1
Having more than 100 students	1
Budget for TAs to develop courses	1

Table 2

Perceptions of barriers: original themes

Original themes	*Frequency*
Lack of time	18
Other responsibilities	2
Too busy with everything	1
Over commitment	2
Workload	1
Lack of recognition from department	1
Lack of administrative support	1
Have to spend too much time on grant writing	1
Too much research pressure	1
University de-emphasize teaching	1
Lack of incentive	1
TD workshops:	
Bad timing, scheduling	2
Outcomes of teaching development:	
No guarantee for significant improvement	1
Doubt about efficiency of teaching development activities	1
Little outcome from previous teaching development activities	1
Cannot take time form research or service	1
Teaching take time from research	2
Time on Research is no.1	1
Administration energy	1
Administrative work for everything	1
No meaningful assessment of teaching beyond student evaluation	1
High teaching evaluation: doubt about pay off for improvement	1
Lack of resources	1
Inefficient, complicated and ever-changing IT resources	1
Class size	1
No barriers	1

Table 3

Recommendations: original themes

Original themes	*Frequency*
offer workshops in different days of the week	1
teaching development activities should tailored to different fields	3
provide training based on professor's needs	2
Self-study opportunities : recommended readings, valuable information	1
Ready-to-use materials: Packaged learning resources	1
workshops with hands-on experience	1
Format of teaching development: teaching acting class	1
On-site teaching development	1
Short in length and Focused in topic	1
Informal structure for teaching development	1
Menu of possible service of teaching development	1
Quantitative evidence of efficiency of workshops	1
Higher professional rewards	1
Make good teaching help tenure not only bad teaching hurt tenure	1
Make teaching important for tenure and merit	1
Count teaching for promotion and salary	1
Any type of reward for teaching development	1
Create incentives	2
Concrete incentives from department	1
McGill value teaching more	1
More administrative support	1
Recognition for teaching development efforts from departments	1
McGill reduce pressure on research grants and publications	1
Stop only focusing on research and grant	1
Social structures: to exchange ideas with peers	1
Make teaching development local in departments	1
Discussion session within department	1
Joint works on course design	1
McGill provide funding for teaching development activities	1
Provide funding to engage TAs in teaching development activities to help professors	1
Funding for resources that enhance teaching/learning knowledge	1
Budget for teaching tools	1
Course release for faculties to engage in teaching development	3
Course release for faculties to lead teaching development	1
Reduce service obligation	3

No significant barriers	2
Reduce class size	2
Better course evaluation process	1
Engage teachers to construct new systems of teaching evaluation	1
Make teaching development a requirement	1
Being forced to observe a colleague once a year	1
reframe teaching: teaching improves by doing; it is not a fixed characteristics	1
Less push toward technology	1

Table 4

Frequency table of the TLKtoColleagues variable

		Frequency	*Percent*	*Valid percent*
Valid	No	2	4.4	4.8
	Yes	40	88.9	95.2
	Total	42	93.3	100
	Missing	3	6.7	
Total		45	100	

Table 5

Frequency table of the Article variable

		Frequency	*Percent*	*Valid percent*
Valid	Do not read	13	28.9	31
	Read articles	29	64.4	69
	Total	42	93.3	100
	Missing	3	6.7	
Total		45	100	

Table 6

Frequency table of participants' disciplines

Discipline	*Frequency*
Atmosphere and Oceanic Science	3
Computer Science	1
Integrated Studies in Education	2
Economics	1
Educational and Counselling Psychology	4
Electrical and computer Engineering	4
English	2
Epidemiology	1
History and Classical Study	6
Law	1
Management	4
Mathematics and Statistics	1
Mining Engineering	1
Nursing	2
Philosophy	1
Physics	6
Political Sciences	3
Psychology	2
Total	45