Improving a Peer Tutor Training Program at an Urban College

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Abstract

Improving a Peer Tutor Training Program at an Urban College

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This thesis equivalent is a theoretical performance improvement project of a peer tutoring program. It focuses on the literature on peer tutor training programs in higher education and provides recommendations for design solutions and evaluation tools based on best practices. The lack of studies on proper training and evaluation within the field of tutoring also lead to a general search on best practices in instructional design that could then be applied within the context of peer tutoring. This would corroborate the decisions of the tutoring programs reviewed in the literature and fill in the gaps, when necessary.

This thesis equivalent originally began with the intention of doing a thorough needs assessment of a peer tutoring program at an urban college and proposing performance improvement interventions and subsequent evaluation tools. Data collection from surveys, focus groups, and observation would have provided valuable information from tutors, tutees, and other stakeholders that would have guided improvements to the program. Issues gaining research ethics approval from the college combined with the Covid-19 pandemic made it apparent that data collection would not be possible within a reasonable timeframe. The proposed data collection tools for a needs assessment were created and included to be used when pursuing data collection becomes feasible again. This study has relied on primary sources to fill in the gaps on what I may have gleaned from the data had I been able to collect.

An analysis based on the literature identified a few major issues with the peer tutoring program. First, there is no current evaluation in place to determine if the training provided to

tutors is effective. Second, learning objectives were never discussed or made explicit before the creation of the current training program.

I proposed modifications to the current peer tutoring program based on observations and my findings in the literature. Interventions included making it a recognized tutor certification program, adding training content to include metacognitive skills, self-regulation, and scaffolding. Modifications to the training delivery included more emphasis on situated learning with role-play exercises and observation. Evaluation tools were created to assess the modified peer tutoring program.

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Introduction

When students transition from high school to college there is often a period of adjustment when students struggle with the workload. Among college students studying science about 20% drop out during their first year of study while another 15% drop out during their second. (Gouvernement Du Québec Ministère De l'Éducation, Du Loisir Et Du Sport, 2009). There have been recent increases in the success rate of college students, but in 2009 only 41% of students in pre-university programs obtained their diploma within the allotted time frame. (Gouvernement Du Québec Ministère De l'Éducation, Du Loisir Et Du Sport, 2009). Many college students are more likely to experience failure without additional support (Salinitri, 2005). At the college in which I work, peer tutoring is one of the selected means of support for at-risk students. Peer tutoring at my college's tutoring centre is based on a one-to-one model.

Tutoring in a one-on-one capacity has many benefits. Students receive more time for individualized learning, the pace and style of learning can be modified to suit each individual tutee (Berman, 2015). Students feel more comfortable and open when interacting with a peer and the informality of peer tutoring allows tutees to ask questions without fear or hesitation (Wadoodi & Crosby, 2002). Peers also share a similar style of communication, allowing for greater understanding. This direct interaction between students promotes active learning (Wadoodi & Crosby, 2002). Numerous studies have linked peer tutoring to improved academic achievement (Campbell & Campbell, 1997; Munley, Garvey, & McConnell, 2010; Rheinheimer, Grace-Odeleye, Francois, & Kusorgbor, 2010; Coladarci, Willett, & Allen 2013; García, Morales, & Rivera, 2014), improved final course grades (Colver & Fry, 2016), and improved grade point average (Cooper, 2010; Walvoord & Pleitz, 2016). University students that attended workshops led by senior student tutors to prepare for exams also gained confidence (Eaton,

2015). Research has also shown that peer tutoring can have significant benefits for the tutor (Roscoe & Chi, 2007).

Though many different formats of peer tutoring present in the literature seem to yield positive results, some researchers suggest that lack of tutor training may limit the impact on success (Bailey, 2010, Stenhoff; Lignugaris/Kraft, 2007). The positive effects of tutoring depend on the "training of tutors, the reasons for selecting the tutors and the quality of the program (Hattie, 2006, p. 101, as cited in Calma & Eggins, 2012, p. 215). Peer tutors are inexperienced and often the same age and in the same classes as their tutees, therefore it seems prudent that tutors be given support to transition to this new role. Research has found that tutor behaviours have been changed by training (de Smet, van Keer, de Wever & Valcke, 2010) but this training isn't always effective (Dufrene, Noell, Gilbertson, & Duhan, 2005). This means that the implementation of tutor training within a program may not be sufficient to improve a tutor's behaviour on the job. This inconsistency suggests a need to properly evaluate training programs. My college's tutoring centre has no evaluation in place to assess the program or the performance of tutors after completing training.

Overview

This thesis equivalent is a theoretical performance improvement project of a peer tutoring program. My new job as a learning specialist at a college provided me with an opportunity to take a closer look at how a peer tutoring program could better serve students. While I am not specifically involved in the training and evaluation of the program I do help with recruitment and spreading awareness of these services and it was apparent that there was room for improvement within our tutoring program. This thesis equivalent originally began with the intention of doing a thorough needs assessment of tutoring centre's Peer Tutoring Program at the urban college

where I work and proposing performance improvement interventions and subsequent evaluation tools. Data collection from surveys, focus groups, and observation would have provided valuable information from tutors and tutees that would have further guided improvements to the program. Ethics approval was granted by Concordia's Research Ethics Board but after numerous attempts and issues gaining research ethics approval from the college, the Covid-19 pandemic hit and it became apparent that data collection would not be possible within a feasible timeframe. This thesis equivalent became a theoretical performance improvement project and will provide a blue-print for a needs analysis when that becomes feasible. It will focus on the research on peer tutor training programs in higher education and provide recommendations based on my own observations and the findings in the literature.

Context

College's Tutoring Centre

In 2017, The English and the math and science tutoring services were combined and transformed into what is now the College's Tutoring Centre. The Tutoring Centre aims to promote student success across all programs at the college. The Tutoring Centre mainly offers peer tutoring and mentoring, as well as teacher help with writing and communication and the English Exit Exam. It also provides a collaborative study space for all students. Tutors were paid before the tutoring services for English, math and science were combined, but the programs were growing too big for the budget and were switched to a volunteer model when they were joined to create The Tutoring Centre.

Description of the College's Peer Tutoring Program

The Tutoring Centre's Peer Tutoring Program supports all students at the college with English peer tutoring and also supports students in science and technology programs with their math and science courses. It involves both private one-on-one tutoring as well as drop-in tutoring. Access to tutoring is free for the tutees and the tutors are volunteers. For private tutoring, students may request a tutor that will meet with them weekly for a total of ten hours throughout a semester. The average number of private tutor pairings is 115 per semester for both math/sciences and English combined. About 75% of the pairings every semester are for math and science subjects. By mid-semester the private tutoring is at capacity and we are unable to accept any new requests for a private peer tutor. For drop-in tutoring, students may sit with on-duty tutors any time during The Tutoring Centre's operating hours on an as-need basis. Tutors are available on Mondays through Thursdays from 10 am to 4 pm and Fridays from 10 am to 1 pm. Students may ask for help with general concepts or seek assistance with specific questions pertaining to assignments. In order to meet the increased demands during peak periods, the tutoring time is restricted to a maximum of twenty minutes per student. All drop-in tutoring takes place in The Tutoring Centre, whereas private tutoring often takes place in the centre but may happen elsewhere on campus if the tutor-tutee pair so decides.

The centre's Peer Tutoring Program is funded through Student Success grants every year. The purpose of this funding category, offered through the college's Pedagogical Support and Innovation office, is to support student success initiatives that take place outside of the classroom. This past year, the centre's Peer Tutoring Program was granted $30, 000.

The Tutoring Centre's Peer Tutor Training

Framework of the Peer Tutor Training. In the fall of 2016, a learning specialist in The Tutoring Centre created the peer tutor-training program. This training program was partially

based on the paper *Cross Disciplinary Peer Tutoring Instructional Strategies: The Impact of Experience* (2015). In this paper, Berman (2015) first highlights Dewey's (1938) educational philosophies. Dewy (1938) discusses the importance that the learner actively drives learning and also places an emphasis on social aspects of learning. Based on this theory tutors should act as facilitators to guide tutees to create their own knowledge. Next, Berman (2015) looks at Slavin's (1994) research and conceptual framework that suggest that the journey is more important than the destination. In other words, the process of solving the problem is more valuable to learning than being given the answer. Tutees need to be given the time and space for independent discovery. Finally, Berman (2015) underlined the importance many scholars in the field of cognition in learning place on transfer (Anderson & Krathwohl, 2001; Branford et. al. 2000; Donald, 2002). Learning does not simply entail retention and recall, a learner must be able to apply what they have learned in new situations. In the environment of tutoring, the tutor's role would be to help the tutee become aware of their learning and teach them how to monitor their instructional strategies and readiness to perform in different contexts (Berman, 2015). According to Berman (2015), this framework suggests that making mistakes and struggling to find the answers is what helps learners improve. Training was subsequently based on the following: (a) collaborative learning theory; (b) knowledge creation; and transfer; (c) autonomy-fostering and deep learning; (d) pedagogical content knowledge and (e) self-regulation (Berman, 2015, p. 34-42). These frameworks and theories guided the professional in his creation of the centre's tutor training, described below.

The Tutoring Centre's Tutor Training Curriculum.

General Training for all tutors (occurs before tutoring begins – four hours).

Tutoring Pedagogy & Autonomy Fostering Tutoring (1 hour). In this session, tutors are introduced to their pedagogical role as peer tutors in relation to the pedagogical role of teachers; the differences between 'telling' and 'facilitating learning' are highlighted and specific strategies to foster tutee autonomy are given; topics such as mindset, boundaries, and differences between deep and surface learning are covered. A group discussion follows.

Tutoring Logistics (1 hour). During this training, navigating the tutor portal (information management system for peer tutoring) is covered, including how to create or change their schedule online, how and when to respond to private tutee requests, and how to enter tutor hours and reports. The Tutoring Centre's space is described, including where to tutor during drop-in hours and how to use the centre's space.

Tutoring Students with Special Needs (1 hour). This session provides an overview of the office for students with disabilities. Topics covered include dyslexia, ADHD and ASD. Strategies to help students with language, attention, concentration, and organization difficulties are offered.

Information Literacy (1 hour). This training introduces students to the college's catalog to search for library materials (books, DVDs and CDs) and to the different databases to look for articles. Several strategies such as narrowing down topics, using proper keywords and evaluating search results are shown.

Content Specific Training (occurs before tutoring begins – 1.5 hours).

Academic Writing: Essay Structure & Organization. In this session, best practices for providing writing assistance are reviewed. Tips on how to help tutees structure and organize an

essay, how to create a thesis statement and construct a body paragraph are covered. A simulation activity, whereby tutors practice tutoring their peers, is followed by a wrap-up discussion.

Avoiding Plagiarism: MLA/APA referencing. Plagiarism is defined and the differences between summarizing, quoting and paraphrasing are described. The methods of referencing using both MLA an APA are outlined. Various examples of correct referencing are given.

Commons Math/Science Pitfalls. This training starts with some general guidelines, like getting the tutee to do as much talking and writing as possible. Then, strategies to help build tutee confidence are offered, such as having them complete easier problems before attempting harder ones. Next, specific courses and topics in math and science that tutors should expect tutees to come in with are covered. Strategies for tutors to use to assist tutees are presented. These include having tutees create sketches, label axes, and not rush through concepts to get to the problem solving.

On-going Semester Training (4 hours).

Panel Discussion of Experienced Tutors (lead by alumni peer tutors). In this session, alumni peer tutors discuss tutoring guidelines, tutoring dos and don'ts, study skills and time management. The new tutors are encouraged to ask questions and share their experiences thus far.

Cultural Diversity & Tutoring (lead by English teacher). This is an overview of diversity, ethics, discrimination, power, providing a safe space, active citizenship, intersectionality and the College Code of Conduct. After the presentation, an activity is conducted where tutors must put the concept into practice.

College Referral Services (lead by Student Services Manager). Student services are outlined, including Counselling, services for Students with disabilities, financial aid, Student Advocacy and Student Life. Communication Skills, offering emotional support, referral skills and stress management are covered. After the presentation and discussion, an activity using a self-care wheel is conducted where important concepts are put into practice.

Question and Answer Session # 1. The roles and responsibilities of peer tutors in relation to teachers is outlined; peer tutors must complete a worksheet where they provide a definition of peer tutoring now that they have some experience in the field. In addition, peer tutors must describe the goals of peer tutoring. Finally, tutors are given time to ask questions and share concerns and strategies regarding the peer tutoring program.

Question and Answer Session # 2. Here, peer tutors are required to describe ways they try to facilitate a deep approach to learning and explain their understanding of a student's mindset and how to give appropriate praise and feedback. Tutors are asked to reflect upon their strengths and weaknesses as peer tutors and to reflect upon their developing communication skills. Finally, tutors are given time to ask questions and share ideas to improve tutoring as well as the tutoring space.

Tutor Portal

This is an online Information Management System for peer tutoring. Tutors must enter their schedule, indicating times when they are available for private tutoring. They will be paired with a tutee for private tutoring based on matching availabilities. Students are required to enter their hours after every tutoring session and fill out a survey regarding the tutee and the session. An example of the current survey can be found in appendix A.

Description of the Problem

In my new position as a learning specialist in the college, it has become apparent that despite evidence-based training, there is a need for improvement within the peer-tutoring program. There is always a shortage of math and science tutors and commitment to a volunteer program is an issue. Drop-in tutoring is not being used effectively and there were complaints regarding one of the science tutors. A colleague is the professional newly responsible for tutor training. From a discussion with them I learned that learning objectives were never considered and some of the training sessions therefore seem unnecessary. My biggest concern with the program is that there is no current evaluation in place to determine if the training provided to tutors is effective. How do we evaluate a training program to ensure tutors are learning and that there is transfer of these learned skills? Are tutors being trained the right skills in order to be successful tutors? What is the best blue-print for a needs assessment for a tutoring program? How can we improve our current tutor training to ensure learning and on-the-job application?

Literature Review

A literature review was carried out that focused on tutor training and the evaluations of tutor programs in colleges and universities. Special attention was paid to the learning theories that guide these tutor-training program designs. Literature on instructional design was also included in an effort to provide more general best practices in training and performance improvement and better structure to the tutor program.

A search of education databases (ERIC, education source, PsycINFO) first focused on tutor training and evaluation in higher education. The first step was to apply the main search terms of “tutor” and “training”. However, to find the most relevant material, the major search

terms such as “evaluation”, “assessment” “higher education”, “peer tutoring” and “peer assisted learning”, were applied to search within the results in various combinations. An initial search of the literature found less than ten real evaluation studies within peer tutoring or a tutoring program in higher education. After a preliminary reading of the articles found, a more thorough search looked at specific learning theories and training design as they apply to tutoring and tutor training. The lack of studies on proper training and evaluation within the field of tutoring also lead to a general search on best practices in instructional design that could then be applied within the context of peer tutoring. These best practices in instructional design would provide a map, structuring the findings within the field of peer tutor training and evaluation. This would corroborate the decisions of the tutoring programs reviewed in the literature and can fill in the gaps, when necessary.

Tutor Program Design

Many of the tutoring programs reviewed followed a similar pattern of tutor training and subsequent evaluation. In the process of designing a new training program it is important to begin with a needs assessment (Carliner, 2003, Buitrago, 2013). This step should be followed by the creation of observable, measurable objectives (Carliner, 2003) that fit within Kirkpatrick’s four-level model: reaction, learning, behaviour, and finally results (Praslova, 2010, Kirkpatrick, 1996). Training evaluation should be designed to assess whether the learning objectives have been achieved. Evaluations can also assess tutors’ reaction to, and satisfaction with, the training. Results can also measure the impact of a tutoring program by collecting data from students who use the program. The main skills that are important in successful peer tutoring will be identified in the needs assessment. Contents for the training programs are based on these theoretical frameworks and resulting learning objectives, when stated.

Needs Assessment

When modifying a training program, one should begin with a needs assessment (Carliner, 2003, Buitrago, 2013). Rodriguez Buitrago (2013) presented a needs analysis strategy to determine the training requirements of new online English tutors. A needs analysis "is an ongoing process of gathering data to determine what training needs exist in order to inform program development" (Brown, 2002, as cited in Rodriguez Buitrago, 2013, p.141). A needs analysis will identify the desired performance of your learners, who they are, and the tasks they need to master (Carliner, 2003). Every training program should begin with a needs analysis to demonstrate that a training program is a response to a genuine need (Carliner, 2003).

Participants in Rodriguez Buitrago's 2013 study were teachers or coordinators in University language programs in Columbia who were responsible for training English tutors in their institutions. Data for the needs assessment was collected with a questionnaire because of its practicality. The questionnaire was available via Survey Monkey (www.surveymonkey.com) and was anonymous. The questionnaire gathered data about background information, pedagogical activities, attitudes towards tutoring, and what they thought they needed to learn. The author notes other possible methods for needs analyses such as "self-assessment, observation and monitoring, surveys, structured interviews, learner diaries, and case studies" (Jordan 1997, as cited in Rodriguez Buitrago, 2013, p.142). Though more time-consuming, the author should have included more than one kind of data to help with triangulation. Assessments can involve the trainees in the planning of subsequent training and encourage their future participation (DeSilets, 2007). When data collection is impossible in a needs analysis, a review of evidence-based tutor skills can be of value in deciding the best learning objectives to include in a tutor-training program.

Tutoring Skills. A review of tutoring programs included in the literature highlighted evidence-based tutor skills that can lead to successful tutoring sessions. These are explained below.

Scaffolding. Scaffolding is a term that was coined by Jerome Bruner in 1960 (Valkenburg, 2010) to represent support strategies that are used to guide a student to build knowledge when tasks are too difficult. Scaffolding helps learners with complex problems or assignments that would otherwise be past their present abilities (Hmelo-Silver et al., 2007). An experimental study on tutoring English reading skills found that a group of tutees exposed to scaffolding performed significantly better than a control group post-test (Haider & Yasmin, 2015). Mühlfelder et al. (2015) focused their tutoring on problem-based learning (PBL). PBL is an instructional strategy rooted in the philosophies of Dewey (1938), with the focus on intentional problem solving and experiential learning (Hmelo-Silver, 2004). Scaffolding is an essential part of PBL (Hmelo-Silver, Duncan, & Chinn, 2007) that takes into consideration Vygotsky's (1978) zones of proximal development. Smet et al.'s (2010) results also highlighted the importance of scaffolding in their tutor training. In one condition, labelled the model/coach condition, training focused on how a tutor should move from modelling to coaching as the tutee becomes more comfortable with the material. Scaffolding can also help students develop their metacognitive skills (Mühlfelder et al., 2015).

Scaffolding within tutoring research has been further divided into cognitive and motivational scaffolding. In cognitive scaffolding tutors can "scaffold" tutoring sessions by asking questions, reading aloud, demonstrating, giving hints, and giving feedback to help guide self-learning (Mackiewicz & Thompson, 2014). Motivational scaffolding is tutor feedback that encourages tutees to engage with the material (Mackiewicz & Thompson, 2013). This feedback

includes: “showing concern, praise, reinforcing student ownership and control, sympathy/empathy, and humor” (Mackiewicz & Thompson, 2014, p. 64). By using motivational scaffolding a tutor builds rapport with a tutee and enhances a tutee’s motivation. This fits in with the research on the importance of rapport in tutoring success (Lee, 2015).

Tutor-tutee Rapport. Studies have also looked at the importance of tutor-tutee rapport in successful tutoring sessions (Lee, 2015; Mackiwicz & Thompson, 2013; Marx, Wolf, & Howard, 2016). Lee (2015) suggests including tutor strategies such as using affective language to express empathy and share experiences in tutor training. This affective language includes small talk, praise, encouragement, and empathy. This building of rapport would subsequently improve learning through an increase in intrinsic motivation. In their discussion of motivational scaffolding, Mackiwicz and Thompson (2013) also hold that solidarity and rapport through positive politeness can build a student’s confidence, self-regulation, as well as motivation. Positive politeness can be expressed through praise, jokes, or optimism. Marx, Wolf, and Howard (2016) studied the tutor-tutee relationship and examined subsequent tutee performance. They found that the dynamics of the tutor–tutee relationship influenced students’ self-reliance and, ultimately, course performance. One study found that, in the process of building rapport, it is often wise to use a more directive didactic style in the beginning (Appleby-Ostroff, 2017). A tutee may expect some level of instruction and having a tutor meet these expectations forms the basis of a trusting relationship. The majority of tutors that Johnson (2014) interviewed agreed that building tutor-tutee rapport was very important to their tutoring sessions. A common method they used to build rapport was asking questions about the tutee. When students learn in a welcoming environment they are more likely to develop authentic voices, share their perspective, and take risks (Johnson, 2014).

Metacognitive Skills and Self-regulated Learning. Metacognition is loosely defined as a learner's knowledge of their own thinking processes (Ellis, Danton, & Bond, 2014). Mühlfelder et al. (2015) defined metacognitive skills as "the ability to observe and reflect [on] the effectiveness of the learning process [and] the learning strategies applied" (p. 38). Some of their examples include organizing learning by helping students create an outline for a paper and promoting self-instruction by helping learners verbalize the calculation steps when solving a math problem (Mühlfelder et al., 2015). Metacognitive skills and self-regulation positively contribute to a student's academic performance (Meijer et al., 2006; Zimmerman and Schunk, 2011; as cited in De Backer, Van Keer & Moerkerke, 2015). This is especially true in higher education where self-management and independent learning become crucial for academic success.

Tutees have been found to improve their metacognitive regulation by observing their tutors model these regulative behaviours (De Backer, Van Keer, Moerkerke & Valcke, 2016). Metacognition in tutoring would involve the tutor sharing their thoughts and then waiting for a reaction from the tutee. The tutor would then evaluate the tutee's thinking. These reflective discussions would help with problem solving and correcting mistakes (Johnson, 2014). Smet et al.'s (2010) tutors also received training in how to develop a tutee's critical thinking and reflection skills. Tutors can be taught to formulate higher-level questions, longer-answer questions, and deeper reasoning questions (Johnson, 2014). Tutors can also encourage self-reflective skills by asking tutees to retell, summarize, or rephrase the material (Johnson, 2014).

Active Listening. Researchers agree that active listening is an essential skill for responsive tutoring (Babcock et al., 2012; Mackiewicz & Thompson, 2015, Talarr, 1995). Talarr (1995) used active listening as a framework to introduce tutors to student-centered learning. One

important theme that came up in Johnson's (2014) qualitative research was knowing when to speak and when to listen while conducting a peer tutor session. The majority agreed that the tutee should be doing most of the talking. The consensus of peer tutors interviewed was that the more you listen, the more you can learn about the student and whether or not they understand a concept. For example, one tutor encouraged a tutee to talk by asking questions or providing an open-ended sentence for them to complete.

General Study Skills. Johnson (2014) arranged focus groups of tutors at eight different universities. The main concern of tutors was that tutees were starting tutoring without basic study skills and organizational skills. Tutors should be able to share specific study strategies for succeeding academically. Suggestions include: reading actively, summarizing notes, highlighting, and practicing problems. Tutors can share study guides they have made for their classes. Experienced tutors also recommend having tutees teach the material to someone else, because "if you can teach it, you know it" (Johnson, p.83).

Table 1

Summary of Study Skills Identified in the Literature on Tutor Training

Necessary Skills	**Literature Support**
Scaffolding	Mackiewicz & Thompson (2013, 2014) Mühlfelder et al. (2015) Smet et. al (2010)
Metacognition Self-Regulation	De Backer et al. (2015, 2016) Mackiewicz & Thompson (2013, 2014) Mühlfelder et al. (2015)
Active Listening	Babcock et al. (2012) Mackiewicz & Thompson (2015) Talarr (1995)
Tutor-Tutee Rapport	Appleby-Ostroff (2017) Johnson (2014) Lee (2015) Mackiwicz & Thompson (2013)

	Marx, Wolf, & Howard (2016)

Learning Objectives

Once the needs of the program have been identified, one should identify the goals or objectives (Carliner, 2003). The creation of observable, measurable objectives (Carliner, 2003) should fit within Kirkpatrick's four-level model: reaction, learning, behaviour, and finally results (Praslova, 2010, Kirkpatrick, 1996). Only one study encountered included explicit learning objectives in their tutoring program (Mühlfelder, Konermann, &Borchard, 2015). They developed a training program by creating training objectives and then content to match. Some examples of their training objectives include: "understand and practice basic facilitator skills" and "practice effective tutor interventions" (Mühlfelder et al., 2015, p. 42). It is important to note that most of the objectives used in this study were not observable, nor measurable. According to Carliner (2003) learning objectives should "identify an observable, measurable behaviour", state the "conditions under which the task should be performed", and note the "level of acceptable performance" (p. 69). Learning objectives should also be created for different levels: reaction, learning, application, and impact (Phillips & Phillips, 2010). A tutor training program should identify which behaviours a tutor should accomplish after training and design evaluation to measure these behaviours.

Tutor Training Programs

Smet et al.'s (2010) study compared a control training condition that provided general information about their role and the use of tutoring skills with two more detailed experimental conditions. One condition, labelled the multidimensional support condition, involved training

tutors to use a variety of support activities that would foster "(1) access and motivation, (2) socialisation, (3) information-exchange, (4) knowledge construction, and (5) personal development (Smet et al., 2010, p.1171). They also received training in how to develop a tutee's critical thinking and reflection skills. In the second condition, labelled the model/coach condition, training focused on how a tutor should move from modelling to coaching as the tutee becomes more comfortable with the material. Many examples of modelling and coaching behaviour were presented and were followed with group discussions. Focus groups were scheduled for all conditions every two weeks with groups of ten tutors. The goal of the focus groups was for students to share their experiences, discuss real-life scenarios, and to learn from each others' approach.

Mühlfelder, et al. (2015) developed a training program to help tutors with metacognitive skills, facilitator skills, and tutor skills that would help them scaffold the learning process of tutees. Mühlfelder et al.'s (2015) training program lasted four months and was divided into six sessions, each with their own training objectives and matching content. The program was a total of 150 hours with 90 hours dedicated to self-study and 60 hours of workshops or seminars. The tutor training design was centered on PBL and was used as a cornerstone in the training process itself. Tutors were challenged with ill-defined problems that might arise in the tutoring context. By creating a learning environment that resembled the later application of the skills helped tutors with subsequent transfer. This is sometimes referred to as situated learning.

Other tutor training programs also emphasize situated learning (Calma, & Eggins, 2012; Calma, 2013; Bell & Mladenovic, 2015). Situated learning is an instructional strategy that was developed by Lave and Wenger (1990) and posits that knowledge needs to be presented in situations that would normally involve the use of that knowledge. Social interaction and

collaboration are therefore important components (Priest, Saucier, & Eiselein, 2016). Bell and Mladenovic (2015) thought that situated peer observation was crucial for tutor development. The process of observing other tutors practice in real-life and being observed while they themselves tutor would allow them to better reflect on their own tutoring and translate to their learning (Bell & Mladenovic, 2015). They also thought that interaction with other tutors was essential to a tutor training program focused on situated learning (Bell & Mladenovic, 2015). Herrington and Oliver (2000) suggest that learning is more likely to occur in environments that have the following situated learning design elements:

- Provide authentic contexts that reflect the way the knowledge will be used in real life.
- Provide authentic activities.
- Provide access to expert performances and the modelling of processes.
- Provide multiple roles and perspectives.
- Support collaborative construction of knowledge.
- Promote reflection to enable abstractions to be formed.
- Promote articulation to enable tacit knowledge to be made explicit.
- Provide coaching and scaffolding by the teacher at critical times.
- Provide for authentic assessment of learning within the tasks. (p.25-26)

Calma (2013) came to similar conclusions regarding the importance of situated learning in tutor training after examining the perceptions tutors had of a new tutor-training program. Participants were 343 new tutors who completed a survey questionnaire over eight semesters. Surveys were completed at the end of each training session. The questionnaire included Likert-type questions and open-ended questions. In this case, tutors refer to those students who gave in-

class tutorials; it does not refer to one-on-one support. Their training consisted of an initial three-hour session before the semester began, classroom observation and feedback mid-semester, and a follow-up training session a few weeks before the semester ended. In fitting with situated learning, follow-up sessions were designed to facilitate conversations that were learner-focused and encouraged critical reflection. Tutors were given the opportunity to share best practices of tutoring amongst their peers. Feedback was given immediately following a tutor's mid-semester observation, or was emailed to participants within 48 hours.

Motivation is also an important thing to consider when developing tutor training (Constantinou & Nicolaou, 2018; Grohmann et al., 2014). Constantinou and Nicolaou (2018) looked at what motivates tutors to tutor and how this relates to the challenges they face and the support they need. It is important to assess a tutor's motivation before starting and again after gaining some experience, as it can change. Tutor training could be structured to align with their motivations. They found that tutors were initially motivated to do it as part of their practicum, or for financial remuneration. Over time though, the tutors' motivation to continue was based more on pedagogical reasons, such as their own learning (Constantinou & Nicolaou, 2018). Grohmann et al. (2014) looked more specifically at the motivation trainees had to transfer what they learned during training to on-the-job performance. Of significance, they found that training content validity was important to motivation to transfer. In regards to tutor training, this would mean that if the training content better corresponds to requirements they will encounter as a tutor, they will be more motivated to learn and later apply this knowledge on the job. Similarly, trainers could include case studies to show how the skills they are learning could later be applied when tutoring.

D'Eon, Proctor, Bassendowski, Dobson, and Udahl (2010) wanted to ensure that their tutor training could later be applied by tutors on-the-job. On-the-job performance change is also known as transfer (Grohmann, Beller, & Kauffeld, 2014). Training focused on improving transfer and included pre-reading and viewing video resources and two half-day training sessions that emphasized mock tutoring sessions. They also provided advanced optional training that included role-play exercises. Scenarios were created based on the trainees' own challenges encountered on the job. Transfer is a topic that is important to training programs and highlights the value of proper evaluation.

Evaluation

To evaluate whether their PBL tutor training was effective D'Eon et al. (2010) looked at participant satisfaction, student evaluations of tutors, and tutor self-assessments. Participant satisfaction was measured via surveys that were administered immediately following their training session. As was the case in many other studies, Likert scales were used for survey questions. Tutor self-evaluations were also conducted through surveys. Tutors responded to questionnaires after facilitating a group to report on how well prepared they felt. Despite their focus on transfer during training, their evaluation lacked measures to observe and examine their on-the-job performance.

Mühlfelder et al. (2015) evaluated their tutor-training program using both formative and summative evaluation. The final sessions included observing an experienced tutor with debriefing, facilitating a tutoring session with feedback, and self-reflection of the skills acquired throughout the training process. They used a quasi-experimental repeated measures design with 119 undergraduate psychology students as participants. Evaluation was based on self-report measures of the tutor, behavioural measures of tutor effectiveness, as well as student satisfaction

measures. Tutors self-reported on their skills before and after training with questionnaires containing items that were rated with a five-points Likert scale. These kinds of self-reports can be used to measure Kirkpatrick's learning level. Behavioural observations to assess tutor effectiveness were based on the "tutor intervention profile" (TIP) developed in The Netherlands (De Grave, Dolmans, & Van der Vleten, 1998, as cited in Mühlfelder et al., 2015). The TIP assesses tutor effectiveness based on four behavioural dimensions: "(1) Stimulating elaboration, (2) Directing the learning process, (3) Stimulating the integration of knowledge, and (4) Stimulating interaction and individual accountability of the students" (Mühlfelder et al., 2015, p.46). Trainers and peers observed the interactions of new tutors and assessed them on a five-point scale for each dimension. Finally, tutors' learner satisfaction with the outcome, process, and content was measured with a Likert-based questionnaire. Satisfaction would fall under Kirkpatrick's reaction level. Results found that the tutor-training program improved a tutor's metacognitive skills and correlated with learner satisfaction. Authors noted the need to follow up with evaluations mid-term and at the end of term to assess long-term effects of the tutor-training program on tutor effectiveness.

The framework Calma (2013) chose to evaluate tutor training was based on that by Fensternmacher and Berliner (1983), which looked at worth, success, and merit. Researchers examined answers to the open-ended questions, identifying themes related to worth, success, and merit. These included "The most useful aspect of the program" which appeared to be "the opportunity to interact with fellow new tutors and learn from the more experienced tutors" (Calma, 2013, p. 336) and the value of feedback after being observed. The second theme was the least useful aspects of the program: "the duration of the initial training session was perceived as too long" (p. 338) and "the need to train in more specific aspects of tutoring" (p. 339). The final

theme was suggested additions to the program: “more case studies, example, tips, and strategies from experienced tutors” (p. 339) and “the opportunity to observe other more experienced tutors and senior lecturers” (p. 340). A noted limitation of this study is that there aren’t clear distinctions between which theme falls under worth, merit, or success. These resulting themes would support the importance of situated learning in tutor training.

After examining tutor training programs and subsequent evaluations it is important to also look at targeted outcomes as a result of the training (Kirkpatrick, 1996). This would fall under Kirkpatrick’s fourth level of evaluation: results, but can be incredibly difficult considering the nature of tutoring and the many potential confounding variables (Kirkpatrick, 1996). Demeter (2011) sought to include tutee attendance as a means to measure success of Florida State University’s late-night peer tutoring program. They tracked the number of visits per student as well as which subject they were seeking help in. They also attempted to measure success based on a qualitative survey sent to students who had used the Learning District tutoring services.

The survey by Demeter (2011) included ten questions:

1. When did you visit the Learning District? (Please estimate if you don’t remember exactly.)
2. What subject were you there for?
3. The tutor covered what I needed for my tutoring session.
4. The tutor explained the questions and concepts clearly.
5. The tutoring has helped me with my class.
6. I would come again, and/or recommend the tutoring to others I know.

7. How often do you visit the Learning District?

8. How did you find out about the Learning District?

9. Is there a subject area, which is not currently being offered, that you would like to see tutors available for in the Learning District? If so, please specify.

10.Other comments. (p. 139)

Marx, et al.'s (2016) evaluation of the tutor-tutee relationship and subsequent tutee performance chose, like Demeter (2011), to include the number of tutoring sessions a tutee attended, although in this case, with the same tutor. They thought it could be an indicator of satisfaction with tutoring services as well as a student's comfort level with a specific tutor. To measure performance, they looked at a tutee's predicted grade upon entry into the tutoring program and compared it to the tutee's anticipated grade after they had received interim reports. Results found one whole grade improvement on average.

Summary of Evaluation. Evaluation tools should be created before beginning the design of training. Though not explicitly stated, evaluation in the studies often covered multiple levels, though rarely all four. Evaluation included simple Likert-scale surveys to assess tutors' reaction to and satisfaction with the training (Calma, 2013; D'Eon et al., 2010; Adams & Hayes, 2011; Mühlfelder et al., 2015). Learning was assessed through self-report surveys (Adams & Hayes, 2011; D'Eon et al., 2010; Mühlfelder et al., 2015), and changes in behaviours were mostly measured through observation (Calma, 2013; D'Eon et al., 2010; Mühlfelder et al., 2015). Results and impact are difficult to measure as there are often confounding variables. Some studies attempted to look at impact qualitatively, through tutee feedback surveys (Demeter, 2011), or quantitatively through attendance and changes in tutees grades (Marx et al., 2016).

Summary of the Literature

Many of the studies reviewed followed a similar pattern in terms of tutor training and subsequent evaluation. In the process of designing a new training program it is important to begin with a needs assessment (Carliner, 2003, Buitrago, 2013). This step should be followed by the creation of observable, measurable objectives (Carliner, 2003, Mühlfelder et al., 2015) that fit within Kirkpatrick's four-level model: reaction, learning, behaviour, and finally results (Praslova, 2010, Kirkpatrick, 1996). Though not explicitly stated, evaluation in the studies often covered multiple levels, though rarely all four. Evaluation included simple Likert-scale surveys to assess tutors reaction to and satisfaction with the training (Calma, 2013; D'Eon et al., 2010; Adams & Hayes, 2011; Mühlfelder et al., 2015). Learning was assessed through self-report surveys (Adams & Hayes, 2011; D'Eon et al., 2010; Mühlfelder et al., 2015), and changes in behaviours were mostly measured through observation (Calma, 2013; D'Eon et al., 2010; Mühlfelder et al., 2015). Results and impact are difficult to measure as there are often confounding variables. Some studies attempted to look at impact qualitatively, through tutee feedback surveys (Demeter, 2011), or quantitatively through attendance and changes in tutees grades (Marx et al., 2016). Content for the training programs was based on learning theories and skills that were identified as important in successful tutoring. The main tutor skills identified in the literature were: scaffolding (Mackiewicz & Thompson, 2013, 2014; Mühlfelder, Konermann, & Borchard, 2015; Smet et al., 2010), metacognition and self-regulation skills (De Backer, Van Keer, Moerkerke & Valcke, 2016; Mackiewicz & Thompson, 2014; Mühlfelder et al., 2015), situated learning (Calma, 2013), and transfer (D'Eon et al., 2010).

An analysis of the literature for this thesis project has explored best practices of tutoring programs in higher education, with a focus on tutor training and evaluation. It has also paid

special attention to the learning theories that guide these tutor-training program designs. This literature review provided background information that informed the recommendations for a modified tutor-training program and evaluation tools at the college's tutoring centre.

Needs Analysis

A needs assessment was only mentioned once in the literature on tutor training (Rodriguez Buitrago, 2013), yet it is hard to deny its importance in designing training and instruction (Carliner, 2003). The needs assessment often determines gaps in both tutor performance, as well as the program. There are currently no evaluation tools in place to help assess what, if any gaps exist in the current peer tutor training program. Recommendations are limited therefore to my own observations and an objective needs assessment focusing on best practices in published literature. These best practices will be used to provide a preliminary analysis of the current tutor training program.

The purpose of the thesis was to assess the current state of the peer tutor training program and provide suggestions for design improvements. The needs assessment guides the creation of learning objectives, the subsequent design of selected improvements to the training program, as well as much needed evaluation tools. The needs assessment was based on a thorough identification of best practices in tutor training and evaluation from the literature and a preliminary analysis of the current tutor training.

A more thorough needs assessment by the college's coordinator of tutor training would triangulate data, looking at both tutor and tutee data in conjunction with the literature provided here. The literature based in instructional design suggests that any training program should begin with a needs assessment (Carliner, 2003). "A training needs assessment identifies specific

problems within an organization by using appropriate methods of gathering information (such as surveys, interviews, observations, etc.), determines which of the problems requires a training solution, and then uses the information to design training interventions that solve the original problem." (Leatherman, 2007, p. 3, as cited in Iqbal & Khan, 2011).

Every training program should begin with a needs assessment to ensure that a program is a response to a real need. It will identify the desired performance of your learners, who they are, and the tasks they need to master (Carliner, 2003). Rodriguez Buitrago's 2013 study was the only study found within peer tutor training in higher education to explicitly mention a needs assessment. Data for this needs assessment was collected with a questionnaire and included information such as background information, pedagogical activities, attitudes towards tutoring, and what they thought they needed to learn.

Grohmann et al. (2014) looked at the motivation tutor trainees had to transfer what they learned during training to on-the-job performance. They found that training content validity was incredibly important to motivation to transfer. In regards to tutor training, this would mean that if the training content better corresponds to requirements they will encounter as a tutor, they will be more motivated to learn and later apply this knowledge on the job. Reaction-level surveys could be used to get a general idea of which parts of training tutors find most relevant to their job. This would support the importance of situated learning in tutor training which is highlighted in the literature (Calma, & Eggins, 2012; Calma, 2013; Bell & Mladenovic, 2015). The creation of other evaluation tools will help assess the tutors' reactions to the training, current learning, and application on the job (please see *Measurement Tools* for a detailed description of recommended evaluation tools and supporting literature).

Methodology

Original Study Design

This thesis equivalent was intended to be a performance improvement project that followed a practical action research design. Issues with the Research Ethics Board at the college combined with the Covid-19 pandemic forced me to shift gears when time became an issue. The original practical action research design was fitting as I was looking to address a local issue by employing an organized problem-solving approach (Creswell, 2012). My goal was to improve The Tutoring Centre's peer tutoring program that my director oversees at the college. My new job as a learning specialist in charge of the math and science centre provided me with an opportunity to evaluate and improve on the current program. I am in charge of the math and science centre and my role is to support science students academically outside of the classroom and provide extracurricular engagement. While I am not specifically involved in the training and evaluation I do help with recruitment and spreading awareness of these services. Action research highlights problem-solving while seeking to bridge the gap between research and practice (Pine, 2009). Collaboration is a key characteristic of action research and would have been essential to this project. However, without the support of certain faculty members, data collection became incredibly difficult and the action research approach was not possible.

Had I been able to collect data, I would have followed the cyclical process that Mills (2011) referred to as a dialectic action research spiral. Researchers go back and forth between data collection and the three other steps: identifying an area of focus, analyzing and interpreting data, and developing an action plan (Mills, 2011). Evaluation is also important (Ferrance, 2000). It is not uncommon for these steps to overlap and repeat as many times as needed. This iterative process is ideal because it allows the researcher to adjust and re-examine in an organic fashion as

data is collected and analyzed to ensure rigour. This flexible approach is valuable in the dynamic context of the peer tutoring program. I needed an approach that would adapt to unforeseen changes or challenges that occur in the research process. I first started reconnaissance and reviewed the literature to help guide the plan of action. In this case, the unforeseen challenge was the inability to obtain ethics approval from the college, which prevented me from collecting data.

Had data collection been given the green light and proceeded as planned, I would have done a more thorough needs assessment to triangulate data provided by the literature. First, I would have surveyed tutors to get feedback about their reaction to training provided and the tutoring program in general (see appendix B). I would have surveyed tutees to determine what benefits they feel they get from the program and what about their tutoring sessions they find the most helpful (see appendix C). I would also have arranged focus groups to get more elaborate information from tutors on their thoughts about training and what potential gaps exist (see appendix E). I would have interviewed teachers that screen incoming math and science tutors and help with training. I would have also interviewed the coordinator of the tutor training program. Finally, I would have included observation data to assess whether tutors are performing well on the job (see appendix D for the observation rubric). Based on this data and with the support of the literature, I would have designed solutions for the tutoring program and evaluation tools to assess the new program. More information can be found in the Recommendations section on page 27.

Practical action research offers real-world solutions that can lead to positive change in practice, but it is not without its drawbacks. First, action research is difficult to generalize due to the specific nature of the sites, participants, and problems. To help with this, the project can be explained in great detail so readers can decide if the report can generalize to their own project.

Another issue of action research that was to be used in this project is the time-consuming nature of its cyclical process. Despite the time limitations it will still be possible to begin the process and find some solutions to improve the peer tutoring program. Ideally, the process would have continued after the submission of my thesis as part of our commitment to the college's students' success. In this case, the research will have to be conducted by my colleague in charge of tutor training with the sole purpose of improving the peer tutoring program. Without the support of the college's Research Ethics Board it will not be shared with the public in the form of a thesis. This brings up another criticism: that the qualitative nature of action research combined with an over-involved researcher will lead to results that are incredibly subjective. To try to maintain objectivity and avoid bias, multiple people can code the data, we would have triangulation of data sources, and would have had the participants review the results.

New Study Design

Considering the current road blocks to conducting action research, this thesis equivalent is a now a theoretical performance improvement project based on my observations and a literature review of best practices. I chose the ADDIE Model framework to answer my research questions. Its iterative nature and focus on reflection is similar to the action research that was originally planned. ADDIE is an acronym for the five phases of a development process: Analysis or Assessment, Design, Development, Implementation, and Evaluation. This thesis therefore begins with a needs assessment based on the literature and provides a road map to conducting a needs analysis of a peer tutoring program. Data collection from surveys, focus groups, and observation would have provided valuable information from tutors and tutees that would have guided improvements to the program. Data collection tools were created for the needs analysis and will be shared so they can be used when it becomes feasible. The literature review for this

thesis explores best practices of tutoring programs in higher education, with a focus on tutor training and evaluation in order to guide the design and evaluation of an improved program. Literature on learning theories is brought in when needed to evaluate training program choices or to elaborate on concepts that tutor programs were built upon. Literature from best practices of training within the field of instructional design is used to examine and fill in gaps within the literature on best practices in tutor training design and evaluation. An analysis of best practices in designing training programs will highlight which learning objectives should be included in the modified program. The desired outcome for this thesis project is to use the literature of best practices to provide suggestions on how to design interventions to improve the peer tutor training program as well as subsequent evaluation tools. It will also serve as a blue-print for a needs analysis of a peer tutoring program.

Evaluation of Training Program

Kirkpatrick's (1996) Four-level Model of Evaluation

Kirkpatrick (1959) developed a four-level model of training evaluation criteria that includes reaction, learning, behaviour, and results (Praslova, 2010). Training should be developed to achieve the learning objectives at each level, and subsequently evaluated at these levels, based on the objectives (Praslova, 2010). The first step in an evaluation is constructing learning objectives based on the needs, in this case, the necessary skills a tutor needs to perform on the job.

Learning Objectives

Through informal interviews with the tutor training coordinator, it became apparent that the training program lacked clear learning objectives. It is essential that tutor learning objectives

be made explicit in a modified tutor-training program. The researcher, therefor, wrote clear learning objectives based on the literature review. Learning objectives should "identify an observable, measurable behaviour", state the "conditions under which the task should be performed" (Carliner, 2003, p. 69). Learning objectives should also be created for different levels: reaction, learning, application, and impact (Phillips & Phillips, 2010). See Table 1 for a detailed description of the selected learning objectives.

Measurement Tools

The college had no tools in place to evaluate tutors or the tutoring program. A detailed list of measurement tools to measure specific learning objectives can be found in Table 1. It is recommended that The college conduct separate surveys for both tutors and tutees (see appendices A and B for recommended surveys). More basic reaction surveys could also be included for each training session. Many tutor programs use surveys as a means of collecting useful information (Adams & Hayes, 2011: Calma, 2013; D'Eon et al., 2010; Demeter, 2011; Mühlfelder et al., 2015; Rodriguez Buitrago, 2013). A focus group (see appendix D for suggested structure) or interviews would also provide valuable information (Rodriguez Buitrago, 2013). Observation is an essential part of evaluation to ensure a tutor's success applying learned skills to real-life situations (Calma, 2013; D'Eon et al., 2010; Mühlfelder et al., 2015). An observation rubric can be found in Appendix D.

The evaluation of the tutor training programs in the literature reviewed often covered multiple levels of the Kirkpatrick Model, though rarely all four. They included simple Likert-scale surveys to assess tutors' reaction to and satisfaction with the training (Calma, 2013; D'Eon et al., 2010; Adams & Hayes, 2011; Mühlfelder et al., 2015). Learning was assessed through self-report surveys (Adams & Hayes, 2011; D'Eon et al., 2010; Mühlfelder et al., 2015), and

changes in behaviours were mostly measured through observation (Calma, 2013; D'Eon et al., 2010; Mühlfelder et al., 2015). Results and impact are difficult to measure as there are often confounding variables. Some studies attempted to look at impact qualitatively, through tutee feedback surveys (Demeter, 2011), or quantitatively through attendance and changes in tutees grades (Marx et al., 2016).

Table 2

Summary of Learning Objectives and Associated Measurement Tools Based on Kirkpatrick's Four-Level Model of Training Evaluation

Level	Learning Objective	Measurement Tool	Literature Support
Reaction	Tutors rate the various training sessions favourably (An average of 4/5 on the Likert scale). Tutors rate the online management system (Tutor portal) favourably (An average of 4/5 on the Likert scale).	- Reaction Survey - Focus Group (Appendix E) - Interviews	Calma (2013) D'Eon et al. (2010) Adams & Hayes (2011) Mühlfelder et al. (2015)
Learning	After training, the peer tutor is able to: • explain strategies for effective time management in a role-play scenario • in a role-play scenario, provide a study skill that a tutee could use in many of their college classes (study skills include effective time management, organization, note-taking, test-taking, retention, motivation, and stress reduction). • describe the peer tutoring job description. • Describe one scaffolding strategy they can use to promote the building of tutee autonomy. • discuss the issues that could interfere with a successful	- Reflective Report (Appendix F) - Self-Report Tutor Survey (Appendix B)	D'Eon et al. (2010) Adams & Hayes (2011) Mühlfelder et al. (2015)

	tutoring session in a group discussion • develop a list of resources or strategies to help manage difficult situations in a group discussion		
Application	After training, the peer tutor demonstrates active listening and paraphrasing skills in the tutoring process. After training, the peer tutor demonstrates the ability to direct the learning process using 3 of the 4 following strategies in a one hour observed tutoring session: probing, questioning, active listening or paraphrasing, and providing feedback. After training, the peer tutor includes motivational scaffolding in their observed tutoring session. They use at least one of the following techniques: showing concern, praise, empathy, or humour. After training, the tutor is able to model scaffolding and is able to give the tutee at least 25% of the one hour allotted time to work on challenging material themselves. After training, the peer tutor displayed a professional work ethic by: • Arriving on time 90% of the time, • Starting the tutoring session promptly after arriving • promptly responding to a tutee's messages. After a one-hour training session, the peer tutor is able to use the peer tutor portal to accept new tutees,	- Observation - Observation Evaluation Rubric (Appendix D) - Tracking of tutor arrival and departure	Calma (2013) D'Eon et al. (2010) Mühlfelder et al. (2015)

	update their schedule, enter their hours, and complete tutee surveys. After training and a minimum of 30 hours of tutoring experience, the evaluator will observe the tutor display the following skills: cognitive and motivational scaffolding, self-regulation and metacognitive skills, and fostering tutee autonomy. After training, the tutor is always able to refer students to the correct resources when they do not have the tools or training to provide the required help themselves.		
Results	After one semester, tutees using the peer tutoring services report that their course grades have improved	- Tutee Surveys (Appendix C) - Tutee Attendance	Demeter (2011) Marx et al. (2016)

Gap Analysis and Recommendations

Peer Tutoring Program Structure

Current: Volunteer Program

The college's peer tutoring program is currently a volunteer program. How can we motivate students to become tutors and remain tutors? Peer tutors used to be paid, but tutoring is now based on a volunteer model. The number of tutors was increasing and there wasn't money in the budget to pay them all. Without financial remuneration or credits, it is difficult to recruit new tutors to meet the growing demand. While some students are motivated to help others, many require some incentive to join a program. The budget at the college is insufficient to cover the salaries of over 50 tutors every semester. Other tutoring programs within the college, that are much smaller, can afford to pay their tutors, creating an unfair work situation

on campus. Motivation is an important thing to consider when developing tutor training (Constantinou & Nicolaou, 2018; Grohmann et al., 2014).

Recommended: College Reading and Learning Association (CRLA) Certification

CRLA Certification could provide motivation for students to become tutors and could improve retention rates. This certification could be added to their résumés and will be recognized at other institutions. The certification program includes ten hours of training and fifty hours of practice. Once students finish the certification program they have the option to be paid. Some students prefer to volunteer and may continue to do so.

Constantinou and Nicolaou (2018) found that tutors were initially motivated to do tutor as part of their practicum, or for financial remuneration. By adding CRLA certification, the training and tutoring becomes part of their practicum. It also allows a reintroduction of financial remuneration that would otherwise be difficult to implement. By dividing tutors into those who have completed training and those who have not, there is now enough money in the budget to selectively pay those who have completed training. There are two other benefits of introducing CRLA certification. “First, it provides recognition and positive reinforcement for tutors’ successful work from an international organization, CRLA. Second, its certification process sets a standard of skills and training for tutors” (CRLA, 2009, p. 1, as cited in Johnson, 2014). Walvoord and Pleitz (2016) used CRLA certified training in their tutoring program that saw a higher mean GPA among students that attended at least one tutoring session compared to those that did not. Adam and Hayes (2011) also noted positive feedback from tutors regarding their CRLA certified peer tutoring program.

Peer Tutoring Skills

Current: Tutoring Skills

The college's peer tutoring program is grounded in many of the same learning theories that provided the backbone of the tutoring programs examined in the literature. The problems identified are less related to theory and more about their application in the actual training of tutors. The current skills that tutors are required to master are focused on fostering tutee autonomy. The *TASC Learning to Peer Tutor Handbook* (Berman, 2017) highlights that tutors need to be able to facilitate a deep approach to learning, as opposed to surface learning and memorizing. A tutor also needs to be able to understand the concept of growth mindset, and how to give appropriate praise and feedback (Berman, 2017). The tutoring handbook touches on these topics, but doesn't go into great detail on how this translates to a successful tutoring session.

Deep learning. "Simply put, deep learning involves actively trying to understand, apply and/or create while surface learning involves passively trying to reproduce" (Berman, 2017, p. 62).

Growth Mindset. "Help your tutee see that making mistakes and experiencing failure are often necessary steps before success in college and beyond" (Berman, 2017, p. 72).

Praise and Feedback. "Feedback should be honest, specific and constructive; provide opportunities for your tutee to act upon your feedback by trying to create a feedback loop where you offer feedback on what is working and what is not and have them practise, try again, and continue the loop" (Berman, 2017, p. 49). Praise and feedback connect to motivational scaffolding and were noted as important skills for tutors to practice.

Metacognitive Skills and Self-Regulated Learning. The current research highlights the importance of metacognitive skills and self-regulated learning. Tips on both metacognition and self-regulation are included in the *TASC Learning to Peer Tutor Handbook* (Berman, 2017) which was introduced part way through completion of this thesis project:

Metacognition

Encourage your tutees to question themselves about the following:

1. What do I already know about_____?

2. What new material must I learn about_____?

3. What skills, knowledge, and abilities do I need to learn _____?

4. What will I be able to do once I know about_____?

5. How will I get to learn about _____ in an efficient way?

6. What strategies can I use to learn about_____? (p.44)

Self-regulation

To help your tutee self-regulate,

- stress the importance of increasing and/or improving their reflection about their thinking and learning
- discuss the strategies you use to monitor your own thinking and learning o encourage them to paraphrase what they learned (paraphrasing helps build meaning and helps identify misunderstanding)

- encourage them to apply what they learned to a given task (homework problems or project assignments are often designed to identify gaps in knowledge)
- suggest that when learning new information, they can create sub-goals and then practice trying to determine if each goal has been met (when a goal 47 has not been met, ask them what they can do to address the issue)
- ask them to 'teach' you challenging concepts (while processing the content needed to teach you, the tutee will have to consolidate the learned concept and, as a result, this can help them determine if they actually do understand) (p.46-47).

These concepts are included sections of the handbook, but are never brought up during training. The college's peer tutor training does not include any explicit training on modelling metacognition and self-regulated learning. The modelling of metacognitive skills by the tutor was identified as an important part of effective tutoring.

Recommended: Tutoring Skills

The skills that are highlighted and included in training are important and fit within the skills determined to be central within the literature reviewed. The skills are just incomplete and should be expanded upon to include metacognitive skills and self-regulation, scaffolding, and a more responsive style of tutoring. Tutors should be trained to be flexible with the tutoring style depending on the unique situation with a tutee.

Metacognitive Skills and Self-Regulated Learning. Self-regulated learning and metacognition are connected concepts that were noted as important in many of the articles on

tutor training (De Backer, Van Keer, Moerkerke & Valcke, 2016; Mackiewicz & Thompson, 2014; Mühlfelder et al., 2015). Self-regulation refers to "self-generated thought, feelings, and actions that are planned and cyclically adopted to the attainment of goals" (Zimmerman, 2000, p.14) and is closely connected to metacognitive skills. Mühlfelder et al. (2015) defined metacognitive skills as "the ability to observe and reflect [on] the effectiveness of the learning process [and] the learning strategies applied" (p. 38).

Tutees have been found to improve their metacognitive regulation by observing their tutors model these regulative behaviours (De Backer, Van Keer, Moerkerke & Valcke, 2016). Revealing the thought processes of an expert learner such as a tutor helps to develop a tutee's metacognitive skills. Tutors should therefor be trained in how to model these skills. Tutors should be taught to verbalise their metacognitive thinking 'What do I know about problems like this? What ways of solving them have I used before?' as they approach and work through a problem or task (De Backer, Van Keer, Moerkerke & Valcke, 2016). Research shows that students that learn metacognitive strategies have a greater sense of control of their own learning which subsequently increases motivation. Other benefits of metacognition and self-regulation include changes from a fixed to a growth mindset, increased control over a student's own learning, and more positive attitudes about education and school (Backer et al., 2015).

Scaffolding. Scaffolding is the use of support strategies that guide a student to build knowledge when problems or assignments are too difficult (Hmelo-Silver et al., 2007). Scaffolding is an essential part of PBL (Hmelo-Silver, Duncan, & Chinn, 2007) and was a key component to math and science tutor programs found in the literature (Mühlfelder et al., 2015; Smet et al.'s 2010). The college's peer tutor training program focuses on English tutoring, without much emphasis on math and science. Scaffolding is not addressed explicitly in the

training or resources provided. The tutors are encouraged to use a non-directive approach to tutoring, which falls in line with idea of scaffolding but is incomplete. Tutors should be able to "scaffold" tutoring sessions by asking questions, giving hints, and giving feedback to help guide self-learning. Motivational scaffolding should also be addressed in training (Mackiewicz & Thompson, 2013, 2014; Thompson, 2009). This would include showing concern, praising, displaying empathy, and humour (Mackiewicz & Thompson, 2014).

A Socratic tutoring style, emphasized in The Tutoring Centre's current training program, is often thought of as characteristic of highly effective tutors (Lepper, 2002) and would indeed help in scaffolding tutoring sessions. Socratic tutoring uses questions, not assertions, hints, not answers, and uses tutee mistakes to offer guidance. On the other hand, Mackiewicz and Thompson (2015) found that experienced tutors use directive strategies but in a way that tries to encourage students to remain active participants in the tutoring session. One study found that, though a Socratic (non-directive) tutoring style often has better results, this is not always the case. In the process of building rapport, it is often wise to use a more directive didactic style in the beginning (Appleby-Ostroff, 2017). Tutees may expect direct instruction and meeting their expectations leads to tutee satisfaction (Mackiewicz & Thompson, 2014). A tutee may expect some level of direct instruction and become frustrated when a tutor takes a slower approach. In connection with scaffolding principles, the centre's tutors can be trained to be flexible with the tutoring style depending on the unique situation with a tutee. For example, a multilingual tutee with little experience in English might require explicit, didactic instruction to start. As the tutee becomes more comfortable with the tutor, they may switch to a more Socratic instruction style.

Tutor Training

Current: General Training for all tutors (before tutoring begins)

Lecture-style Training. The general training that occurs before tutors begin lasts four hours. It includes: *Tutoring Pedagogy & Autonomy Fostering Tutoring (one hour), Tutoring Logistics (one hour), Tutoring Students with Special Needs (one hour), and Information Literacy (one hour).* An expert in helping those with special needs is recruited to give a brief training should student tutors encounter tutees with special needs. The current training program is heavily structured around a didactic-style passive style of teaching.

Recommended: General Training for all tutors (before tutoring begins)

Situated Learning and Role-Play Exercises. In the trainer's own research on tutoring, they highlight the value of learners figuring things out on their own with a more Socratic approach. The current training program should be restructured to allow more time for practice and discussion. This could include videos of ideal tutoring scenarios, followed by tutoring sessions when mistakes are made. The trainer could lead a discussion around the viewings. This would follow situated-learning theories and help with knowledge construction by the learner.

Another suggestion in line with the importance of situated learning and scaffolding would be role-play exercises (D'Eon, et al., 2010). One example of a role-play training activity is to have tutors break off into pairs, with each tutor in the pair specializing in a different subject. They would then take turns tutoring each other on knowledge, skills and study strategies. They would encourage self-regulatory behaviours and demonstrate metacognitive skills.

D'on, et al. (2010) focused their training on mock tutoring sessions. They also provided advanced training that included role-play exercises that would improve on-the-job transfer. Scenarios were created on the tutors' own challenges encountered on the job. Fetner (2011) recommends dividing these role-play exercises in four-steps to encourage scaffolding techniques:

1. You observe while I demonstrate
2. I'll work and you help
3. You work and I'll help
4. You demonstrate and I'll observe (Fetner, 2011, p. 8)

The session on fostering tutee autonomy should remain, but be extended to cover scaffolding and modelling, as discussed above. This session should also include more active participation by students in the form of role-play with immediate feedback. The college's training could include case studies to show how the skills they are learning could later be applied when tutoring. These role-play exercise scenarios can be created based on the trainees' own challenges encountered on the job to increase relevancy.

The session on tutoring logistics could be shortened to 30 minutes and include a one-page handout that could be used as a job-aid. Though the logistics session is relatively easy, students are more likely to forget the details of how to log their hours.

The session on APA/MLA formatting and plagiarism does not match any of the learning objectives and should be removed from the in-person training schedule. Training should be designed to meet learning objectives, as such, it should be removed from the training program (Carliner, 2003). As well, most students already attend library workshops on these topics and including them in tutor training seems redundant. There are dedicated staff members that are available to help students with proper citations and formatting, should the need arise. Tutors could refer students to staff or a job aid could be included. Finally, the majority of tutors are actually math and science tutors, so this information isn't useful to them.

Current: On-going Semester Training

Four One-hour Sessions on Various Topics (about one every month). The on-going semester training occurs during a college-wide common break, an average of once per month. It includes: *Panel Discussion of Experienced Tutors (lead by alumni peer tutors), Cultural Diversity & Tutoring (lead by English teacher, College Referral Services (lead by Student Services Manager),* and two *Question and Answer Sessions*. In the first Q&A session, the roles and responsibilities of peer tutors in relation to teachers is outlined; peer tutors must complete a worksheet where they provide a definition of peer tutoring now that they have some experience in the field. In addition, peer tutors must describe the goals of peer tutoring. Finally, tutors are given time to ask questions and share concerns and strategies regarding the peer tutoring program. In the second Q&A session, peer tutors are required to describe ways they try to facilitate a deep approach to learning and explain their understanding of a student's mindset and how to give appropriate praise and feedback. Tutors are asked to reflect upon their strengths and weaknesses as peer tutors and to reflect upon their developing communication skills. Finally, tutors are given time to ask questions.

Recommended: On-going Semester Training focusing on role-play and interaction with peers

Eight One-hour Sessions on Various Topics (about two every month). The on-going semester training occurs during the college-wide common break an average of once per month. The college-wide common break is a very busy time for students, so by offering the same sessions twice in one semester, once during the college-wide common break and once on a Friday afternoon, students are more likely to be able to attend. This has been informally mentioned by peer tutors and would be further corroborated by a formal needs assessment in a focus group of peer tutors.

The panel discussion is very relevant and should remain in the modified training. The first Q&A session should be removed and replaced with a role-play exercise with experienced tutors. Now that students have begun tutoring they can bring a real-life situation they experienced trouble with and experiment with role-play solutions. Experienced tutors can share successful strategies that have worked for them in the past. The second Q&A session can remain as it is as it includes discussion with peers and an opportunity for reflection.

Many tutor training programs emphasized the importance of situated learning (Bell & Mladenovic, 2015; Calm & Eggins, 2012; Calma, 2013; Muhfelder, et al, 2015). Interaction with other tutors is essential to a tutor training program focused on situated learning (Bell & Mladenovic, 2015). Also, Calma's (2013) results found that tutors appreciated "the opportunity to interact with fellow new tutors and learn from the more experienced tutors" (p. 336) more than anything else. The second Q&A session should therefor remain as it includes discussion with peers and an opportunity for reflection. In fitting with situated learning, follow-up sessions in the literature were designed to facilitate conversations that were learner-focused and encouraged critical reflection (Calma, 2013).

Learning to Peer Tutor Handbook

Current: Mandatory Reading

The handbook was created by the college professional in charge of tutor training during the writing of this thesis. It is being used as a training tool and is mandatory reading for new tutors. Many of the sections of the book are not discussed or brought up in training.

Recommended: Learning to Peer Tutor Handbook as Job-aid

I would encourage changing this handbook to a job aid, instead of thinking it is adequate training. The book is quite long and reading is not a very effective tool for learning material that is expected to be applied on-the-job. Situated learning theory would encourage a more hands-on approach to learning. The various sections can become the basis for role-play exercises and group discussions with other peers.

Observation

Current: No Observation Required

There is currently no observation required of tutors in The college's peer tutoring program.

Recommended: Experienced Tutor Observation (before tutor begins)

All peer tutors should observe an experienced peer tutor and debrief with that tutor. Tutors must provide a synopsis to the trainer regarding key elements they observed to encourage a more active participation in the observation.

Observation should also be an added requirement in the peer tutor training. Tutors should be given the opportunity to observe an experienced tutor.

Recommended: Observation Evaluation (after 15 hours of tutoring is complete)

The college's peer tutors should be observed and provided with feedback. The trainer should observe all peer tutors using an observation rubric (see Appendix D). Some of things the trainer should look for are: (a) Cognitive Scaffolding (did the tutor work in front of the tutee and then give them the time and space to work on their own?) (b) Feedback (did the tutor encourage the tutee to use the feedback they had been given?) (c) Active Tutoring, (did the tutor encourage the tutee to demonstrate knowledge?) The rubric should be shared with the tutor and be

encouraged to see the trainer in their office hours if they have any questions. The trainer is limited on time and with over 50 tutors every semester, observation would have to be limited to once. The trainer could perhaps consider including observation by an experienced tutor as part of their training. This is an evaluation tool but it also provides an opportunity for training through feedback.

Some tutor training programs emphasized the importance of situated learning (Calma, & Eggins, 2012; Calma, 2013; Bell & Mladenovic, 2015). Situated learning theory argues that knowledge should be learned in the same place as it is used (Lave & Wenger, 1990). The process of observing other tutors practice in real-life and being observed while they themselves tutor would allow tutors to better reflect on their own tutoring and translate to their learning (Bell & Mladenovic, 2015).

Mühlfelder et al. (2015) used behavioural observations to assess tutor effectiveness based on the "tutor intervention profile" (TIP) developed in The Netherlands. The TIP assesses tutor effectiveness based on four behavioural dimensions: "(1) Stimulating elaboration, (2) Directing the learning process, (3) Stimulating the integration of knowledge, and (4) Stimulating interaction and individual accountability of the students" (Mühlfelder et al., 2015, p.46). Trainers and peers observed the interactions of new tutors and assessed them on a five-point scale for each dimension.

In Calma's (2013) study, tutors felt that feedback after being observed was a very useful part of their training.

Self-Reflection

Current: Reflective Group Discussion

Peer tutors are currently asked to reflect upon their strengths and weaknesses as peer tutors and to reflect upon their developing communication skills in one of the Question and Answer Sessions.

Recommended: Reflective Report (after training and 15 hours of tutoring is complete)

The reflection could remain as part of the training session discussion. Peer tutors should also complete a one-page self-reflective report upon completion of training and fifteen hours of on-the-job experience. This report would involve tutors reflecting upon what tutoring strategies they have applied from training, such as scaffolding, and how they help foster tutee autonomy and deep learning. These kinds of self-reports can be used to measure Kirkpatrick's learning level.

D'Eon et al. (2010) had tutors report on how well prepared they felt after completing their first session on the job. Muhfelder et al. (2015) also included self-reflection of the skills acquired throughout the training process. Effective reflective practice involves framing and reframing the practice setting to integrate theory and practice (Loughran, 2002). Reflection on experience enhances learning that happens through experience (Loughran, 2002).

Conclusion

The goal of this project was to design proposed improvements for the College's peer-tutor training program. Peer tutoring is an important part of the support that the college offers to students who are struggling and there is sufficient evidence to support its benefits (Campbell & Campbell, 1997; Munley, Garvey, & McConnell, 2010; Rheinheimer et al., 2010; Coladarci, Willett, & Allen 2013; García, Morales, & Rivera, 2014; Colver & Fry, 2016; Cooper, 2010; Walvoord & Pleitz, 2016). The success of a peer tutoring program depends on the quality of the

services that the tutors provide (de Smet et al., 2010); it is therefore important to ensure that tutors have the required skills.

Through my literature review, I was able to determine the best way to improve this program without the use of any data from a more thorough needs assessment. This review of the literature guided the creation of learning objectives, the subsequent design of selected improvements to the training program, as well as much needed evaluation tools.

Using the literature review as a guide to best practices, I proposed changes to the current training program and developed other interventions to improve the overall tutoring program and tutor performance. These changes to tutor training include: an emphasis on metacognitive skills and self-regulation, situated learning and role-play exercises, an increase in tutor interaction, and the observation of an experienced tutor.

I also created evaluation tools to assess reaction, learning, and on-the-job application. These evaluation tools include: tutor and tutee feedback surveys, focus group guides, self-report surveys, and tutor observation. Each of these proposed evaluation tools was designed to assess the learning objectives that were supported by the research.

Other possible design solutions, such as CRLA tutor certification and the reintroduction of remuneration, may address broader issues such as tutor motivation. Though the project has limited generalizability, it still has the potential to impact the hundreds of students that use peer tutoring services at the college every year. Other tutoring centers may follow a similar process to evaluate and improve their tutoring programs.

Limitations and Challenges

A significant limitation of this project was the inability to actually conduct any data collection at the college. Though ethics approval was granted from Concordia University, there were issues with the Research Ethics Board at the institution. After over a year of attempting to adjust a proposal and tools to gain approval, it was apparent that the issues were insurmountable and data from the students was therefor inaccessible. Preparations were made to make an official request for an appeal on the decision when the Covid-19 pandemic made that request no longer pertinent. As colleges were forced to shift to an online format, the tutoring program was also required to adjust and move online. Data collection was no longer possible, regardless of ethics approval. Without data from tutors and tutees it is difficult to ensure that proposed suggestions are truly addressing the needs of the students. The literature review should have been used to triangulate data from tutors and tutees, but in this case it acted as a theoretical needs assessment, supported by my experiences working in the program.

Another limitation is that there were significant changes to the program throughout the project that were necessary immediately. The real-life needs of a tutoring program cannot wait for proper research to be completed before implementing changes. CRLA certification was introduced to increase student motivation to become a tutor. This certification has specific requirements of the program, though most were in line with my research. As such, some evaluations were created with the coordinator of the tutoring program before completion of this project, with the understanding that improvements could be made in the future when the research had completed.

Future Directions

There have been many changes in society, and at this college more specifically, since this thesis project began. The recent Covid-19 pandemic has changed the way we live and learn for

the unforeseeable future. It would be naïve to think that the college's peer tutoring program will remain the same in light of this event. The Tutoring Centre's Peer Tutoring Program will need to be adapted for online learning. Tutoring has already been moved to online platforms and training and evaluation will also need to be reassessed to fit with best practices in online training design. Research will have to explore further modifications than the ones explored in this thesis. For example, additions to the tutor training program could include online etiquette, communication skills in an online setting, and similarities and differences between online and face-to-face tutoring (Hrastinski, Cleveland-Innes, & Stenbom, 2018).

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Appendix A

Tutor Survey – Tutee Information

1. Your student ID
2. Student ID
3. Student's Program
4. Specify the course(s) tutored for THIS STUDENT

☐ Functions I - Sec 4 Math
☐ Functions II - Sec 5 Math
☐ Calculus I
☐ Calculus II
☐ Calculus III
☐ Linear Algebra I
☐ Linear Algebra II
☐ Probability and Statistics
☐ Differential Equations
☐ Introduction to College Physics
☐ Mechanics
☐ Waves and Modern Physics
☐ Electricity and Magnetism
☐ Introduction to College Chemistry
☐ General Chemistry
☐ Chemistry of Solutions
☐ Organic Chemistry I
☐ General Biology I
☐ General Biology II
☐ Humanities
☐ English
☐ Social Sciences
☐ Explorations
☐ Other (please specify)

5. Specify the topics covered within the course(s) tutored for THIS STUDENT
6. Time allotted to THIS STUDENT

Appendix B

Peer Tutoring Program Tutor Survey

1. Please click on the scale below to indicate your overall impression of the Peer Tutoring Program.

    ☐ Excellent

    ☐ Very Good

    ☐ Good

    ☐ Fair

    ☐ Poor

2. How helpful were the tutor training sessions?

    ☐ Very Helpful

    ☐ Somewhat helpful

    ☐ Not very helpful

    ☐ Not helpful at all

Comments: (What suggestions do you have to improve your training as a tutor?)

_____

3. What tutoring skills would you like to learn in future training?

_____

4. What suggestions do you have for next semester's Peer Tutoring Program?

5. In what ways do you feel that your peer tutoring experience has helped you in terms of your communication skills? (Select all that apply)

    ☐ Learned how to simplify my explanations.

    ☐ Learned to speak clearly.

    ☐ Learned to guide tutees to develop their own learning.

    ☐ Improved my listening skills.

    ☐ Other (please specify)_____

6. Were your satisfied with the support you received from your supervisors?

    ☐ Very satisfied

    ☐ Somewhat satisfied

    ☐ Not very satisfied

    ☐ Not satisfied at all

7. This semester, what challenges have you encountered as a peer tutor? (Select all that apply)

    ☐ Motivating tutees to do the work.

    ☐ Establishing a positive rapport with the tutee

    ☐ Not providing answers/ not editing a tutee's work.

- ☐ Not being able to remember information from a past course.
- ☐ Trying to respond to all the tutees waiting for help.
- ☐ Finding different ways to explain a problem to a tutee.
- ☐ Other (please specify):_____

8. How have you benefited from being a peer tutor? (Select all that apply)

- ☐ Improved communication skills
- ☐ Learned teaching techniques
- ☐ Contributed to college society
- ☐ Learned patience
- ☐ Meeting and becoming friends with other college students
- ☐ Other (please specify):_____

9. Did CRLA certification play a role in your motivation to tutor?

- ☐ Yes
- ☐ Somewhat
- ☐ Not at all

Comments:

10. Please use this space for any comments or suggestions you might have.

Appendix C

Tutee Survey (adapted from Demeter, 2011)

1. How did you learn about the drop-in tutoring service? (select all that apply)

   - ☐ Friends/Family
   - ☐ Mio
   - ☐ The college web site
   - ☐ Posters
   - ☐ YouTube video
   - ☐ Class visit
   - ☐ Teacher/staff recommendations
   - ☐ Other:_____

2. What subject(s) did you seek help in?

   - ☐ Calculus I
   - ☐ Calculus II
   - ☐ Mechanics
   - ☐ General Chemistry
   - ☐ Chemistry of Solutions
   - ☐ Electricity & magnetism
   - ☐ Waves
   - ☐ English
   - ☐ Other (please specify)_____

3. How many times during the fall 2019 semester did you use the drop-in tutoring service?

   - ☐ 1 to 3
   - ☐ 4 to 6
   - ☐ 7 to 9
   - ☐ 10 to 14

- ☐ 15 or more

4. Did you always seek help from the same tutor?

   - ☐ Yes (please indicate who)_____
   - ☐ No

5. How would you rate the drop-in tutoring service?

   - ☐ Excellent
   - ☐ Very Good
   - ☐ Good
   - ☐ Mediocre
   - ☐ Poor

6. What kinds of skill(s) did you work on the most in your tutoring sessions?

7. How much do you feel your skills have improved by using the drop-in tutoring service?

   - ☐ Significantly improved
   - ☐ Somewhat improved
   - ☐ Not very improved
   - ☐ Not improved at all

8. Do you agree with the following statements:

Drop-in tutors were accessible when I needed help.

- ☐ Strongly agree
- ☐ Agree
- ☐ Somewhat agree
- ☐ Disagree
- ☐ Strongly Disagree

If you disagree, please explain why_____

Drop-in tutors were knowledgeable about the subject they were tutoring.

- ☐ Strongly agree
- ☐ Agree
- ☐ Somewhat agree
- ☐ Disagree
- ☐ Strongly Disagree

If you disagree, please explain why_____

The tutor explained the questions and concepts clearly.

- ☐ Strongly agree
- ☐ Agree
- ☐ Somewhat agree
- ☐ Disagree
- ☐ Strongly Disagree

If you disagree, please explain why_____

I felt comfortable asking the drop-in tutors' questions.

- ☐ Strongly agree
- ☐ Agree
- ☐ Somewhat agree
- ☐ Disagree
- ☐ Strongly Disagree

If you disagree, please explain why_____

9. As a result of the drop-in tutoring (select all that apply):

- ☐ I believe that my grades improved.
- ☐ I am able to use what I have learned on my own.
- ☐ I have a better idea of how to study for my classes.
- ☐ I have more confidence in my ability to succeed in my courses.
- ☐ I was more successful in achieving my academic goals.

- ☐ There is no significant difference in my understanding/grasp of topics.

10. How satisfied were you with the learning/tutoring environment in the Tutoring Centre?

    Please include comments if dissatisfied or very dissatisfied.

    - ☐ Very satisfied
    - ☐ Satisfied
    - ☐ Somewhat satisfied
    - ☐ Dissatisfied
    - ☐ Very dissatisfied

Comments:

11. Any suggestions on how we could improve the drop-in tutoring service?

12. I would recommend the drop-in tutoring service to others.

    - ☐ Strongly agree
    - ☐ Agree
    - ☐ Somewhat agree
    - ☐ Disagree
    - ☐ Strongly Disagree

Appendix D

Tutor Observation Rubric

Name:

Student number:

Subject:

Skill	Criteria	Comments
Builds Rapport	friendly/professional/shows empathy (acknowledge work can be difficult)	
Communication	actively listen/avoid interrupting/paraphrase or use open ended questions	
Feedback	encourage tutee to use feedback given to them	
Praise and Motivational Scaffolding	perseverance rather than natural ability, give less praise as student becomes self-confident	
Study Skills & Self-Regulation	offer unsolicited advice	
Active Tutoring	encourage tutee to demonstrate knowledge	

Cognitive Scaffolding	work in front of tutee/gives tutee time & space	
Beginning and Ending	Set goals for session and summarize what was accomplished/what still needs to be done	

Comments

Appendix E

Focus Group Questions (adapted from Abbot, Graf, and Chatfield, 2018)

1. Welcome and thanks for participation
2. Overview of the topic/reason for focus group gathering
    a. We are here because we are interested in better understanding your peer tutor experiences, especially with the new CRLA training program. We hope that better understanding peer tutor experiences can help the Peer Tutoring Program in many ways, like ensuring that the peer tutor experience is a positive one for future peer tutors, and that the training tutors receive is valuable and relevant.
    b. Today we would like to find out what worked well and what did not. We would also like to gather a sense of what your experience was like in the Peer Tutoring program, so there are no right or wrong answers. Positive and negative feedback are both valuable. We expect you to have different points of you, so please speak up when your experience has been different from someone else's.
    c. We will be recording the session, but be assured that names will not be included in our published report.
    d. We would really like to hear from all of you, so if some of you have been rather quiet we may ask you a specific question.

Questions (though wording may differ)

1. Tell us your name and what you enjoyed most about being a peer tutor.
2. What have you learned from being a Peer Tutor?

3. Do you think peer tutoring over the past semester has helped you with your own academic studies? If so, how? (communication skills? Emotional intelligence?)
4. What was the best thing we did to support you?
5. What kind of strategies were the most useful in your tutoring sessions?
    a. (What strategies in Learning to Peer Tutor have you tried using to promote your tutees gradually becoming autonomous learners? How was the strategy meant to foster-tutee autonomy?)
6. Think back to the August Peer Tutor training, what parts of that training best prepared you for your role as a peer tutor? What other training would be beneficial? Were parts of the training unnecessary?
7. Looking back at the Universal Break (UB) training sessions, which were the most useful? Which were the least? What kinds of training would be helpful during the semester?
8. Are there things that can be done to encourage students to make better use of The Tutoring Centre and the peer tutors?
9. Were there any obstacles you faced that made tutoring difficult? (Noise, tutee behaviour…)
10. What was your most successful moment as a tutor?
11. What would make being a peer tutor more satisfying and/or enjoyable?
12. Is there anything you would like to talk about that we haven't talked about yet?

Appendix F

Tutor Reflective Report

This report should be completed after you have tutored for 15 hours. Your answer to the first 3 questions should be about 150 words each.

Name:
How many total hours have you tutored in the centre:
What subject(s) do you tutor:

1. What is the difference between deep learning and surface learning? In your experiences tutoring, how have you tried to encourage your tutees to take a deep approach to learning?

2. What scaffolding strategies have you tried using to promote your tutees to gradually become autonomous learners? How was the strategy meant to foster-tutee autonomy?

3. Describe one strength and one weakness you think you have as a peer tutor (about 75 words each).

4. Write down two questions you have about peer tutoring.
Question 1:
Question 2: