

UNIVERSITÉ DE SHERBROOKE

**Stratégies du tutorat pour favoriser l'apprentissage autonome:
L'impact de l'expérience**

**Cross Disciplinary Peer Tutoring Instructional Strategies:
The Impact of Experience**

par

Joshua Berman

Essai présenté à la Faculté d'éducation

En vue de l'obtention du grade de

Maître en éducation (M.Éd.)

Maîtrise en enseignement au collégial

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a été évalué par un jury composé des personnes suivantes:

Dr. Jock Mackay

Directrice de l'essai

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SUMMARY

This study examines the use of peer tutoring instructional strategies in three disciplines at Vanier College. Tutoring one's peer in either course content or in a general academic skill is a challenging enterprise for emerging adults, many of whom have little or no experience in the field of teaching. When a peer craves an answer to a question and you, as a tutor, know the answer, intuition seems to be to simply tell them the answer. This instructional strategy provides short term harmony but ignores one of the central goals of peer tutoring: fostering autonomous learners. So, this study looks at how inexperienced and experienced peer tutors, across three disciplines, differ in their use of instructional strategies meant to empower tutees for longer term academic challenges in college and beyond.

To identify how peer tutors develop in their use of autonomy-fostering instructional strategies, 40 peer tutoring sessions were observed and information was recorded using an observational grid. Although the data revealed modest differences among the three disciplines, it revealed significant variety based upon tutor experience. While some strategies were employed by all tutors, regardless of experience, many others were closely related to experience. The data clearly revealed that experienced tutors used more autonomy-fostering instructional strategies whereas novice tutors used strategies more directive in nature. Perhaps the most significant outcome of this study is an intricate description of how experienced tutors tried to foster autonomy in their tutees.

It was found that certain strategies were utilized by all peer tutors, regardless of their experience. For example, all peer tutors showed genuine care for their tutees and took every opportunity to praise tutees' work and effort. In addition, all peer tutors utilized the resources at their disposal and if they did not have an answer for a tutee, they would suggest where the tutee might find an answer. Also, all tutors sought to help their tutees create strategic knowledge in the form of study skills. These study strategies were not solicited by tutees, but all peer tutors would take

opportunities to discuss their own approaches to preparing for exams or note-taking based upon their experience taking the same or a similar class. Other instructional strategies, however, were dependent upon the experience of the tutor. Experienced tutors were more inclined to use instructional strategies that helped tutees' create their own knowledge. For example, tutors with more experience placed emphasis on problem-solving processes rather than final products and continually sought a demonstration of tutee understanding. A particular strategy that experienced tutors utilized was termed the time/space method, whereby tutors would offer the requisite time and space necessary for tutees to try to work through difficult material on their own.

It was concluded that directive strategies enable peer tutors to cover much more material and they provide a more harmonious experience for both the tutor as well as the tutee. Conversely, autonomy-fostering instructional strategies sacrifice short-term harmony and take significantly more time to use because they often require the tutee to actually do something and then reflect on what they've done. In addition, autonomy-fostering strategies require the tutee to demonstrate an appropriate understanding, not just obtain a correct answer. The detailed description of how experienced tutors tried to foster autonomous learning is now going to be used to assist future novice tutors with some of the inherent challenges associated with tutoring one's peers.

RÉSUMÉ

Cette étude examine l'usage de stratégies d'enseignements par des tuteurs lors des séances de tutorat par les pairs dans trois disciplines au Collège Vanier. Le tutorat par les pairs dans un contexte d'enseignement de curriculum ou des compétences scolaires générales est un défi de taille pour les adolescents, qui ont peu ou pas d'expérience dans le domaine de l'enseignement. Lorsqu'un pair sollicite une réponse à une question et que vous, en tant que tuteur, connaissez la réponse, l'instinct premier est de lui donner la réponse. Cette stratégie d'enseignement crée une harmonie à court terme, mais manque l'une des cibles principales du tutorat par les pairs, qui est de favoriser l'apprentissage autonome. De ce fait, cette étude examine comment, dans trois disciplines, les tuteurs inexpérimentés et expérimentés diffèrent dans leur utilisation de stratégies d'enseignement destinées à autonomiser l'apprentissage des pairs pour mieux les préparer à de futures difficultés scolaires à court et à plus long terme.

Pour déterminer comment les tuteurs développent des stratégies d'enseignement pour favoriser l'autonomie d'apprentissage, 40 séances de tutorat par les pairs ont été observées; l'information a été enregistrée à l'aide d'une grille d'observation. Bien que les données aient révélé de modestes différences entre les trois disciplines, elles ont révélé un écart significatif selon l'expérience du tuteur. Alors que certaines stratégies ont été employées par tous les tuteurs indépendamment de leur niveau d'expérience, de nombreuses autres ont été étroitement liées à l'expérience. Les données ont clairement révélé que les tuteurs expérimentés ont utilisé plus de stratégies d'enseignement qui favorisent l'apprentissage autonome alors que les tuteurs novices ont utilisé des stratégies de nature plus directives. Les tuteurs novices ont accumulé une moyenne de 3,83 stratégies pédagogiques directives dans leurs séances pendant que les tuteurs expérimentés en ont accumulé une moyenne de seulement 1,36. De plus, les tuteurs expérimentés ont utilisé en moyenne 4,86 stratégies pédagogiques favorisant l'apprentissage autonome tandis que les tuteurs novices ont employé en moyenne 2,44 de telles stratégies. En termes absolus, les 22 tuteurs expérimentés observés ont utilisé un total de 107 stratégies d'apprentissage autonome, alors que les 18 tuteurs novices en ont utilisé un total de 44. En outre, ces mêmes 22 tuteurs expérimentés ont utilisé 30 stratégies directives alors que les 18 tuteurs novices en ont employé 69. Cela indique une association directe entre l'expérience du tuteur et leur choix de stratégies d'enseignement. Cette association semble se maintenir d'une manière similaire dans les trois disciplines observées.

Il a été constaté que certaines stratégies ont été utilisées par tous les tuteurs indépendamment de leur expérience. Par exemple, tous les tuteurs se sont véritablement souciés de leurs apprenants et se sont assurés de louer leur travail et leur effort. De plus, tous les tuteurs ont utilisé les ressources à leur disposition et ont suggéré à leur apprenant des façons d'aller chercher une réponse lorsqu'ils ne

l'avaient pas eux-mêmes. Aussi, tous les tuteurs ont aidé leurs apprenants à développer des connaissances stratégiques en termes de méthodes d'étude. Ces méthodes d'étude n'ont pas été sollicitées par les apprenants, mais tous les tuteurs avaient tendance à partager leurs propres approches à la préparation aux examens ou la prise de note en se basant sur leur expérience du même cours ou un autre cours similaire. Même si les apprenants n'ont jamais demandé ces conseils ou stratégies, ils semblaient très contents d'en savoir plus. Cela illustre un autre avantage considérable des initiatives du tutorat par les pairs. Les enseignants et autres professionnels du secteur scolaire encouragent généralement les étudiants à utiliser de bonnes pratiques d'étude pour favoriser la réussite collégiale. Cependant, quand un pair introduit cet enseignement par « ce que j'ai fait pour réussir... » cela peut avoir un impact plus significatif. Toutefois, d'autres stratégies d'enseignement dépendent de l'expérience du tuteur.

Les tuteurs expérimentés étaient plus susceptibles d'utiliser des stratégies d'enseignement qui encourageaient les apprenants à développer leurs propres connaissances. Par exemple, les tuteurs avec plus d'expérience mettaient l'accent sur un processus de résolution de problèmes plutôt que sur les résultats et cherchaient constamment une preuve que les apprenants comprenaient réellement la matière. Une stratégie particulière utilisée par les tuteurs plus expérimentés a été appelée la méthode temps/espace, où les tuteurs offraient le temps et l'espace nécessaires pour que les apprenants essaient de travailler tous seuls sur la matière plus complexe. Le résultat le plus significatif de cette étude est peut-être de dégager une description complexe de la façon dont les tuteurs plus expérimentés encouragent l'autonomie de leurs apprenants.

Il a été conclu que les stratégies directes permettent aux tuteurs de couvrir beaucoup plus de matériel et qu'elles créent une expérience plus harmonieuse entre le tuteur et l'apprenant. En revanche, les stratégies d'enseignement qui favorisent l'apprentissage autonome sacrifient l'harmonie à court terme et nécessitent beaucoup plus de temps, car elles demandent souvent que l'apprenant fasse quelque chose puis partage une réflexion avec son tuteur sur ce qu'ils ont fait. En outre, les stratégies qui favorisent l'apprentissage autonome exigent que l'apprenant démontre une compréhension appropriée des processus utilisés, et non seulement qu'il obtienne la bonne réponse. La description détaillée des façons par lesquelles les tuteurs expérimentés favorisent l'apprentissage autonome aidera les futurs tuteurs inexpérimentés face aux défis du tutorat par les pairs.

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DEDICATION

For dad

ACKNOWLEDGMENTS

I would like to acknowledge the encouragement, advice, patience and professionalism of my supervisor, Dr. Jock Mackay. His poetic emails helped make this process a joy to undertake. I would also like to thank my external evaluator, Dr. Stephen Taylor, for all of his time and energy thoroughly reviewing this research report.

I appreciate the support I have received for this Master's in Education from both Judy Macdonald and Eric Lozowy and I recognize Vanier College's sincere appreciation for professional development.

The three coordinators who graciously agreed to let me observe their tutors are very much appreciated. Thank you to Natalie Carlino, Joanne Ellis and Haritos Kavallos. Also, a grateful thanks is required for all the tutors and tutees who kindly agreed to let me watch and listen to them conduct their work. I would like to thank my colleagues in the Learning Centre for their support as well as Alex Borja and Marianne DuFour for their superb translation assistance.

I need to offer my sincere thanks Wilma Brown and all of my Performance professors and classmates who encouraged me to finish this research study, including Karl Laroche, Anthony Belleau, Marc Belanger, Jailson Lima and Nicolas Rudi. Special thanks also to my friends David Kim and Kevin Ramdas for motivating me to pursue another degree.

I am indebted to Mary O'Malley and Juliet O'Neill Dunphy for introducing me to the theory and practice associated with Learning Centre instruction.

Last but certainly not least, I would like to acknowledge my entire family for their tolerance and cheerleading. Specifically, thank you to my wife Rachel and boys, Julian and Owen, for their love and support.

INTRODUCTION

Research in the field of education has clearly shown that peer tutoring can have significant benefits for both the tutor as well as their tutee. Its potential for genuine teaching and learning is undeniable. Peer tutoring, a form of collaborative learning, can come in several different forms. It can occur during class time or outside of class time. Tutors can assist their peers within a wide range of contexts including but not limited to providing assistance with course content, learning another language, or improving general academic skills. The possibilities of how to structure a peer tutoring program abound.

It is clear that tutoring another individual or group of individuals is a challenging enterprise, especially for emerging adults who many have little or no experience with the complex craft of instruction. To succeed as a peer tutor, it is imperative to have a solid grasp of the content or skill you are tutoring. It is also necessary to have the requisite social skills needed to interact with peers in a mature and respectful manner. However, another crucial area, one that this study explores, is the concept of pedagogical content knowledge.

Knowledge of how to instruct your peers in an individualized setting pointedly differs from content knowledge. As such, appropriate instructional strategies are necessary to enable tutors to help their tutees experience growth. Such methods put the tutee at the centre of the instruction to provide opportunities for them to create their own knowledge. It might seem obvious that it is impossible for tutors to put information into the minds of their tutees, but even so, tutors are often left wondering the following: if you cannot simply tell information to tutees to help them experience growth, what exactly can you do? In an effort to help novice tutors gain some insight into answering this question, this study examines how experienced and inexperienced tutors differ in helping their tutees create their own knowledge. In order to determine the differences between how tutors of varying experience try to foster autonomy in their tutoring sessions, non-participant observations were

conducted. The observations were meant to explore the potential relationship between instructional strategies and experience in three unique disciplines: English, Math and Science, and Social Science.

In the first chapter of this study, important context is described and the investigative problem is defined. Also, the researcher's particular interest in the problem is outlined. The second chapter establishes a theoretical framework upon which the research is based. It also examines and reviews other relevant scholarly research in the area and operationally defines principal concepts. This chapter also pronounces the specific research questions that this study tries to shed some light upon. In the third chapter, the methods and procedures of data collection and analysis are laid out. The sample and target population are described and the instrument for data collection is laid out. The fourth chapter presents the analyzed data, important themes which emerged and major research findings. In this chapter, the instructional strategies that all tutors used, regardless of their degree of experience, are differentiated from the instructional strategies that were directly related to the experience of the tutor. Specifically, the three most prevalent strategies that were experience-independent and the three that were experience-dependent are highlighted in this chapter. The fifth chapter concludes this research study by describing the limitations of the study and outlining potentially fruitful future research that could further contribute to the discussion on peer tutoring instructional strategies. Finally, the implications of the research are discussed and particular interventions based upon this research are described.

This research project has been extremely valuable for the researcher to gain keen insight into some of the particular challenges facing peer tutors as well as a deeper understanding of specific strategies to overcome these challenges within three different disciplines at Vanier College. The plan going forward is to share these results with all peer tutors to make it somewhat easier for them to foster autonomous learning within their tutoring sessions.

CHAPTER ONE: STATEMENT OF PROBLEM

The experience of working in a Learning Centre environment for the past 11 years in various post-secondary institutions makes it evident to this researcher that peer tutoring has tremendous potential to help both tutors and tutees in various scholastic as well as personal ways. During their training, most peer tutors are instructed by their supervisors that the ultimate goal for their tutoring session is for their tutees to become autonomous learners. Although tutors may have achieved an above-average grade in the subject matter or in the skill that they are tutoring, they often have little or no experience in the field of educating. As such, it might be challenging for them to know what autonomous learning means or how to apply it to their weekly sessions with tutees. The purpose of this research study is to critically examine individual peer tutoring instructional strategies at Vanier College. The specific goal is to determine what instructional strategies peer tutors use to help their tutees improve and to compare the strategies used by tutors in different disciplines as well as the strategies used by tutors of varying experience.

Peer tutoring, along with visiting during teacher's office hours and seeing professional academic counselors, can greatly help students thrive academically. An individual peer tutoring setting is quite different from the classroom setting. The individual tutoring setting is outside of class time, usually lasts one hour and involves only two individuals, the tutor and the tutee. This setting has tremendous potential for both teaching and learning for a variety of reasons. For example, the pace of instruction can be modified to suit the previous knowledge of the tutee. Because there are only two people involved, tutees usually feel comfortable to ask questions without hesitation. Moreover, the tutor can accommodate his/her instruction to the preferred learning style of their tutee and can offer individual, specialized feedback. Successful tutors must have knowledge and skill in the subject matter in question which is generally measured by their grade in the subject they are tutoring; however, tutors also must have strategies to appropriately instruct as well as monitor tutee

growth. Tutees quite easily recognize that their tutor is somewhat of an expert in the specific class or discipline or general academic skill. As a result, they realize that it would be quite easy and painless for their tutors to give them answers to questions. This problem is exacerbated when crucial deadlines or exams loom and tutees can become desperate for answers. Tutors need to ensure that their instruction matches the goal of helping tutees improve and become autonomous learners, but this is often difficult to achieve. Some of these strategies are subtle, others more obvious, and some apply more specifically to particular disciplines while others are more universal. This study will shed light on what instructional strategies Cegep tutors are using to assist their tutees' experience growth. There are peer tutoring programs at Vanier College in the following areas: English, French, Social Science, Math & Science, Music, Humanities, Biology, Modern Languages, Nursing and Early Childhood Education. A potential intervention resulting from this research is a peer-tutoring workshop for tutors to share best practices and/or a manual of instructional strategies that all tutors could consult.

Researching and eventually sharing research on strategies of individual peer instruction is worthwhile to assist tutors in helping their tutees improve and become autonomous. This topic is relevant to the field of education because research cited below shows that while learners might crave correct answers, what they really need is guidance about how to create answers on their own. It can be challenging for tutors to resist giving answers because this practice is easy, time efficient, and makes for a far more pleasant experience. Without adequate strategies to help learners construct their own knowledge, tutoring can become counter-productive. What the tutee might learn is that it is not worthwhile to do real work in advance of the tutoring session or pay close attention in class because their tutor will inevitably give them the correct answers. Since there are so many peer tutoring programs at Vanier College, it is evident that peer tutoring is a popular initiative with considerable potential. Tutors need an array of strategies to empower their tutees so that eventually tutees can self-regulate. What is unclear is how tutors can achieve this in the one hour a week they

usually see their tutee. How can a tutor resist giving their peer an answer when they know the answer and when their peer may seem so desperate for the answer? For 18 year-old emerging adults, with little or no teaching experience, this can be quite a challenge.

CHAPTER TWO: CONCEPTUAL FRAMEWORK & LITERATURE REVIEW

1. CONCEPTUAL FRAMEWORK

The most important conceptual framework that will guide this study stems from the work of John Dewey (1938) on experience and education, Paul Ramsden (2003) on learning to teach in higher education, Robert Slavin (1994) on educational psychology and several other key theorists (Anderson & Krathwohl, 2001; Branford et. al. 2000; Donald 2002) who outline the importance of transfer in teaching and learning. This educational framework suggests that the experience of making mistakes and struggling to find correct answers is what actually helps learners improve.

With his principle of continuity in *Experience and Education*, John Dewey (1938) argues that every experience takes up and modifies in some way the quality of those that come after. In terms of the present research, certain instructional strategies that tutors use might help create educative experiences for their tutees while others would be mis-educative. For example, if a tutor corrects an accounting problem that the tutee brings him/her, this could be mis-educative because the tutee learns that their problems will be fixed for them. If the tutor corrects the problem or tells the tutee exactly what to do, there may be short-term harmony, but the tutee might not experience intellectual growth. According to Dewey's philosophy, certain experiences in education can arrest or distort intellectual growth. Tutees could gradually develop a careless attitude if their tutors continue to fix their errors. This type of instructional strategy might promote a dependent relationship which, according to Dewey, is not educative.

Another Deweyian philosophy (1938) guiding this research deals with learner-centeredness. Dewey has philosophized that genuine learning and growth stem from a continuous process of reconstruction of experience where the learner is at

the centre of the instruction. According to Dewey, ideal tutoring approaches would involve first trying to determine the capacities, needs and past experiences of tutees. This would involve developing a plan for growth with the tutee, rather than for the tutee. Other instructional strategies involve monitoring growth. Approaches to tutoring that follow this philosophy take considerable time, effort and commitment and go far beyond fixing errors. As Dewey's (1938) philosophy on education and experience suggests, real growth depends upon the presence of difficulty to be overcome by exercising intelligence.

Educational theories about the distinction between deep learning and surface learning will also guide this study. For example, a tutor who is employing surface learning strategies might focus on the need for their tutee to memorize as much information as possible to achieve success on an upcoming assessment or exam whereas deeper learning strategies might focus more on understanding course material and being able to apply it (Ramsden, 2003). In addition, the differences between the theory of teaching as telling or as transmitting and the theory of teaching as making learning possible is important. To try to make learning possible, tutors find out about tutee misunderstandings and intervene when necessary. When active in the learning process, tutees might be less likely to learn material by rote to pass a test and be more likely to make the material meaningful. Ideally, it would become part of their lives. As such, they would be more capable to see the necessary connections between what is covered in class and in the diverse contexts in which they will find themselves throughout their lives.

Using essay-writing as an example, Ramsden (2003) argues that editing tutees' essays by giving them parts or all of a thesis statement or answers to a problem as means to help them is a superficial way to approach education. It does not lead to real growth and it will not help their future experiences constructing an essay. Ramsden distinguishes deep approaches to education from surface ones. He notes that "although it is easy to encourage surface approaches, and harder to help students towards deeper ones, in practice it will be most efficient if our efforts are directed

simultaneously towards removing incentives for reproductive approaches and towards providing inducements for meaningful learning” (pg. 80). A concept guiding this research is that while employing a meaningful approach when tutoring, tutees must be encouraged to create their own knowledge. Using a surface approach incorrectly assumes there is a quick-fix strategy to improvement. This practice might improve the essay, but not the essayist. Learning to write better takes time and takes effort; it requires experience writing, rewriting, revising and constantly seeking feedback. According to Ramsden, learning to write necessitates “applying and modifying one’s own ideas; it is something the student does rather than something done to the student” (pg. 111). Ramsden focuses predominantly on essay-writing, but his theoretical framework will be useful for the entire research study.

Robert Slavin (1994), like both Dewey and Ramsden, offers a useful framework on helping students construct their own knowledge, but from a psychological perspective. Slavin suggests that for an experience to be educative, knowledge creation is essential. He states that “learners must individually discover and transform complex information if they are to make it their own” (pg. 225). There is a considerable amount of decision-making that goes on in writing an essay or solving a mathematical equation and according to Slavin, learning occurs when students struggle with making these decisions and continually practice negotiating the ideas in their head with their words or numbers on paper.

According to Slavin’s (1994) conceptual framework, although the product of the final essay or getting the correct final answer is indeed important, the educator must focus on the process of essay-writing/problem solving in order to promote autonomy and knowledge creation. The experiences with the essay-writing/problem solving processes are what have potential to be educative. Slavin argues that for a student to construct knowledge, there needs to be an element of independent discovery. He notes that students create knowledge “through active involvement with concepts and principles” and that educators need to “encourage students to have experiences and conduct experiments that permit them to discover principles for

themselves” (pg. 228). When helping students with writing, this means refraining from creating any sentences or ideas for them or even fixing any errors for them. When helping students with problem solving, it means refraining from giving them final answers. Also, in order to help students discover and construct their own essay-writing and problem solving knowledge, they need to be given the necessary time and space to do so. When students appear to be stuck finding answers or have ‘writer’s block’, it is quite easy to ‘help’ them by giving them final answers, which in academic writing might mean creating topic sentences for them. This could lead to a well-written final product, but might not help the students become a better writer as much as if, through failed attempts and individual discovery, they had they created them on their own.

Multiple scholars (Anderson & Krathwohl, 2001; Bransford et. al., 2000; Donald, 2002) in the area of cognition in learning describe the notion of transfer. They suggest transfer is the ability to use what one has learned in one setting in order to solve new problems and answer new questions that emerge. Transfer differs from retention in that simply recalling important information is often not a sufficient enough educational goal for meaningful learning. Rather, transfer entails that the learner has made sense of and is able to use what they learned. Anderson & Krathwohl’s (2001) revision of Bloom’s Taxonomy is meant to broaden the traditional education objectives of remembering and recalling to include elements of transfer. More complex an entity, transfer involves analysis, application, evaluation and the creation of knowledge. Similarly, Bransford et. al. (2000) focus on transfer in their discussion on how people learn. They suggest that, “Transfer is affected by the degree to which people learn with understanding rather than merely memorize sets of facts or follow a fixed set of procedures” (pg. 55). They clearly outline an obstacle to meaningful learning is that individuals can ‘learn’ something in one context, but cannot transfer what ‘learned’ to other contexts. Transfer, they argue, is an active endeavor requiring commitment on the part of the teacher and learner. In this sense, the role of the teacher is to help the learner become aware of his/her learning by

helping him/her monitor their learning strategies and performance readiness. In a discussion on methods of thinking, Donald (2002) has discussed transfer in relation to the notion of expertise. This idea contributes to the conceptual framework of the present study by outlining how experts can transfer what was learned in one situation to another. Transfer results from higher-order thinking, applying knowledge, reaching conclusions independently, and from integrating and applying knowledge (Donald, 2002).

So, John Dewey's (1938) educational philosophies, Paul Ramsden's (2003) educational theories, Robert Slavin's (1994) educational psychology principles and several theorists' (Anderson & Krathwohl, 2001; Bransford et. al. 2000; Donald, 2002) understanding of transfer each contributes to the conceptual framework that guides the present research.

2. LITERATURE REVIEW

This literature review focuses on the following five themes: (1) collaborative learning, (2) knowledge creation/transfer, (3) autonomy-fostering/deep approaches to tutoring, (4) the distinction between content knowledge and pedagogical content knowledge and (5) self-regulation. All of the scholarly literature reviewed focuses on the post-secondary setting (both two-year junior colleges as well as 4-year colleges/universities) in North America with the exception of one article whose setting is a university in Taiwan. The bulk of the research articles employ qualitative research methods including tutor-tutee observations, questionnaires, structured and semi-structured tutor and tutee interviews, content analyses of tutor journal entries and two case studies. One research article employs both qualitative and quantitative methodology, the quantitative aspect measuring who spends more time talking in tutor-tutee sessions. The theoretical papers and tutoring handbooks are based on case studies, career observations and academic research conducted by tutoring centre directors.

2.1 Collaborative Learning Theory

In the field of education, collaborative learning was not always recognized as legitimate. In fact, getting any sort of assistance from one's peers was traditionally considered academically irresponsible because it too closely related to issues surrounding plagiarism and cheating. It was not until the late 1960s that post-secondary institutions gradually started to embrace principles of collaborative learning. Post-secondary institutions saw the success of peer-group counseling and slowly realized this could work in an academic setting as well. Kenneth Bruffee (1973) is often cited as coining the term 'peer tutoring' in an academic context. Bruffee argued that peers tutoring peers could only be accepted as valid when post-secondary teachers and administrators started to realize that "their primary responsibility was to organize people into communities for a specific purpose—learning" (pg. 637). Bruffee argued that although collaborative learning might vary according to the discipline in question, the most basic principle of collaborative learning is that students can learn with and from other students and that learning does not just occur within the confines of the classroom. As Bruffee (1973) suggests, when one student tells another student that he/she can't understand something that student has written, that criticism sticks (pg. 641). Bruffee also was one of the first education theorists to discuss peer tutor training and the importance of tutor supervision (1980 & 1984). He elaborated on the need for tutors to practice critiquing their peers and giving feedback that was descriptive, evaluative and substantive. Bruffee (1984) reacts to numerous early objections that peer tutoring is just the blind leading the blind by describing how knowledge is an artifact created by a community of knowledgeable peers and that learning is a social process, not an individual one. Conversations between the tutor and tutee enable the kind of social contexts where real conversations and, as result, real learning can occur. Bruffee (1973), (1980) & (1984) really pioneered peer tutoring as it is currently recognized and utilized in post-secondary institutions around the world.

Marcia Baxter-Magolda's (1994; 2003; 2009) research on identity and autonomy in education, her models of practice to educate for self-authorship and her appreciation for learning partnerships builds on Bruffee's original ideas about the potential of collaborative learning. One of her main research ideas suggests that educators need to achieve a balance between guidance and empowerment. For her, self-authorship involves learners' internally formulating beliefs and values rather than depending on external ones. In the Learning Partnership Model, there is a shift from authority dependence to self-authorship by challenging learners to start composing their own reality in increasingly complex terms (Baxter-Magolda 1994). Using this idea, tutors would provide essential support for tutees by validating tutees' capacity to learn and construct knowledge on their own; this is because learners must always be the ones responsible for their learning (Baxter-Magolda, 2003). Her model expands on Bruffee, when she argues that the blend of challenge and support is a delicate one: learners need a balance between authority reliance and self-authorship whereas tutors need balance between guidance and empowerment. Baxter-Magolda (1994) makes it clear that on the journey to self-authorship, educators must play a supporting role. Her concept builds on Bruffee (1973 & 1980) when she argues that educators should try to make learning to fly as safe as possible, yet realize that a certain amount of crashing is to be expected. In trying to achieve an appropriate blend of challenge and support, tutors need to realize that their tutee's self is essential for their tutee's knowledge creation and eventual autonomy. A tutor should see him/herself as a partner of their tutee but having a supporting role. Tutors should support their tutees, helping them see experiences as opportunities for learning and growth and helping him/her build their internal voice (Baxter-Magolda, 2009). Baxter-Magolda (1994; 2009) takes Bruffee's ideas to a new level when she suggests that while tutees often crave surface level help to get them through the short-term, there is no quick fix to becoming a better essay-writer, just as there is no quick-fix way of learning to speak French or to succeed in learning biology. Bruffee (1973; 1980; 1984) and Baxter-Magolda (1994; 2003; 2009) both posit that for genuine improvement, successful instructional strategies as well as a considerable amount of

time and effort on the part of both the tutor and tutee are needed. Certain strategies help the tutee self-regulate and the following research in education indicates that self-regulated learners approach educational tasks with confidence, diligence and resourcefulness.

2.2 Knowledge Creation and Transfer

Scholarly literature in the field of post-secondary education for the most part supports the theories of Bruffee (1973, 1980 & 1984) and Baxter-Magolda (1994). The literature suggests that autonomy and helping learners create and struggle to find answers on their own ought to be a primary goal in teaching and learning. However, it is not always clear to educators (especially young, inexperienced ones) that resisting giving answers can greatly help learners. This resistance encourages learners to exert great effort in finding answers on their own, thereby enabling them to create their own knowledge. Even though peer tutoring has great potential, one cannot assume that it will necessarily yield rich educational experiences and deep learning. In their research, Colvin (2007), Bell & Elledge's (2008) and Beck et. al. (1978) all found that power is continually being negotiated in the tutee/tutor relationship. Through self-reflective weekly journals, comments posted on a WebCT message board, weekly meetings, personal observations, and interviews with tutors and tutees over an 18-month period, Colvin (2007) concluded that tutors find that tutees often want them to do their work for them. Moreover, tutees can get a false sense of security in that if they do not do their work, they can just go to their tutors to get answers. Colvin (2007) found that many tutees do not really understand that tutors are not there to give right or wrong answers, but rather to show possible ways to find and create answers.

Bell & Elledge (2008) found similar results in a more specific study of the ESL tutor/tutee relationship. Using a sample of 4 ESL tutees and 12 undergraduate peer language tutors, the researchers analyzed tape recordings of 30-minute sessions to determine who talked most, who dominated the tutoring session, and who set the

session agenda. Time-at-talk and discourse-turn-taking were measured to determine who takes more turns talking and who talks in greater length. Post-session interviews were also conducted to obtain qualitative data. Their results indicate that despite intense training for ESL tutors to focus on global, high-order concerns, tutors overwhelmingly focused on low-order proofreading when working with their ESL tutees. The results also suggested that ESL tutees often insisted that tutors change their strategy to focus on surface features. Tutors in the study tried to get tutees to focus on evidence to support their ideas, but tutees crave superficial grammar attention. The tutors in Bell & Elledge's (2008) study experienced a sort of cognitive dissonance because as part of their training, tutors learn that they should let tutees determine the content of the session, but what tutees want is not always what will help them improve. ESL tutees often insisted on setting the agenda on surface level help and tutors did not have strategies to deal with this. This dissonance caused anxiety and discomfort – tutors felt as though they were being guided to focus on product rather than process, a practice which does not foster autonomy. Bell & Elledge (2008) concluded that when training tutors, it is essential to talk openly about this cognitive dissonance and conduct mock sessions on how to deal with it and, when possible, to use this dissonance as a teaching moment.

Similarly, in a case study analyzing tutor training at three post-secondary schools in the United States (Brooklyn College, Nassau Community College and University of California at Berkeley) the research by Beck et. al. (1978) found that the success of peer tutoring depends in large part on how tutors are trained. The researchers found that when looking for good tutors, supervisors should not just recruit the person who has the highest grade, but rather someone who has maturity and a good nature to work with others. When training potential tutors, it is essential to show them the importance of resisting giving answers or doing work for their tutees. When tutees seek answers, tutors should try to provide them with accessible models so that they can learn to emulate the skills of their tutor. Beck et. al. (1978) concluded

that tutors must be responsive to tutees' needs and causes of their problems and that their training philosophy must be that tutees learn by doing rather than watching.

2.3 Deep and Surface Learning

Three popular tutoring guidebooks, Gillespie & Learner (2008) and MacDonald (1994 & 2000) and two academic research studies, Chen & Liu (2011) and Dennett & Azar (2011) all distinguish between giving a tutee an answer and helping them find answers on their own. Ross MacDonald (1994 & 2000), former director of the California Tutor Project, suggests that tutors need a vast array of strategies to improve tutees' independent work skills that the tutee can then utilize when the appropriate situation arises. He argues that the goal of the tutor should be to help "students in ways that make students better able to help themselves and in ways that reduce their need for continual help" (pg. 9.) He points out the interesting irony of tutoring that you are ideally working to make yourself obsolete (MacDonald, 2000). His significant point is that how tutors achieve making themselves obsolete is not by providing answers, but by providing opportunity for tutees to find/create answers. One specific strategy offered is for tutors to encourage their tutees to be self reflective and analyze their own ways of writing, thinking or studying. Another concrete strategy offered is when resisting giving answers, quickly turn it around to say what it is that you can do to help them. In another tutoring guidebook, Gillespie, the Writing Centre Director at Marquette University in Milwaukee and Learner, the Co-editor of *The Writing Centre Journal*/researcher at M.I.T. in Boston, advocate that a tutor does not need to be an expert in the topic of a given essay; rather, the tutor's expertise should be in the tutoring process. For example, a tutor needs expertise in knowing how/when to ask certain questions, and knowing how to be patient in letting these answers come out. The researchers suggest that errors on the part of the tutee are usually not a result of carelessness or stupidity, but are a part of a learner's development. As such, tutors should look for patterns when reviewing tutees work and give lessons when appropriate. Because of their lack of experience as educators,

some tutors cannot see that error analysis is quite different from telling a tutee exactly what to do to fix an error (Gillespie & Learner, 2008).

Chen & Liu (2011) put forth an apt description of how to successfully put a peer tutoring program in place in higher education that serves all disciplines. Their study, conducted at the National Formosa University in Taiwan, was implemented over a 3 year span and included a sample of 12 tutors. Semi-structured interviews using open-ended questions, participant observation, and group discussions were all conducted as methods to evaluate the effectiveness of a peer tutoring program. In addition, at the end of each semester, a questionnaire was given to both tutors and tutees to further determine the effectiveness of the program. They concluded that the tutor-tutee relationship is ongoing and reciprocal. For a peer tutoring program to be successful, tutors need strong interpersonal, communication and team-building skills. Peer tutoring programs require a high degree of organization and structure for tutees to improve their skills and knowledge. Peer tutoring has the potential to enable tutees to increase self-confidence, learn important study skills and obtain the satisfaction that they have obtained useful knowledge, according to Chen & Liu (2011). Young tutors and tutees across disciplines need continual reminders that the goal of their sessions is for tutees to become motivated independent learners and that tutors are only meant to provide assistance, not answers. In addition, tutees should be encouraged by tutors to take on more responsibility in their learning, to evaluate their own strengths/weaknesses, and to become more acutely aware of their academic development. In order to employ strategies meant to enable tutees to be autonomous, tutors need both competence and self-confidence.

Dennett and Azar (2011) use the theory of emerging adulthood to better understand the challenges facing peer tutors in the college-campus setting who strive to help their tutees become autonomous learners. Emerging adulthood is a phase in one's life, surrounded by adolescence and adulthood. It is characterized by changes in identity, new freedoms, and the transition from the egocentrism of adolescence to the responsibility for oneself, the financial independence and the decision-making

autonomy of adulthood. The researchers concluded that participation as a peer tutor provides emerging adults the opportunity to challenge their former beliefs and values and to expand their sense of self by absorbing adult responsibilities and expectations associated with their role in their college. This opportunity comes with several challenges but if handled appropriately, these challenges can be turned into catalysts to enhance the developmental process of emerging adulthood. Since peer tutors have many roles, they assess each one and how it fits into their sense of self – if a given role satisfies their desire for diversity and exploration, they embrace it, but if they deem a role too time-consuming or fruitless, they may opt out (pg. 11). Negotiating personal limits is difficult for tutors because boundary-setting is ambiguous and underdeveloped in emerging adults (pg. 13). The work for Dennett and Azar (2011) explains how peer tutors might know of prudent instructional strategies to foster autonomy in their tutees, but might experience challenges in using these strategies, given their stage in emerging adulthood. It is thus evident they not only need to know of strategies, they need practice and experience to effectively use the strategies. Many peer tutors may not have the patience to stick with their role as a tutor since using certain autonomy-fostering instructional strategies takes time and the tutors and/or tutees may not see instant results.

2.4 Pedagogical Content Knowledge

An important aspect of instruction is pedagogics or pedagogical content knowledge. Several studies (Bransford et. al., 2000; Berliner 2004; Berliner, 2001; Shulman 1986) have outlined the difference between content or subject knowledge and pedagogical content knowledge. The distinction makes it clear that being proficient at mathematics or academic writing or psychology does not necessarily mean you are going to experience success at teaching or tutoring mathematics or academic writing or psychology. Bransford et. al. define pedagogical content knowledge as “information about the typical difficulties that students encounter as they attempt to learn about a set of topics” (pg. 45). Shulman (1986) as well as Tsui (2003) add that pedagogical content knowledge includes the ability to represent ideas

in a variety of different forms to make it comprehensible to others (pg. 9). Other studies (Berliner, 2004; Berliner 2001) indicate that those with pedagogical content knowledge have an idea how to tap into learners' existing knowledge, can skillfully monitor learner progress, provide useful summative and formative feedback and are more flexible and varied in their approach to instruction. Since peer tutors are chosen after they have successfully passed the class they are tutoring or have shown above average skills in the general area they are tutoring, it can be assumed that tutors have sufficient content knowledge. Pedagogical content knowledge on the other hand might come with more practice on the job and using a trial and error approach to grow as a tutor.

2.5 Self-Regulation

Research in education at the post-secondary level indicates that educators ought to concern themselves with assisting learners with the practices of self-regulation and self-awareness. Studies (Weinstein et. al. 2006; Weimer 2003; Pintrich, 2002; Colley et. al, 2012) all indicate the importance of helping learners increase their self-awareness and to learn to improve their ability to self-regulate. Weinstein et. al. suggests that in order to reach ones learning goals, one must have keen awareness about oneself as a learner (pg. 303). In order to self-regulate, a learner must develop an understanding of when they understand new information and when they do not (pg. 301). Pintrich (2002) adds that self-regulation is an important form of strategic knowledge to which successful learners must pay careful attention. According to Pintrich, this involves planning one's cognition and monitoring one's cognition (pg. 220). For example, learners could set sub-goals, ask themselves questions as they read a text or check their answer to a math problem (pg. 220). A tutor would help tutees self-regulate by instructing a tutee to question themselves to determine if they understand something and if they do not, asking them how they are going to address the issue. As Weimer (2003) reminds us, this puts the learner at the centre of instruction and puts the onus on the learner to build their own strategic knowledge. According to Weimer, this practice "not only results in a deeper

understanding – it create autonomous, independent learners” (pg. 51). Studies in the area of self-regulation and self-awareness illustrate how tutors can and why they ought to assist their tutees with much more than just course content or general academic skills.

A more recent study (Colley et. al. 2012) builds on this research by discussing the importance of learner reflection. The researchers posit that since knowledge is constantly evolving, current students must be able to adapt to change and this occurs with development of their reflective skills (pg. 1). They argue that critical thinking and life-long learning happen after a period of reflection. Growth takes place after reflecting on one’s own thoughts and identifying the factors that guide one’s thought patterns. Colley et. al. (2012) add that reflection is content neutral and crosses disciplines. Their research illustrates the importance of learners developing their ability to monitor their own progress. In this sense, tutors ought to act as facilitators for their tutees to practice thinking about themselves. Moreover, tutors should assist tutees in setting and monitoring learning goals so that the tutee can eventually regulate their own learning. The ability to help a tutee monitor their own learning is an important aspect of a tutor’s pedagogical content knowledge.

2.6 Summary

In sum, the academic literature under review examines the origins of collaborative learning and it indicates that peer tutoring has tremendous potential but that it does not guarantee success. Given the scholarly literature, it is crucial for both tutors and tutees to be clear about their respective roles. Each text offers general characteristics of thriving peer tutoring programs and outlines clear barriers to successful peer tutoring. The literature under review suggests that it is important but challenging for peer tutors to resist giving answers and to foster autonomy in their tutees. Some of the academic texts also provide examples of autonomy-fostering instructional strategies, many of which are quite general in nature. The lacuna is that there needs to be more research on concrete, specific autonomy-fostering

instructional strategies that peer tutors can and do employ with their tutees within and across disciplinary lines at the collegiate level. The research reviewed here clearly shows that it is difficult to resist giving answers, but there is no real elaboration on how this can and should be done.

3. RESEARCH QUESTIONS AND OPERATIONALIZATION OF CONCEPTS

The goal of the present research was to determine the impact of tutoring experience on tutors' use of instructional strategies. As such, the base of the study was to determine the potential impact of two independent variables, (1) tutoring experience and (2) discipline of study, on one dependent variable, tutoring instructional strategy. This study was designed to closely examine the relationship between these variables. The notion of fostering autonomy was central to the examination of instructional strategies since this practice is both challenging and essential to successful peer tutoring. The study examined the claim that experienced tutors would use more autonomy-fostering strategies than novice peer tutors. A significant consideration was to find out what experienced tutors did to foster autonomy so that these methods can be shared with novices in a systematic way. In this research, peer tutoring is defined as a specialized kind of one-on-one instruction occurring in a structured educational context inside the college but outside of class time with two individuals who are approximately at the same level in their education. For the purposes of this research, an instructional strategy is defined as follows: Methods and practices peer tutors employ to assist tutees in a given class, within a given discipline, or with a general academic skill. For the present study, the concept of peer tutoring experience is categorized as either: (1) novice tutors (in their first semester tutoring) or (2) experienced tutors (tutors who have tutored for at least one semester).

CHAPTER THREE: METHODOLOGY

1. INTRODUCTION

The research project used non-participant observation methodology. Non-participant observation enables researchers to see the natural environment as lived by the participants under observation (Gay. et.al. 2012). Non-participant observation supports highly rich descriptions of human behavior (Savenye et. al. 1996). It also enables the researcher to look at non-verbal cues regarding how participants interact and communicate with each other (Schmuck 1997). By observing the tutors at work without any interference, it was possible to obtain useful data to answer the main research question which, again, is summarized below:

What impact does tutoring experience and discipline of study have on tutors' use of instructional strategies?

The researcher observed and recorded information of the 1-hour tutoring sessions, but did not participate in the tutoring session or interact in any way with the tutors or tutees. The researcher tried to be as unobtrusive as possible so as to not alter the tendencies of the tutors or tutees. The tutors and tutees were instructed to ignore the presence of the researcher as much as possible and go about their business as usual. The researcher did not say anything once the tutoring sessions started. The non-participant observation method made it possible to gather considerable data to accurately and, in great detail, describe and compare the instructional strategies that collegiate peer tutors use. The tutors and tutees were informed that the research dealt with peer tutoring but not that instructional strategies would be the focus, so as not to alter natural tendencies. The observation grid was piloted in the Summer 2013 semester to ensure that it was prudent before employing the grid in the Fall 2013 and Winter 2014 semester observations. After the piloting, certain aspects of the grid were refined. Spatial issues were also considered in the pilot semester as the researcher determined the ideal location to observe the tutor/tutee interactions so as

not to interfere or distract, but still be able to keenly view all nuanced and subtle instructional strategies.

2. SAMPLE AND TARGET POPULATION

The sample size was 10 tutors in English and 10 in Social Science. This resulted in 20 observations. In Math/Science, the sample size was 20 tutors. This resulted in 40 total one-hour observations of tutoring sessions. A list was obtained of all tutors in the three disciplines from the supervisors and then novice and experienced tutors were randomly chosen. The random nature of the selection improved the reliability of the results.

The population under study was all peer tutors at least 18 years old in the following three disciplines at Vanier College:

1. Math & Science (Mathematics, Biology, Chemistry, Physics, Computer Science)
2. Social Science (all Social Science, Commerce & Methodology courses)
3. English (English tutors assist tutees with all academic reading, writing and oral presentations)

These three disciplines were chosen because they could enable a fruitful comparison of instructional strategies used between the hard sciences (Math & Science) and soft sciences (Social Science). In addition, it could enable useful comparisons of instructional strategies used between tutors of communication skills (English) and tutors of course content (Math & Science, Social Science).

3. INSTRUMENTATION AND DATA COLLECTION

The instrument used to measure tutoring behavior in the observations was an observation grid (see Appendix B). In this observation grid, the researcher looked for and took note of the specific instructional strategies that the tutors used. The goal was to see what strategies the tutor used in different situations. For example, the researcher determined if the tutor was quick to give the tutee an answer to a problem or if they tried different strategies to get the tutee to learn how to find or create

answers on their own. It was unimportant to look at how content or satisfied the tutee seemed because this can be most misleading; tutees who receive answers to problems initially appear quite satisfied because they now have the answers they seek right in front of them. However, they may not be learning, or more accurately, what they are learning is that they just need to visit their tutor every week, who will provide them with answers.

The following are examples of autonomy-fostering and directive instructional strategies:

Autonomy-fostering technique:

- Asks questions
- Solicits context
- Uses different wording or explaining of the question
- Uses various illustrations different from ones the student uses
- Offers explanations/examples that may have nothing to do with assignment but illustrate a similar concept
- Conducts impromptu lessons
- Appears to offer time for tutee to answer questions, understand a key concept, figure out or create an answer
- Appears to offer space for tutee to answer questions, understand a key concept, figure out or create an answer

Directive technique:

- Gives answers
- Offers to do work for student
- Does work for student
- Writes on student's assignment
- Reads student's written work for them
- Asks questions but then appears to answer them when a tutee does not initially respond

4. DATA ANALYSIS

The data to analyzed and interpreted was noted on the observation grid. The data from the observations are presented in a frequency table. This table includes participant number, particular discipline, amount of experience tutoring, and amount and percentage of directive vs. autonomy fostering strategies used. The results of the observations are presented in a narrative form to acutely describe the strategies that peer tutors used. The narrative incorporates various quotes and examples to illustrate the instructional strategies that the tutors use and discusses various themes that emerged. Formal observation-based research heavily relies on the interpretation of a grid (Gay et. al, 2012). As such, there was a need to categorize the results and develop a thematic approach. To generate meaning from the observation grids, the researcher directly applied the results to answer the research questions.

5. PROCEDURE & ETHICAL CONSIDERATIONS

This study was granted permission by the Vanier College Research Ethics Board (see APPENDIX C). Informed written consent was obtained from all tutors before observing the tutoring sessions. All participants were informed that their names would not appear in the final research and that if they felt uncomfortable for any reason, the observations would be immediately stopped. Participants were informed of the nature of the study and that it might be used in future training manuals. The research data is being stored in a secure location for a length of time that the ethics committee at Vanier College suggests. There was no apparent harm to any of the participants because their involvement was completely voluntary. Some of the observed tutors get paid to tutor, while others volunteer, however, tutors did not receive or lose anything for their participation in this study. The researcher did not supervise or have any prior or subsequent relationship with any of the participants. The researcher had no control over their pay, course grade or any other measure which could have an impact upon their academic status.

CHAPTER FOUR: PRESENTATION OF FINDINGS

1. INTRODUCTION

On a global level, the results of the data analyzed revealed that indeed experience had an important influence on tutors' use of instructional strategies. Peer tutors with more experience were more inclined to use autonomy fostering instructional strategies than novice peer tutors. Experienced peer tutors used almost double the amount of autonomy fostering instructional strategies than novice peer tutors. In addition, novice peer tutors used almost triple the amount of directive instructional strategies than did experienced tutors. As Table 1 illustrates, novice peer tutors used an average of 3.83 directive instructional strategies in their sessions while experienced peer tutors employed an average of only 1.36. Moreover, experienced peer tutors used an average of 4.86 autonomy-fostering instructional strategies while novice peer tutors used an average of 2.44 such strategies. In absolute terms, the 22 experienced tutors observed used a total of 107 autonomy-fostering strategies and the 18 novice tutors used a total of 44 autonomy-fostering strategies. Moreover, the same 22 experienced tutors used 30 directive strategies and the same 18 novice tutors used 69 directives. This indicates a direct association between the experience of the given tutor and their choice of instructional strategies to use. The association applies in a similar manner to all three disciplines under observation. Figure 1 illustrates that novice English peer tutors used slightly more directive instructional strategies compared to the other two disciplines. In addition, Figure 2 illustrates that experienced English peer-tutors used slightly more autonomy-fostering instructional strategies than the other two disciplines. In Figure 3, we see that among all the instructional strategies that were employed by novice peer tutors, 61% were directive in nature while 39% were autonomy-fostering. Finally, Figure 4 indicates that among all the strategies used by experienced tutors, 22% were directive while 78% were autonomy-fostering.

Table 1**Numerical Results: Instructional Strategies Used/Discipline**

		Number of tutors	# of Directive	Average Directive/session	# of Autonomy- fostering	Average Autonomy- fostering/session
English	Novice	4	17	4.25	15	3.75
	Experienced	6	9	1.5	32	5.33
Social Science	Novice	7	26	3.71	14	2
	Experienced	3	3	1	14	4.66
Math/Science	Novice	7	26	3.71	15	2.14
	Experienced	13	18	1.38	61	4.69
Total	Novice	18	69	3.83	44	2.44
	Experienced	22	30	1.36	107	4.86

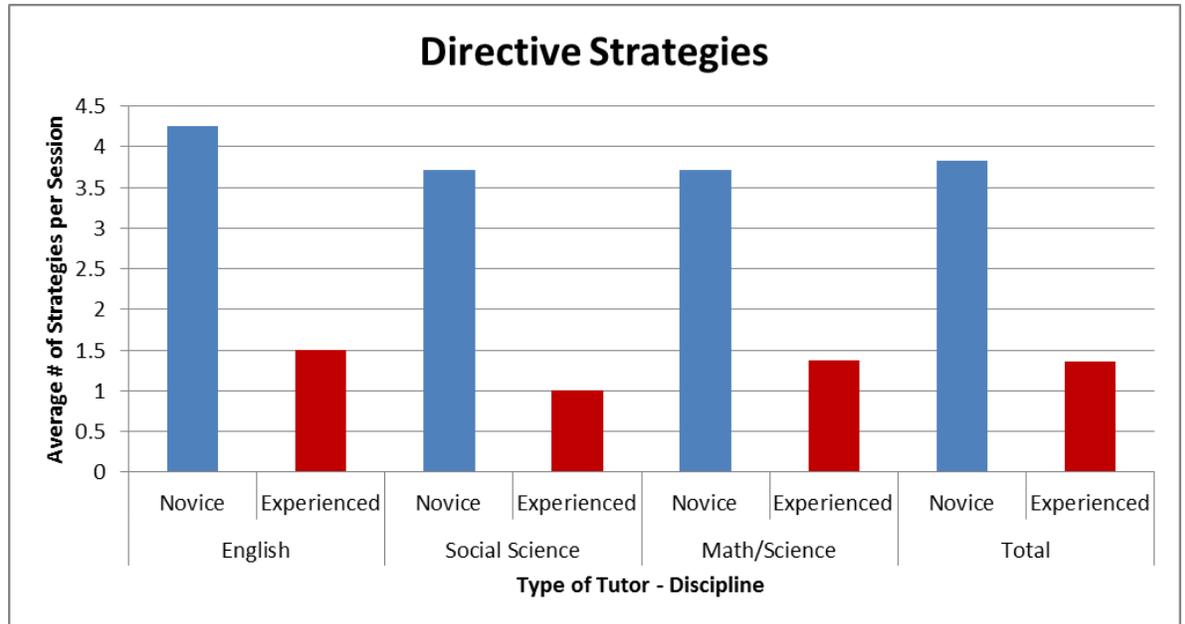


Figure 1 - Directive Strategies Used/Discipline

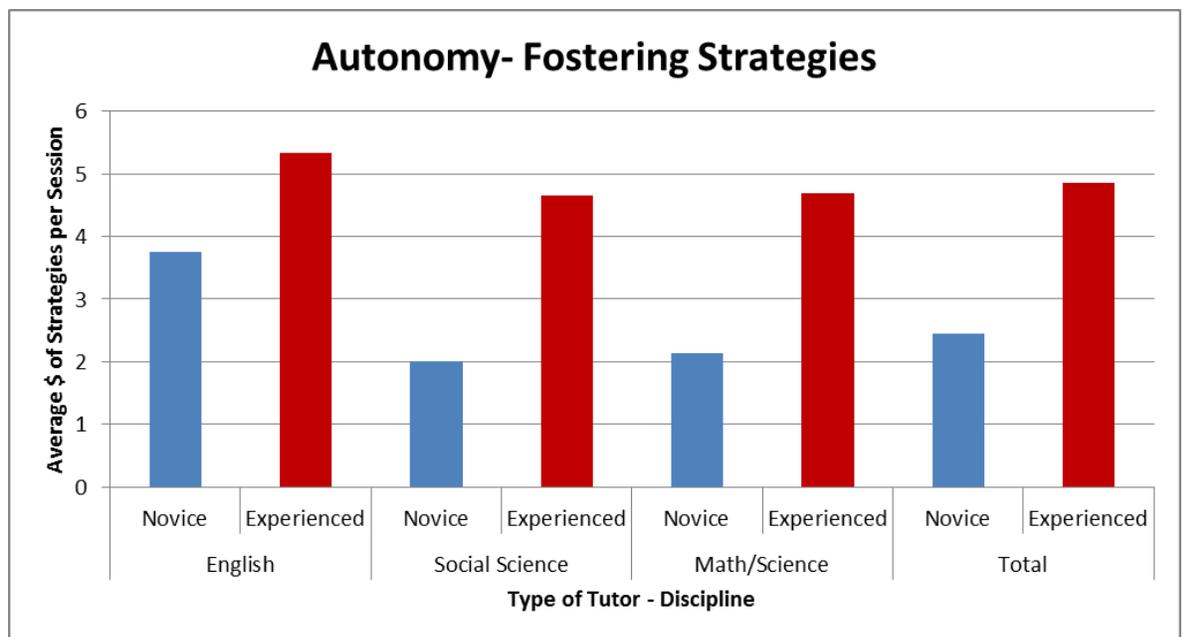
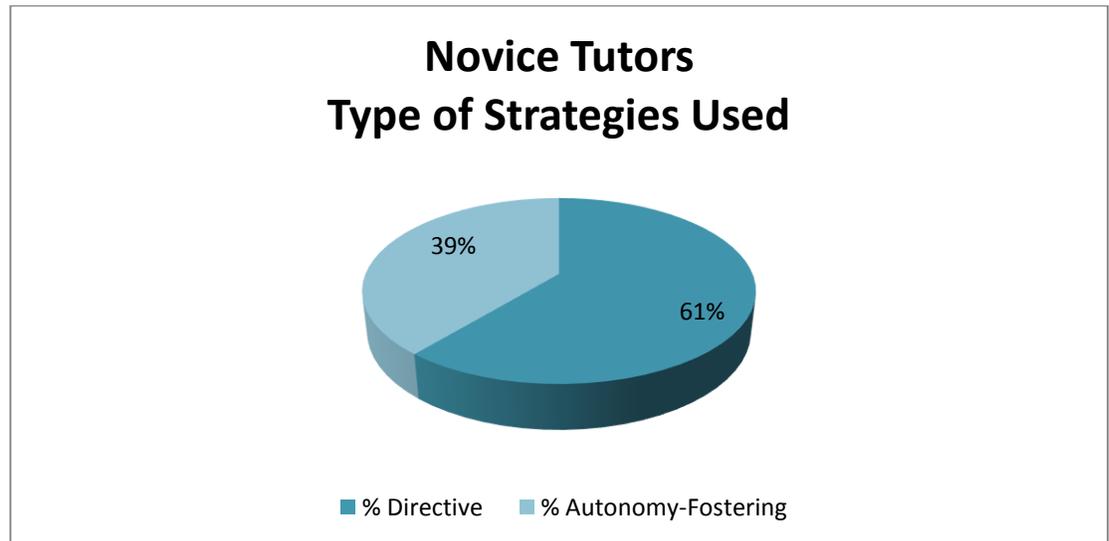
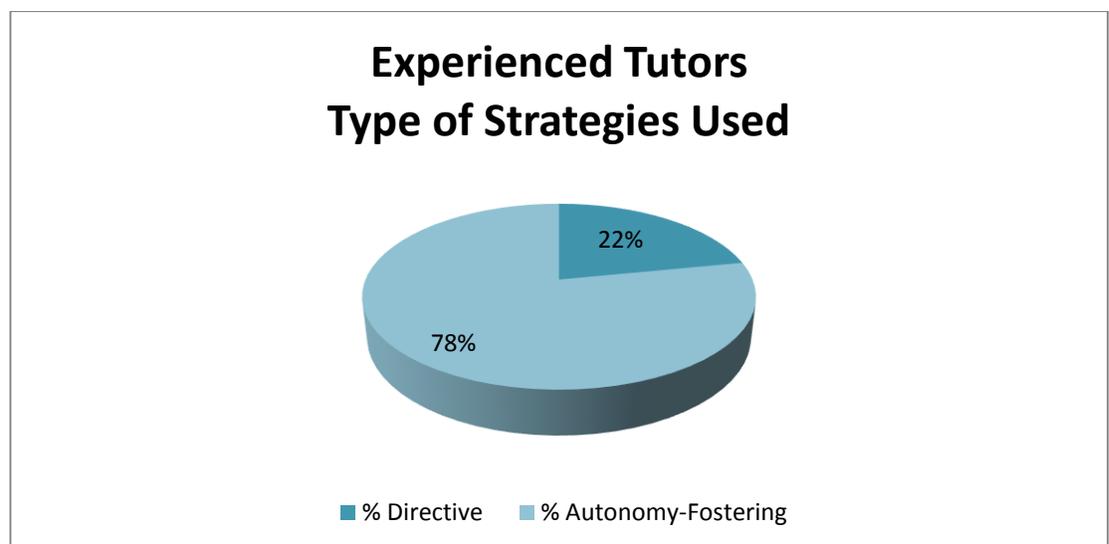


Figure 2 - Autonomy-Fostering Strategies Used/Discipline**Figure 3 – Strategies Used by Novice Tutors****Figure 4 – Strategies Used by Experienced Tutors**

The above information clearly suggests that experience was a factor in which strategies were used by the tutor. However, it was not clear that, at least from a numerical standpoint, this influence was further affected by the particular discipline in question. In other words, the strategies used by peer tutors in the three disciplines were similarly influenced by tutoring experience. On a more micro-level though, it is quite useful to look further and more carefully at which instructional strategies were dependent upon tutoring experience and which ones were not. This can provide an indicator of tutors' growth in their use of instructional strategies. There were certain strategies that tutors in all disciplines employed regardless of experience, while others related to experience. After carefully looking over the observational grids, many interesting themes emerged. The themes can be broken down into two separate categories: 1. Experienced-related and 2. Experience-unrelated.

2. THEMATIC GROUP 1: EXPERIENCE-RELATED

2.1 Demonstration of Understanding

In examining the observational grids, it can be concluded that experienced peer tutors not only strived for their tutees to understand the given material, they also were more inclined to require their tutees to demonstrate this understanding in some manner. For example, when a tutee stated that he/she 'got' the lesson or principle at hand, the experienced tutors sought some sort of evidence of this comprehension. Experienced tutors asked tutees specific questions or asked tutees to solve a certain problem to illustrate their new understanding. For example, on one occasion, an inexperienced Social Science peer tutor took about seven to ten minutes to explain to a first semester tutee what plagiarism was, going into great detail about what is and is not considered plagiarism at the college level. After this mini-lesson, the inexperienced tutor asked, "Now do you understand what plagiarism is?" When the tutee responded "Yes", the issue was considered over and the lesson learned as they moved to a different topic. In contrast, when an experienced social science tutor was

describing plagiarism to her first-semester tutee, she discussed plagiarism for about three to five minutes. She then proceeded to give the tutee various scenarios and asked the tutee if each should be considered plagiarism. Moreover, she asked the tutee to explain why the tutee thought the answer was so. One scenario, regarding how to cite sources with no authors, led to more discussion, questions and clarification on the subject matter. Another example of this theme was evident when a novice Math & Science peer tutor was helping a tutee with her linear algebra homework. The tutor would continually ask, “Do you understand?” and “Is this right or wrong?” but would always accept a one word answer of “Yes” or “Right” or “Wrong”. The novice tutor never probed further by asking why something was right or wrong or why the tutee thought a certain answer was correct. This particular tutor never sought any sort of evidence of understanding and moved hastily from one concept to another when the tutor said she understood. The tutee seemed to have several problem issues and the tutor sought to address as many as possible in their session. These three cases illustrate a commonly found distinction between novice and experienced tutors in their request for a demonstration of understanding.

2.2 Product versus Process

Another theme that emerged whereby experience influenced the instructional strategies used involved the focus on the final product versus the process of trying to obtain this product. It was found that peer tutors with experience focused more on the process of essay-writing and problem-solving than the final essay or final answer. Novice peer tutors tended to prioritize the end result more than experienced peer tutors. For example, experienced English peer tutors would focus more on higher order concerns of any essay, often including the organization, structure and support of a thesis, while novice English peer tutors’ focus was often consumed with lower order concerns of spelling, grammar and format issues. In one specific example, a tutee asked for feedback on an essay he had just received back from his teacher. The tutee had received a decent grade but wanted to know how he could improve next time. The experienced English peer tutor asked many questions about the context of

the given essay. He asked to see the instruction sheet and the course outline and asked many questions regarding the nature of the assignment. This tutor tried to help the tutee clarify his thoughts and the organization of three topic sentences. The tutor insisted upon the tutee working on an outline to organize his ideas and compare the outline to the original essay that he had written. The tutee then noticed the differences between what he wanted to argue and what he actually wrote in his essay. The session ended before they were able to tackle issues like spelling and grammar, but the tutor suggested that they could address those issues in their next session the following week. A similar example involved an experienced Math & Science peer tutor. Initially, this particular tutor would not really concern herself with the final answer when helping a tutee with Calculus 1. The tutor was primarily concerned with the problem-solving process. The tutor would not move on to another question until the tutee could appropriately grasp the processes involved in obtaining an answer. The tutor would highly discourage the tutee from checking the back of the textbook to see if the answer was correct until the tutee would carefully go over all the steps of the problem to make sure he understood each step. In fact, the tutor insisted that the tutee double check each step of every problem before looking at the back of the book to see if his answers were correct.

In contrast, it was found that novice peer tutors would focus more on the end product and the issues that were most noticeable. When tutees would come for feedback on essays that they received back from teachers, several novice English peer tutors were focused on the end product and would predominantly comment on format issues and obvious spelling and grammar errors. For instance, when a tutee requested help when she had failed an English 101 essay, a novice peer tutor spent the entire session commenting on the final product. Although there were ample errors to discuss, the process of essay writing was largely ignored. The tutor neglected to discuss what the tutee could improve upon next time when writing an essay because he was so focused on addressing each and every spelling and grammar error in the essay. Similarly, it was found that novice Math & Science tutors were concerned

more with tutees getting a correct answer than with the problem-solving process. For instance, a novice peer tutor helped a tutee with a problem set from her Linear Algebra course and was fixated on the correct answer. When the tutee struggled with a step, the tutor would step in and tell the tutee what to do and how to get back on track. In the end, the tutee would always get the correct answer and they would move on to another problem. A similar approach was taken by the tutor for the next problem. When the tutee was having a certain degree of difficulty, again the tutor stated what the tutee should be doing. In the end, the tutee would again get the correct final answer and they were both satisfied that the tutee now understood the concepts she was having difficulty with prior to their tutoring session.

2.3 Time and Space

It was found that experienced peer tutors were far more inclined than novice tutors to employ the instructional strategy of providing their tutee with both time and space to create their own knowledge. When experienced tutors asked questions of their tutees, they often let the answer come out gradually and after contemplation on the part of the tutee. There was far more silence in their tutoring sessions. This silence resulted from tutees trying to come up with sentences or ideas or attempting to answer various questions by going over material on their own. When an experienced tutor asked a question and their tutee did not have an answer, rather than immediately giving the answer, the experienced tutors tried to find out why their tutees might not know. In this sense, they tried to encourage their tutee to figure out why they might be struggling. They were more inclined to resist the temptation of answering their own questions or even their tutees' questions. They would sometimes ask their own question in another way or sometimes discuss related course concepts that would help their tutee figure out an answer, but they were far less likely to answer their own questions when they noticed their tutee experiencing some sort of deficiency. Experienced tutors would provide time for their tutee to struggle on their own while trying to make sense of their material. They provided space in that they would ensure the course material was in front of the tutee and physically move away as if to let the

tutee know the onus was on the tutee to try to figure things out. Tutors did not move far; they usually just leaned back a little or moved their chair bit farther back as a sort of a symbolic gesture indicating that it was time for the tutee to work on his/her own. They were still present of course if the tutee had a subsequent question, but the question asked might have resulted in the tutee having more work to do to figure out an answer.

In contrast, it was found that novice peer tutors did not employ this instructional strategy when assisting their tutees. When novice peer tutors asked their tutee a question that was not immediately answered, the tutors would answer their own questions. When this occurred a few times, it appeared as though tutees began to notice a pattern. They would resist answering questions, because they realized that the correct answer was about to be handed to them. This seemed to make for pleasant experiences because both tutors and tutees were satisfied; moreover, because this was a swifter process, several course concepts that the tutee was struggling with were addressed in the tutoring session. In addition, when a tutee asked their novice peer tutor a question, the tutor would immediately answer the question, but rarely try to encourage the tutee to try to figure out the answer on their own. Novice peer tutors did not offer time or space for their tutees to struggle with the material. In these tutoring sessions, there was rarely any silence and there seemed to be a faster pace going from one issue to the next. As a result, it was observed that a greater number of concepts seemed to be covered.

An example of the time and space strategy was when an experienced Social Science tutor was assisting his tutee with her Statistics homework, the tutee asked a question about the importance of a normal distribution curve. Rather than directly answering her question, this tutor offered a real life situation for the tutee to contemplate. After the tutor provided certain details of the situation and offered some context, the tutee tried to solve the problem. The tutor offered his tutee considerable time to struggle with the material. He answered a few questions regarding course concepts, always trying to help the tutee see the link between theory and practice.

Not only did this experienced tutor make the material accessible to his tutee, he helped her answer her own original question. This exercise took a considerable amount of time. Granted, directly answering her questions would have been a faster and easier option, but the tutor refused to answer his tutee's question the way she asked it.

In another instance, an experienced English peer tutor was helping her tutee with his academic writing skills. The tutee was having difficulty with creating a thesis statement and asked his tutor for assistance. The tutor first explained the purpose and importance of creating a prudent thesis and then asked the tutee many questions about his general and specific goals for the essay. After about five to seven minutes of discussion, the tutor asked the tutee to try to create his thesis statement. The tutee proceeded to write down his thesis and said to his tutor, "Can you read this and tell me if it is good?". The experienced tutee stated the following: "first I want you to read out loud to yourself and determine if you think it is good". The tutee did this and the tutor moved to the other side of the peer tutoring room to give the tutee space to work on his thesis. The tutee read his work out loud, and decided to change the ending because he was not satisfied with it. He again asked his tutor for feedback but she again asked him to read his new thesis out loud and again decide if it met his satisfaction. The tutor used this strategy again when working on topic sentences as well as finding quotes and other material necessary to support the topic sentences. It was a lengthy process because at each stage, the tutee used much time and space to adjust his work. Eventually the tutee began to expect his tutor would ask him to review his work so he did it without her even prompting him to do so.

A final set of examples of the time and space strategy occurred within the discipline of Math & Science. A novice peer tutor was helping his tutee with his Calculus homework and the tutor spoke for the duration of the session. When the session commenced, the tutee started off asking the tutor a series of questions. The tutor spoke for about 30 minutes trying to answer all of the questions. During that time, the tutor periodically asked his tutee some questions about certain calculations.

Each time, the tutee did not have an immediate answer ready. When the tutee hesitated, the tutor continuously answered his own question. After this occurred several times, it appeared as though the tutee did not even give the tutor's question even a second of thought, knowing the answer was forthcoming. In this session, the tutee rarely spoke or gave issues deep contemplation as he was never afforded time and space to do so. In contrast, when an experienced peer tutor was assisting her tutee with similar Calculus homework, she employed an alternative approach. In this session, the tutee did the bulk of the speaking, but there was also several moments of silence with the tutee thinking and trying to solve problems and answer questions. When the tutee asked a question, the tutor usually asked her tutee to go through his notes to attempt to figure out the answer on his own. When going through his notes, he had more questions, but the tutor was always reluctant to provide a direct answer. Rather, she turned the tutee's questions into teachable moments by him giving some sort of work to do so that he could answer his own question. She also slightly moved her chair back as if to suggest that she wanted the tutee to spend much time in search of an answer. After this approach was employed for some time, it appeared as though the tutee would try harder to solve problems before asking questions. He would look into his notes and spend more time thinking about potential solutions, even without the tutor's suggestion. The latter approach of affording time and space took a considerable amount of time itself and it seemed as though fewer topics were covered than with the approach of directly answering questions without offering time or space.

3. THEMATIC GROUP 2: EXPERIENCE-UNRELATED

3.1 Use of Resources

An analysis of the observational grids found that an instructional strategy that all peer tutors used, regardless of experience, was the prudent use of available resources. Both novice and experienced tutors were unafraid of consulting resources in the form of textbooks, workbooks, dictionaries, thesauruses, online resources and, to great extent, their fellow tutors. Tutors would not hesitate to let their tutee know that they would need to consult another resource. This tendency was common among

tutors in all three disciplines, but perhaps most evident among the Math & Science tutors. These tutors, regardless of experience, would continually ask their fellow tutors in the Math & Science Centre for suggestions on how to assist their tutees. When tutors were unfamiliar with a certain topic, they would say to their tutee that they were going to seek assistance. For example, when an experienced Math & Science tutor was assisting a tutee with his Calculus 1 home work, he stated “It has been quite a while since I took this class, I’m going to see if one of the other tutors here might be taking it right now”. He then found a tutor and consulted her for a few minutes and then proceeded to assist his tutee. On a separate occasion, a novice peer tutor started assisting a tutee in Linear Algebra and after a discussion about one of the difficult course concepts, the tutor did not know the answer to one of the tutee’s questions. The tutor stated, “That’s a great question but I don’t really know what the answer is; do you mind if I ask one of the other tutors here when they are free?”

In addition, it was found that both experienced and novice tutors who were alone would state that they would have to consult another tutor later and then get back to the tutee at a later time. For example, one experienced tutor who was assisting a tutee with Calculus II stated the following, “I don’t really want to say something that is incorrect, so I’d rather consult someone who knows and then get back to you”. Another Math & Science tutor said that he was not comfortable tutoring Organic Chemistry and proceeded to help the tutee find a tutor who was capable of assisting her. This practice was common among Social Science tutors as well. A novice tutor was assisting his tutee study for his upcoming Quantitative Methodology quiz. The tutors stated “I forget how to figure that out and I don’t want to mess you up”. He proceeded to let his tutee know of a website that would be of assistance in solving the problem. Experienced and novice English tutors were also all inclined to consult resources. They frequently consulted various textbooks and handouts that were available in the English peer-tutoring room and were unafraid to let their tutee know that they did know an answer to a question and would need to look it up. For example, when a novice English peer was helping her tutee practice an oral

presentation, the tutor stated that although she thought her tutee's approach seemed appropriate, she was going to consult an oral presentation tip sheet for more suggestions on how to conclude her presentation. After a brief consultation with the document, she then had more suggestions to offer her tutee.

3.2 Honest Praise and Genuine Care

It was found that all peer tutors, regardless of experience, offered honest praise of their tutee's work and abilities to achieve academic success in the given discipline. All tutors offered their tutees encouraging words and showed genuine care for their success. In addition, it was found that tutoring experience did not play a role concerning the empathy shown for tutees when they were discouraged. All tutors commonly stated that the material at hand can be challenging and it can take time to understand it. Tutors of all experience levels provided a warm and welcoming atmosphere and seemed to have a caring nature. It was quite common to hear tutors state that with practice, their tutee would obtain their desired results. In fact, almost every single tutor who was observed, in all three disciplines, demonstrated seemingly genuine care for their tutee through honest praise and genuine encouragement.

3.3 Unsolicited Study Strategies

The findings show an unexpected category of instructional strategy that almost all peer tutors, regardless of experience or discipline, took it upon themselves to employ when peer tutoring. It was common to observe peer tutors offering unsolicited study strategies when assisting their tutees. Although tutees would not ask for studying tips or general study strategies, when an opportunity was presented, tutors would bestow such strategies, both overt and subtle in nature. The strategies were predominantly based upon the tutor's own experience taking the same or a similar class as their tutee. These study tips were quite varied and occasionally quite specific to the particular class and sometimes teacher of the tutee. The study tips pertained to elements such course readings, course notes, proper citation, conducting

research, exam preparation, when/how to do homework as well as general college success. Below are three tables of study tips that were used in each of the three disciplines under observation.

Table # 2

Social Science Unsolicited Study Skills

1. Importance of reading teacher's comments and speaking up when they are unclear
2. Ideal time to do course readings for a particular class
3. Conducting research (what type of words generally work well in key word search)
4. Time management (e.g. studying on commute can enable more free time)
5. Specific tips re. how to use tutee's scientific calculator
6. Quiz/exam preparation
7. Importance of visiting teachers during office hours
8. Use pencil (not pen) when doing statistics homework

Table # 3

English Unsolicited Study Skills

1. Constructing slides using Power Point
2. Importance of reviewing class notes regularly
3. Importance of twice proofreading your own work
4. Importance of proofreading out loud
5. Specific teacher's expectations/tendencies
6. Career advice (what university programs can lead to which jobs)
7. Tips on public speaking (look at audience rather than notes)
8. Time management

Table # 4
Math & Science Unsolicited Study Skills

1. Where to do homework (quiet spaces on campus)
2. What questions to expect on upcoming quiz
3. Exam preparation
4. How to use calculator
5. Specific teacher's expectations and tendencies (kinds of problems to study the most)
6. Inside tip on how to use <i>Webworks</i>
7. When to study for exam (not waiting until exam is announced)
8. Pace of problem solving (encourages tutee to take more time)
9. Importance of self-knowledge and metacognition (encourage tutee to become aware of learning style and offers specific strategies for visual learners)
10. Importance of visiting teachers during office hours
11. Importance of looking for connections between classes
12. Specific problem solving strategy (stay organized by putting different variables on different sides of the paper)

Each of the above study tips was offered without tutee solicitation. Tutees never asked for help with their general study skills. However, tutors in all disciplines, experienced and inexperienced alike, would commonly identify and discuss a skill or approach to collegiate learning that needed attention. Before imparting this wisdom, peer tutors would usually state such things as, “from my experience taking this class...” or “what worked for me was to usually...” or “what I learned about succeeding in this class/with this teacher was to...”. While tutees would come with specific questions/problems regarding course concepts they struggled with or come with specific work they wanted feedback on, tutors would move to general study skills when appropriate opportunities arose.

4. DISCIPLINE INFLUENCE

It was found that the amount and percentage of tutor's use of instructional strategy was affected by experience, but unaffected by discipline. In other words, experienced tutors in all three disciplines were more inclined to use autonomy-fostering techniques and inexperienced tutors in all three disciplines were more inclined to use directive techniques. However, there were some interesting themes that emerged based upon discipline and the nature of the guidance given by experienced peer tutors.

A distinction based upon particular discipline had to do with the nature of the advice that experienced tutors tended to provide. For example, experienced English peer tutors focused on the importance of life-long learning. It was common to hear these tutors express the need for tutees to continually practice their writing, reading and speaking at every chance possible and to think about real world applicability of the material in question. Experienced Social Science peer tutors, on the other hand, were more concerned with helping tutees with particular classes and looking for potential links between and among their different classes. These tutors focused on helping tutees use what they learn in one class to help them with other classes. Experienced Math and Science tutors seemed to concern themselves with both of the above mentioned elements. They were concerned with tutees not only looking for connections between classes, but also sought to stress the importance of trying to make the material meaningful to the tutee with the use of some kind of real life example.

The results also indicated a particular challenge for all peer tutors in the discipline of Math & Science. It was found that within tutoring sessions involving Math and Science, it was common to observe frequent minor communication breakdowns. These breakdowns were not observed in any of the English or Social Science tutoring sessions. Each breakdown of communication usually took between two to four minutes to resolve. A communication breakdown would occur when a tutee had difficulty understanding a tutor's question or a tutor had difficulty

understanding a tutee's answer. These breakdowns were common among sessions involving both novice and experienced peer tutors. For example, a tutor would start answering a tutee's question, but then the tutee would interject stating that the tutee perhaps misunderstood the question. Peer tutors presumed to understand a tutee question and start answering, but at times they were not on the same page. After further discussion and clarification, the tutor and tutee would get on the same page and resume the tutoring session. Although common, these misunderstandings did not take very long to resolve but when they were recurring, they constituted an obstacle to successful peer tutoring.

A typical example of the observed miscommunication occurred with an experienced tutor who was helping her tutee with Calculus 1. After the tutee asked about the difficulty he was having with definite integrals, the tutor quickly started answering the tutee's question. After a few minutes the tutee stated the following: "actually, what I wanted to know was how to calculate derivative in particular instances". After some further clarification, they were once again on the same page. This type of communication breakdown occasionally became problematic. When a longer amount of time elapsed before the tutee informed the tutor that he/she may have misunderstood the question or when it was so prevalent to the point of distraction, the communication issues became a barrier to a fruitful tutoring session. These minor communication breakdowns did not appear to be the result of language issues. They did not seem to occur because the tutor and the tutee were not speaking in their first language; rather, they seemed to be a result of tutors not letting tutees finish asking their questions and tutors making assumptions regarding what they thought was going to be asked.

CHAPTER FIVE: CONCLUSION

1. DISCUSSION

This study was designed to determine how novice peer tutors differ from experienced peer tutors across three different disciplines in their use of instructional strategies. A significant concept under examination was autonomy because one of the greatest challenges of peer tutoring is to resist doing too much work for tutees in order to empower them, thereby fostering their own autonomy. The goal in a given tutoring session of encouraging tutees to create their own knowledge and learn to solve problems on their own is a difficult one to achieve for emerging adults. As Arnett (2000) reminds us, emerging adulthood is a period when individuals are just starting to negotiate more adult-type roles and to think about identity exploration. While all tutors under observation utilized the resources at their disposal, displayed genuine care, and offered tutees study tips based upon their own experience, only experienced tutors for the most part seemed concerned with helping tutees become autonomous learners. Perhaps providing the time and space necessary for tutees to create their own knowledge in a setting where time is limited requires the confidence and patience that novice tutors have not yet attained.

The autonomy-fostering instructional strategies outlined in this study require both confidence and patience because they are geared for success in the longer term more than the short term. Moreover, autonomy-fostering strategies take a considerable amount of time to utilize in comparison with directive strategies. Especially when deadlines loom or exams are impending, it takes a certain amount of confidence to employ a strategy that will mean more work for the tutee in the short term. College peer tutors are emerging adults who are usually new to the field of educating and starting to experience their own independence for the first time (Arnett, 2000). As such, novice peer tutors might not yet feel confident enough to try using an instructional strategy that their tutee might not fully be in support of. In addition, novice peer tutors might not feel confident enough to seek a demonstration of

understanding from a peer. Perhaps novice peer tutors see success as covering every topic their tutee seems to be struggling with, whereas experienced peer tutors are trying to help tutees understand, create and improve as writers, thinkers or problem-solvers. As Scardamalia & Bereiter (1989) remind us, those new to the field of education tend to see the student as a passive recipient of knowledge rather than an active builder of knowledge (37). The researchers add that novice educators tend to feel driven by the demands to cover subject matter (43). Without previous experience in the field of instruction, novice peer tutors might not yet trust in an approach that could sacrifice shorter term harmony for longer term growth. The individual agency of the particular tutor may play a significant role in their tutoring approach as well. As Driscoll (2000) argues, one who believes knowledge is constructed and relative to the individual learner may lean towards instructional strategies based on discussion and guided problem-solving while one who believes knowledge is absolute would likely chose strategies that directly tell learners correct information. Scardamalia & Bereiter (1989) offer useful advice for new educators to focus on what their student is understanding, not how well the lesson seems to be going. This advice applies to novice peer tutors as well, who may be overwhelmed with their new responsibility, unsure of their own beliefs on teaching/learning and struggling to help their tutee as magnanimously they can.

Some of the observed strategies that peer tutors employed were overt in nature while others were more subtle. Because the researcher refrained from interacting in any way with the tutors or tutees under observation, the extent to which tutors were aware of some of the more subtle strategies they employed is unknown. It is useful to consider a particular category of nonverbal communication, proxemics, when discussing the research findings. More specifically, the largely unspoken time and space strategy used by many experienced tutors can be looked at through the lens of proxemics. The element of proxemics only emerged from the actual observations and could be a potential research focus for a future study. Edward Hall (1966) coined the term proxemics, and explained it as the use of space in social interactions. For Hall

(1966), proxemic behavior can be extremely powerful and at times even more important than what an individual says in a particular social interaction. Hall (1959 & 1966) adds that individuals can greatly influence others with the shifting use of their immediate physical space. The experienced tutors under observation used physical space often enough and strategically enough to appear as though it was an intentional instructional strategy meant to foster autonomy. However, these tutors would not explicitly state to their tutee they were using this strategy. It is interesting that an instructional strategy that did not involve spoken words, and that tutors may not have even recognized as a strategy, seemed to be one of the most effective autonomy-fostering methods. As Hall (1966 & 1959) notes, the use of space can be quite an influential form of nonverbal communication and deserves significant attention when trying to make sense of social interactions.

In addition to a description of how novice tutors differ from experienced ones, another useful outcome of this study was discovering the amount and variety of unsolicited study skills that peer tutors sought to share with their tutees. Peer tutors in all three disciplines sought to help tutees create strategic knowledge in the form of study skill tips. Strategic knowledge, according to Pintrich (2002) can be defined as “knowledge of general strategies for learning, thinking and problem-solving” (pg. 220). Pintrich adds that strategic knowledge includes “knowledge of various strategies students might use to memorize material, to extract meaning from text and to comprehend what they hear in classrooms or what they read in books and other course material” (pg. 220). Tutees never asked for these tips or strategies, but seemed to be quite keen on learning about them. This illustrates another tremendous benefit of peer tutoring initiatives. Teachers and other academic professionals commonly outline prudent study skills that can lead to college success. However, when a peer prefaces his or her comments, with “what I did to succeed was....,” this can have more meaningful impact. Moreover, the study strategies, some of which were overt and some subtle, were often specific to particular classes or teachers. Such specific tips can have great influence on students. Tutees usually came to their

sessions with specific questions about course content or specific needs in improving an academic skill, but often left with a new approach to studying or time management or note-taking.

The present findings illustrate that experienced peer tutors were more focused on problem-solving processes than final answers; conversely, the findings also indicate that novice peer tutors seemed to be more concerned with ensuring they address every one of their tutees' uncertainties. Experienced tutors acknowledged that simply getting a correct answer is not necessarily indicative of growth. Research (Erickson & Strommer, 1991) shows that if your aim is to help students know, understand and think, then the final product is less important than how the final product is obtained or created. As such, in solving complex problems, the researchers suggest it is important for learners to verbalize what they are doing and why they are doing it. Erickson and Strommer (1991) advocate that educators explicitly show learners their own approaches to complex problem-solving. According to Erickson and Strommer (1991), this could involve writing down ideas while reading a problem, noting important relationships, asking themselves questions and/or breaking down complex problems into more manageable steps (pg. 75). They posit that there ought to be more guidance on early attempts at solving a multifaceted problem and that this guidance can take the form of hints and step-by-step prompts. Experienced tutors were more inclined to illustrate their own methods of solving problems. These tutors would go through a difficult problem and illustrate for their tutee how they would approach trying to get themselves unstuck. This approach takes more time and far fewer problems can be covered, but educational research suggests that it leads to growth and helps learners eventually solve problem on their own.

Asking suitable questions and providing tactical answers are essential duties of a peer tutor. It is clearly challenging to ask questions and answer questions in such a way as to foster autonomous learning. Palmer (1998) suggests that some questions close down learning space and that others may open up too much space that they might sacrifice the learning outcome (pg. 133). The goal is to try to turn a question

and answer session between tutor and tutee into a communal dialogue that fosters independent discovery on the part of the tutee. Palmer (1998) notes that “learning to ask good questions, deflect answers, and connect my student in dialogue, the job is still not done” (pg. 134). The next step is determining with the learner what they are learning and what they still might need assistance with. Seabury (2002) adds that when asking/answering questions, the tutors must appreciate that a certain degree of tutee frustration is actually productive. The questions and answers of the tutor ought to create opportunities for trial and error and learning by doing on the part of the tutee. Seabury (2002) calls this “the awkwardness and frustration of altering habits” (pg. 43). The tutors ought not to immediately intervene when the tutee appears to be getting frustrated. Although there is no prescribed time limit to wait to ask a follow-up question, tutors must recognize tutee frustration as a healthy part of the peer tutoring process. This seemed to be a tactic that inexperienced tutors did not attempt since it not only sacrificed short term harmony, but also sacrificed limited time necessary to satisfy tutee concerns.

2. LIMITATIONS AND FUTURE RESEARCH

A potential limitation of this study is that during the observations, tutors may have behaved differently in the presence of a researcher. The researcher took several measures to remain unobtrusive and completely out of view of the tutor. In addition, the ideal observing location was considered and adjusted during the observation piloting. The detached role of the researcher was clearly explained at the beginning of each session observed and the researcher was not drawn into any social interaction with the participants once the tutoring sessions started. However, an inherent risk in non-participation observation methodology is reliability in that subjects could act unnaturally when under observation. As noted by Gay et. al. (2012), triangulation is recommended to strengthen the qualitative data presented here. For example, future educational research in the area of peer tutoring instructional strategies using alternative data collection methodologies or alternative disciplines could be conducted to add to the findings of this study and enable a more complete picture of

the important issues. A potentially fruitful research initiative could be to interview novice and experienced tutors with the intent of asking them to describe their use of instructional strategies. In addition, interviewing newly graduated peer tutors asking them to describe how their use of instructional strategies evolved in their tutoring years could be a useful research initiative as well. Interviewing participants in a research study can provide fruitful information that is inaccessible through observation alone (Gay et. al. 2012). Another potentially interesting research study could be a comparison between the instructional strategies of college peer tutors and university peer tutors. Such a study might aptly illustrate a developing appreciation for autonomy in teaching and learning when comparing emerging adults with young adults.

3. IMPLICATIONS

The results of this study are being shared with the coordinators of the three peer tutoring programs participating and will potentially be shared with other peer tutoring program coordinators at Vanier College as well. An intervention resulting from this study was a session at a college-wide peer tutoring conference on instructional strategies with a focus on the importance and potential methods of autonomy-fostering tutoring and the dangers of giving answers or doing too much work for tutees. The conference occurred in February, 2015 and peer tutors from every discipline at Vanier College were in attendance. At the conference, the results and implications of this study were shared and an opportunity was provided for all peer tutors to offer comments upon strategies used based on their own peer tutoring experiences. Also, at Vanier College Community Connection day in January 2015, the results of this study were shared and potential new collaborations were explored. One of the specific focuses of this session was to brainstorm potential tutoring frameworks and models in light of the current research. In addition, there are plans for upcoming collaboration with the three coordinators to mesh parts of this study in with their existing peer tutor training sessions. More specifically, the intricacies of the autonomy-fostering instructional strategies will be shared as ideal peer tutoring

practices; the unsolicited course/teacher-specific study skills based upon personal experience will be highlighted as well.

Another specific intervention under discussion is adding to the Math & Science Centre tutor training to address the minor communication breakdowns that were often observed. A potential inclusion could be the straightforward 3-way communication technique described by Throop (2011), whereby a message receiver repeats back a message from the sender and the sender acknowledges the accuracy of the repeat-back. Such a technique would help Math and Science tutors and tutees remain on the same page. Peer tutoring is a popular and worthwhile initiative at the collegiate level and this study validates its worth and offers some insight into some of the strategies of instruction that Vanier College peer tutors use in their tutoring sessions. It will hopefully be used as an educational mechanism to offer future Vanier College tutors some concrete recommendations on how to promote autonomous learning.

Although the basis of this study was examining instructional strategies in a peer tutoring setting outside of class time, many of the important findings can be directly applied to in-class peer tutoring as well. Using students as in-class teaching assistants is gaining popularity at Vanier College and this study might help in the creation of training manuals for potential in-class collaborative learning initiatives. In future training guides or manuals to be created in light of this research, it will be emphasized that peer tutoring is clearly not an exact science. There are no quick fixes or formulas to successful peer tutoring in or out of the classroom and there is no prescription to foster autonomy in tutees. However, there are indeed instructional strategies that can help tutees in their struggle to avoid giving answers when tutees crave them. Some strategies are subtle and unspoken, others are overt and direct. The time and space strategy and the methods to build strategic knowledge will certainly be highlighted as best practices. Another important aspect to be highlighted in future tutoring training will deal with the nuances associated with asking and answering questions. This study showed the ways that experienced tutors, across the

disciplines, were more prudent in helping their tutees experience growth. So, in addition to a detailed description of the instructional strategies experienced tutors use in order to foster autonomy, another recommendation stemming from this study will be for novice peer tutors to spend time observing experienced peer tutors as part of their training.

In sum, the problems and challenges associated with peer tutoring were stated at the outset of this study. Relevant scholarly literature associated with collaborative learning theory, knowledge creation/transfer, pedagogical content knowledge and self-regulation was then reviewed. The specific research questions were described and the essential concepts relevant to this study were operationally defined. The methodology, including the instrumentation used to collect and analyze data was then described and the sample and target population under study were outlined. Next, the important findings of this study were presented and broken down into meaningful sections. Finally, the conclusion discussed the implications of the study as well as the limitations of the study. Potential future research was discussed as well. The pedagogy associated with instructional strategies that tutors use with their tutees is an important issue deserving continued research. Issues surrounding helping learners become autonomous are critical to the practice of successful peer tutoring, as tutors must continue to develop strategies to help the tutees experience growth.

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APPENDIX A
CONSENT FORM FOR STUDENT
PARTICIPATION

Researcher: Joshua Berman
The Learning Centre, Vanier College, Montreal, QC & University of Sherbrooke

**Consent Form for Student Participation
CROSS-DISCIPLINARY PEER TUTORING**

Dear student,

I am conducting a research study as part of the requirements for a Master's degree in Education. The purpose of this study is to critically examine peer tutoring in different disciplines at Vanier College. If you decide to participate in this study, you will let me observe one tutoring session. If you decide to withdraw in the middle of the tutoring session, your data will not be included in the study. Your participation is completely voluntary.

The observations will be completely confidential and there are no known harms associated with your participation in this research. Upon completion of my study, I will invite to participate in a workshop on peer tutoring to be held in 2014 to see the potential benefits of your participation. If you agree to participate and you are 18 years of age or older, please sign the consent form.

Thank you very much for your time.

I agree to participate in this study on cross disciplinary peer tutoring at Vanier College. I know that my actions will be observed and recorded. I know that my confidentiality will be respected.

I am 18 or older as of September 1st, 2013 and I certify that I have read the above information, and freely consent to participate in the study on cross disciplinary peer tutoring at Vanier College.

1) I, _____, agree to participate in this study.

Signature:

Date:

2) I, _____, do not agree to participate in this study.

Signature:

Date:

3) I, _____, am under the age of 18 and cannot give my consent to participate in this study.

Signature:

Date:

If you have any questions or concerns about this research, I invite you to contact me at 514-744-7500 Ext. 7643 anytime Monday to Friday, 8:30am to 4:30pm.

APPENDIX B
OBSERVATION GRID

Instructional Strategy	Frequency	Comments
Asks questions/solicits context	□□□□□□□□	
Appears to let tutee make their own mistake	□□□□□□□□	
Uses different wording or explaining of the question	□□□□□□□□	
Uses various illustrations different from ones the student uses	□□□□□□□□	
Offers explanations/examples that may have nothing to do with assignment but illustrate a similar concept	□□□□□□□□	
Conducts impromptu lessons	□□□□□□□□	
Asks tutee what a question is asking	□□□□□□□□	
Appears to offer time for tutee to answer questions, understand a key concept, figure out or create an answer	□□□□□□□□	
Appears to offer space for tutee to answer questions, understand a key concept, figure out or create an answer	□□□□□□□□	
General comments:		

Instructional Strategy	Frequency	Comments
Gives answers	□□□□□□□□	
Offers to do work for student	□□□□□□□□	
Does work for student	□□□□□□□□	
Writes on student's assignment	□□□□□□□□	
Reads student's written work for them	□□□□□□□□	
Moves quickly from one concept to another (appears to use a rushed tone)	□□□□□□□□	
Tells tutee what a given question is asking	□□□□□□□□	
Stops tutee from finishing a question or idea because it starts off wrong	□□□□□□□□	
Asks questions but then answers them when a tutee does not initially respond	□□□□□□□□	
General comments:		

APPENDIX C
VANIER COLLEGE RESEARCH ETHICS BOARD
APPROVAL

May 13, 2013

Joshua Berman
The Learning Centre
Vanier College

Dear Joshua,

The Vanier College Research Ethics Board, has reviewed your research request entitled, *Peer Tutoring Instructional Strategies*, and has granted their certification for your project.

Regards,


Marc Belanger
Chairperson
Research Ethics Board

encl.
nb