L’expérience des étudiants faisant partie des communautés d’apprentissage dans les programmes de formation technique au collégial
The Experience of Students in Learning Communities in College Professional Programs

par
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a été évalué par un jury composé des personnes suivantes:

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SUMMARY

Research has indicated that students who are part of learning communities achieve higher average grades and tend to persist and complete their program of studies at a higher rate than students who are not involved in learning communities. Studies on learning communities have shown that they provide increased opportunities for students to develop connections both with other students and with faculty, and that these connections help to provide academic and social support, which enhances the learning process and leads to greater student success.

The three-year professional program offered in the Quebec CEGEP system is a form of learning community: Courses are offered in a structured sequence encouraging the building and integration of knowledge and skills. Students who are enrolled in these programs tend to spend time together almost every day, both during and between classes. The organization of courses thus facilitates the development of social connections associated with learning communities. Students are usually taught by the same teachers and so opportunities for student-faculty interaction are also increased.

This cross-sectional study compared how students developed connections to peers, faculty, program, and institution in a learning community with a dedicated learning space, to those formed in a learning community without such a space. Data on how students used and experienced the dedicated learning space were also collected and analysed.

Students in two CEGEP programs offered at John Abbott College in Sainte-Anne-de-Bellevue, Quebec, participated in the study. The experience of 46 first, third, and fifth semester students in the Information and Library Technologies (ILT)
program was compared to 108 students in the same semesters in the Publication Design and Hypermedia Technology (PDHT) program. Students in ILT have access to a multi-purpose dedicated learning space, whereas students in PDHT do not. These semesters were chosen because students who are enrolled in them represent all levels of completion of a professional program.

Mixed methods were employed to gather data. A general questionnaire was distributed to all students involved in the study during the ninth week of the Fall 2009 semester. Teachers in both programs tracked the frequency and nature of visits by students to their offices during three designated weeks of the semester. A second questionnaire which dealt with students' use and experience of the designated learning space was administered to students in ILT in the thirteenth week of the semester. In order to further document how the learning space was used, students in ILT were required to sign in to the room for a period of eleven weeks.

Results indicated that while students in PDHT had more friends throughout the College, students in ILT were more likely to develop friendships with students in their program. By their third year, ILT students anticipated continuing these relationships after graduation at a higher rate than students in PDHT. Both students and faculty in ILT reported more frequent student-faculty communication, and the most frequently used method of communication was face-to-face. In PDHT, students felt strongly connected to their program. In ILT, the level of connection was initially less strong, but by the third year, students' level of connection to their program and institution was greater than for PDHT students. The change over time in the program was therefore greater in ILT. This research suggests that these differences between programs may be attributed to the presence of the learning space in ILT.

The learning space was valued by the majority of students in the ILT program. Students commented that having access to this room enhanced their experience of the program and institution. Due to the central location of the room,
students reported that they saw their program teachers frequently, and could interact more often without going out of their way or having to make an appointment. On the basis of this research, recommendations concerning resources and conditions that should be available in a dedicated learning space have been made.

The information gained from this study adds to the knowledge about learning communities. This study also has implications for the allocation of space in other CEGEP programs. Finally, recommendations contained in this study may enable the planning and creation of multipurpose spaces within learning communities that enhance the experience of students.
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RÉSUMÉ

La recherche indique que les étudiants qui font partie d’une communauté d’apprentissage atteignent un rendement moyen supérieur et qu’ils ont davantage tendance à continuer et à compléter leur programme d’étude que les étudiants qui ne font pas partie de telles communautés. Les études sur les communautés d’apprentissage ont montré que celles-ci augmentaient les chances des étudiants de développer des liens. tant avec d’autres étudiants qu’avec le corps professoral et que ces liens permettaient d’offrir le soutien académique et social nécessaire pour améliorer le processus d’apprentissage et permettre aux étudiants de mieux réussir.

Les programmes de formation technique de trois ans, offerts dans les cégeps du Québec, sont une forme de communauté d’apprentissage: les cours sont offerts dans un ordre structuré qui favorise l’acquisition et l’assimilation des compétences et des habiletés. Les étudiants qui sont inscrits dans ces programmes ont tendance à passer du temps ensemble à chaque jour, pendant les cours et aussi entre ceux-ci. De plus, l’organisation des cours facilite le développement de liens sociaux liés aux communautés d’apprentissage. Les étudiants ont habituellement les mêmes enseignants, donc les chances d’interactions entre les étudiants et le corps professoral sont également accrues.

Cette étude transversale visait à comparer les liens tissés par des étudiants avec leurs pairs, le corps professoral, le programme et l’institution lorsqu’ils évolueraient dans une communauté d’apprentissage bénéficiant d’un espace d’apprentissage réservé, et ceux développés par des étudiants formés dans le cadre d’une communauté d’apprentissage qui ne bénéficiait pas d’un tel espace. Des données sur l’utilisation et la perception de l’espace d’apprentissage par les étudiants ont également été recueillies et analysées.

Des étudiants de deux programmes de cégep offerts au Collège John Abbott de Sainte-Anne-de-Bellevue au Québec ont été invités à participer à l’étude. L’expérience de 46 étudiants au premier, troisième et cinquième semestre du programme de technique de la documentation (TD) a été comparée à celle de 108 étudiants des mêmes semestres du programme d’infographie et de technique hypermédia (ITHM). Les étudiants en TD ont accès à un espace d’apprentissage multifonctionnel réservé, alors que les étudiants en ITHM n’en ont pas. Ces semestres ont été choisis parce que les étudiants qui y étaient inscrits représentent tous les niveaux d’achèvement d’un programme de formation technique.

Des méthodes mixtes ont été utilisées pour recueillir les données. Au cours de la neuvième semaine du semestre de l’automne 2009, un questionnaire général a été distribué à tous les étudiants participant à l’étude. Pendant les trois semaines
désignées pour l’étude lors de ce semestre, les enseignants des deux programmes devaient prendre des notes sur la fréquence et la nature des visites des étudiants à leur bureau. Un second questionnaire portant sur l’utilisation et la perception de l’espace d’apprentissage réservé a été administré seulement aux étudiants en TD au cours de la treizième semaine du semestre. Pendant onze semaines, les étudiants en TD devaient inscrire leur nom en entrant dans la salle afin de recueillir davantage de données sur la façon dont est utilisé l’espace d’apprentissage.

Les réponses au questionnaire général et les feuilles de suivi du corps professoral de chacun des programmes ont été tabulées et analysées pour évaluer les différents types de liens tissés entre les étudiants, entre ces derniers et le corps professoral, et entre le programme et l’institution, en fonction des programmes et des semestres. Une variété de techniques d’analyse a été utilisée pour cette partie de l’étude. Des données catégorielles ont été affichées à l’aide de tableaux de fréquences et de diagrammes à barres. Des diagrammes de dispersion ont été utilisés pour illustrer les différences entre les étudiants des deux programmes en ce qui a trait à la distribution de la variable de l’amitié. Des tableaux croisés ont été utilisés pour afficher les fréquences relatives des réponses liées aux données catégorielles fournies par les étudiants des deux programmes ainsi que celles fournies par des étudiants de différents semestres. Des tests chi carré d’indépendance ont été utilisés pour vérifier si les associations observées des variables, telles que les liens avec les autres étudiants et avec le corps professoral selon les programmes et selon les semestres, étaient statistiquement significatifs. Des tests de Mann-Whitney U ont été utilisés pour comparer les données rangées, le cas échéant. Une analyse du contenu des réponses aux questions ouvertes a été réalisée.

Pour la deuxième partie de l’étude, des procédures statistiques similaires ont été utilisées pour l’analyse des données provenant du questionnaire administré seulement aux étudiants en TD. Les réponses ont été analysées pour chaque niveau d’année scolaire. Les renseignements obtenus grâce aux feuilles d’inscription, montrant de quelle façon l’espace d’apprentissage était utilisé, ont été tabulés et affichés sous forme de diagrammes à barres. Pour ce questionnaire, une analyse approfondie du contenu des réponses aux questions ouvertes a été nécessaire.

Les résultats ont indiqué qu’alors que les étudiants en ITHM avaient plus d’amis au collège, les étudiants en TD étaient plus enclins à développer des amitiés avec des étudiants de leur programme et qu’un plus grand nombre d’étudiants de troisième année en TD prévoyaient poursuivre ces relations après l’obtention de leur diplôme, comparativement aux étudiants en ITHM. Tant les étudiants que les membres du corps professoral en TD ont mentionné avoir des communications étudiants-enseignants plus fréquentes et que la méthode de communication la plus fréquemment utilisée était la communication directe. En ITHM, les étudiants se sentaient fortement liés à leur programme. En TD, le lien avec le programme était moins fort au début: par contre, les étudiants de troisième année avaient des liens beaucoup plus forts avec leur programme et l’institution que n’en avaient les
étudiants de même niveau en ITHM. Au fil du temps, le changement chez les étudiants de ce programme a donc été plus grand. Cette étude suggère que ces différences entre les programmes pourraient être attribuées à la présence de l’espace d’apprentissage en TD.

L’espace d’apprentissage était apprécié par la majorité des étudiants du programme de TD parce qu’il offrait un endroit pour manger, travailler, socialiser et se détendre entre les cours. Les étudiants ont mentionné que le fait d’avoir accès à cette salle leur permettait de se sentir plus à l’aise dans l’environnement du collège et d’avoir un sentiment d’appartenance envers le programme et envers l’institution. Compte tenu de l’emplacement central de la salle, les étudiants ont indiqué qu’ils voyaient fréquemment leurs enseignants et qu’ils pouvaient interagir plus souvent avec eux sans avoir à faire de détours ou à prendre un rendez-vous. Des recommandations, fondées sur cette étude, ont été faites concernant les ressources qui devraient être disponibles dans un espace réservé à un programme et les conditions qui s’y rattachent.

L’information tirée de cette étude ajoute à la connaissance des communautés d’apprentissage. Cette étude a également des répercussions sur l’allocation d’espaces pour les autres programmes de cégep. Enfin, les recommandations contenues dans cette étude pourraient permettre la planification et la création d’espaces multifonctionnels dans les communautés d’apprentissage pour améliorer l’expérience des étudiants.
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INTRODUCTION

According to social constructivist theorists, learning is an active and collaborative process in which cognitive growth is achieved through social interaction. However, learning does not just take place in the classroom. Current methods of teaching encourage students to work together in groups to complete course work, often outside of class time. Developments in information technology make different kinds of learning activities possible, particularly those that facilitate students’ finding information for themselves rather than being passive recipients of information from a teacher in a classroom setting.

Professional programs in the Quebec CEGEP system emphasize the development of skills and knowledge through a practical, hands-on approach which often includes collaboration and group projects, reflecting the current workplace environment. These programs are learning communities where students take courses in sequence and are often in the same classes together. Social connections with peers and sometimes faculty develop. Providing informal learning spaces where students can gather together to work and socialize may encourage the development of these social connections and increase opportunities for informal teaching and learning.

This research project compares two CEGEP programs that are learning communities in which one has access to a multipurpose learning space and the other does not. The study compares these two programs with respect to how students develop connections to other students, to faculty, to their program and the college.
CHAPTER ONE: RESEARCH PROBLEM

1. STATEMENT OF THE PROBLEM

Research has demonstrated that the use of learning communities at various levels of education leads to increased student retention and higher academic achievement. In addition the research suggests that students who belong to learning communities are more motivated and more involved with their peers. As a consequence some type of learning community model is offered to many first year students in the United States and Canada at both the college and university levels. There are a variety of different models in existence, from the simplest in which two or more courses are linked and the same students are enrolled together, to the most comprehensive, such as a Coordinated Studies Program (CSP), in which students participate in an integrated, interdisciplinary theme or program-related curriculum (Stassen, 2003). Common to all of these models are the opportunities provided for students to spend time with each other and to build social connections, research suggests that these connections have positive effects on academic outcomes.

At the CEGEP level, career-oriented professional programs provide learning community situations for students enrolled in first, second, and third year courses. The model of learning community offered in these programs closely follows Love and Tokuno’s (1999) definition as cited in Stassen (2003), in which students typically follow similar programs of study and are likely to be in some of the same classes together every day, usually with the same faculty team. Within these learning communities students not only learn together in class, but may also spend time with each other between classes, forming friendships and providing mutual academic and social support.
The Information and Library Technologies (ILT) program at John Abbott College in Ste-Anne-de-Bellevue is the only English language program of its kind offered in Quebec. This program prepares students for technical work in library and information management positions via a three-year "regular stream" program, in which students take courses in the ILT program as well as general education courses in English, French, Physical Education, and the Humanities. An intensive two-year program option is also available for students who have already completed a CEGEP diploma. Students in this "intensive stream" take only the courses offered within the ILT program. The physical space allocated to this department consists of one dedicated computer laboratory and a nearby classroom on the first floor of the "Hochelaga" building. In addition to this, students who are enrolled in the program are entitled to use a small multipurpose area with tables and a few computers. In this room students have access to a technician who provides technical, educational, and sometimes, emotional support. Within this informal learning space, Hochelaga, room 146 (HO-146), students may choose to study, socialize, eat, or receive tutoring from peers or faculty members, whose offices are accessed via an adjoining hallway (see ILT Department plan, Appendix A). A learning space may be defined as any space where learning can take place, including, but not limited to classrooms, faculty offices, student lounges, hallways, and cafeterias ("Denison University Learning Spaces Project," 2007).

The Publication Design and Hypermedia Technology (PDHT) department is a larger department than ILT. Graduates of PDHT typically find work in business in website creation, publication design, and graphic design. The space allotted to the PDHT department consists of three computer laboratories, each accommodating approximately 25 students. These are spread over two floors of the "Penfield" building. The department does not have access to a multipurpose space for students to use. Teachers’ offices are located together close to one of the computer laboratories. The technician assigned to this program is part of Information Technology Services rather than a member of the PDHT department. The position requires the
maintenance of the computer laboratories, but generally the technician has little direct contact with students in the program.

While research has shown that membership in a learning community encourages the development of greater connections between students and between students and faculty than in the wider college milieu, to date few studies have looked at how these connections are developed. How and at what rate are friendships made between students in learning communities? How do students access and build relationships with faculty? How do their feelings change towards their program during their time in a college? In exploring these questions, this study examines important aspects of the experience of students in learning communities in college professional programs. It is hoped that the information gained from this study will not only add to knowledge about learning communities, but may also enable conditions to be created within these communities that enhance the learning experience.

It has been noted through informal observation of the Information and Library Technologies Program that there may be a difference between the experience of students who use a multipurpose learning space (HO-146) regularly and those who do not, in regards to completion of the program and the level of academic achievement. The researcher is not currently aware of any studies that have been published on the effect that having access to a learning space may have on the development of connections in learning communities. This study therefore addresses how the physical set-up of a learning community affects the experience of students in professional programs at the CEGEP level. If access to a dedicated program space does enhance the experience of students, both socially and academically, it will be possible to make recommendations to other departments and to the College which could lead to a better learning environment for students and better rates of retention or program completion.
2. CONCEPTUAL FRAMEWORK

The constructivist approach to teaching includes the theory that people learn best by creating their own understanding of reality, through the use of existing knowledge, values, attributes, and experiences as filters to interpret a current experience in a way that makes sense to them (Snowman and Biehler, 2006).

John Dewey argues that learning takes place when students are involved in the learning through an interactive experience provided by a teacher acting as a facilitator (Janusik and Wolvin, 2007). Piaget suggests that meaningful learning occurs when people create new ideas or knowledge from existing information. He argues that greater cognitive development takes place through discussion with intellectual peers. Vygotsky, a social constructivist who emphasizes the importance of the social context for cognitive development, argues that cognitive development is aided by interactions both between students and more intellectually advanced adults, such as teachers. Vygotsky's "zone of proximal development" is probably his best-known concept. It maintains that students can, with help from adults or peers who are more advanced, master concepts and ideas that they cannot understand on their own (Snowman and Biehler, 2006).

The important connection between learning and social experience is also noted in Baxter Magolda's Model of Epistemological Reflection which was developed from a five-year longitudinal study of students at Miami University and is quoted in Zhao and Kuh's 2004 study. Baxter Magolda's model describes four stages of student development and for each stage she emphasizes the importance of interaction between students and teachers and the need for an active classroom environment that builds in peer collaboration (Baxter Magolda, 1992). Constructivist theorists agree on the interactive nature of knowledge acquisition and according to Engstrom, Santo and Yost (2008), these kinds of experiences are provided in a learning community.
Work with learning communities dates back to the 1920s when Alexander Meiklejohn experimented with a two year program at the University of Wisconsin. Learning communities began as an attempt to link courses around common themes in order to provide students with a more coherent learning environment in which both academic and social experiences could aid cognitive development (La Vine and Mitchell, 2006).

One of the most compelling and frequently cited theories behind the development of learning communities in colleges and universities is Astin’s theory of involvement. Astin’s principle states that students learn more when they are involved in both the academic and social aspects of the learning experience. An “involved” student is one who participates actively in both intellectual and social activities on campus, and interacts frequently and productively with faculty and peers (Astin, 1999). According to La Vine and Mitchell (2006), a study by Astin in 1985 found that “students in learning communities who interacted extensively with peers, faculty and staff, experienced positive student bonding, academic success and retention” (p. 60).

The positive effects of learning communities on success, retention, and personal development is also noted by Zhao and Kuh (2004), who argue that by incorporating active and collaborative learning activities that extend beyond the classroom, students are more likely to connect and develop an affinity with peers that may result in increased academic effort and outcomes.

A fundamental characteristic of learning communities is that courses are structured and sequenced to provide students with a more coherent learning experience. This results in students taking courses together. They have greater opportunities to discuss academic work and to construct knowledge through interaction with peers and faculty than students who are not part of learning communities. If an additional space is provided for students to spend time between
classes, would these students have more opportunities to develop academic and social connections than students in a program without access to a learning space? Would this lead to enhanced feelings of connection to their program and college?

The results of this study, with its focus on the role of a dedicated learning space in the social and academic experiences of students, may have important implications for both programs involved in the research. Faculty and students in PDHT would like an additional learning space for their program, and in ILT, an increasing enrolment may force changes to the present layout of the allocated space.
CHAPTER TWO: LITERATURE REVIEW

An examination of literature concerning learning communities raises several important issues. Most of the studies of the effects of learning communities have been conducted in the United States at the university level. Many different methods for collection of data were used from large scale surveys of multiple institutions to small, qualitative studies. The following are the main themes that arise from this examination.

1: EFFECT OF LEARNING COMMUNITIES ON ACADEMIC ACHIEVEMENT

The results of research studies on different models of learning communities conclude that their use leads to higher academic achievement. Alexander Astin is founding Director of the Higher Education Research Institute at UCLA and author of twenty books and more than three hundred articles on higher education. In his 1993 landmark publication “What Matters in College: Four Critical Years Revisited” he notes that despite advances in techniques of measurement of assessment reflecting student changes over time, “college grades continue to represent an important index of student accomplishment in college” (p. 187).

Gabelnick, MacGregor, Matthews, and Smith’s assessment of learning communities, published in 1990, provides an overview of their development and methods of implementation. In this extensive article they note that students in learning communities achieve higher Grade Point Averages (GPA) than those in control groups. In addition they report that faculty in learning communities themselves note the high level of student achievement and indicate that the spread of grades between poor students and high achievers in learning communities is much smaller than in regular courses. In Lenning and Ebbers (1999) comprehensive
publication entitled “The Powerful Potential of Learning Communities” the authors note that “well-designed learning communities emphasizing collaborative learning results in improved GPAs” (p. 63).

More recent research has also sought to evaluate the effect of learning communities by comparing the learning outcomes of students who have participated in learning communities to those who have not by looking at GPAs. Studies by Zhao and Kuh (2004) and Pasque (2005) both showed that participation in learning communities had a positive effect on academic achievement. Pasque’s study compared students in traditional residence halls with those in living learning communities, a type of residential learning community, and found a significant positive correlation between the living learning group and academic achievement. Zhao and Kuh (2004) and Stassen (2003) agree that the size and extent of involvement in learning communities does not seem a significant factor – any type of involvement in a learning community has a positive effect on academic achievement. Results from studies by Zhao and Kuh (2004) and Waldron and Yungbluth (2007) indicate that participation in a learning community for only the first semester at college or university has a positive effect on student achievement even up to two years later. An interesting aspect of these two studies is that they used very different methods of research to come to similar conclusions. The data source for Zhao and Kuh’s study was the National Survey of Student Engagement (NSSE), an annual survey of students, in which academic performance was determined through pre-college SAT scores and self-reported grades during college. The sample for this study was “comprised of 80,479 randomly selected first-year and senior students from 365 4-year colleges and universities who completed the NSSE survey in the spring of 2002” (Zhao and Kuh, 2004, p. 120). Waldron and Yungbluth’s longitudinal study used both qualitative and quantitative methods, comparing GPAs for learning community and non-learning community participants after the first semester, first year, and second year. The sample size for this study was much smaller, comprising a total of 251 students in their first year.
There is general agreement that membership in learning communities has a positive effect on academic achievement. Since both programs that are the focus of this study conform to a learning community model, a comparison of the academic performance of students in PDHT and ILT was not part of this project.

2. LINKING LEARNING COMMUNITIES TO COGNITIVE DEVELOPMENT

Several research studies have looked at the connection between cognitive development and participation in a learning community. Gabelnick et al. (1990) discuss the link between learning communities and intellectual development noting that while comparisons of grade point averages suggest a level of student performance, this is only one easily measured element that is part of the much more complex issue of student development. Referring to William Perry’s scheme of intellectual development, Gabelnick et al. propose that learning communities offer programs of study that are more intellectually complex and require students to create increased connections and meanings. They demand higher levels of participation and responsibility by students which may help them develop intellectually as well.

In a 1995 study on the influence of social interaction on cognition, Lundeberg and Moch attempt to explain why programs of study that involve cooperation and social interaction promote achievement. Based on the work of Vygotsky, they put forward the theory that “social interaction enhances thinking because individuals can learn to solve problems independently by first solving problems together with competent peers” (p. 314).

Studies by Smith (1991), Pike (1997), and Janusik and Wolvin (2007) all report that students in learning communities integrate learning more effectively due to intellectual interaction between students and faculty. An article by Browne and Minnick (2005) offers a more sceptical view of the connection between learning communities and intellectual growth. While agreeing that learning communities
certainly foster student satisfaction and increase persistence, they argue that intellectual growth is only achieved in learning communities that make this their priority. The results of their study did indicate that students perceived that the learning community experience promoted critical thinking ability and intellectual development, but the authors concluded that this was as a result of its fundamental goals.

However, an article by Tinto (2000) takes the more generally accepted view and argues that learning communities bring students together intellectually and socially "in ways that promote cognitive development" (p. 49).

3. EFFECT OF LEARNING COMMUNITIES ON MOTIVATION TO CONTINUE

According to Gabelnick et al. (1990), one of the major concerns in education is the issue of retention. A high proportion of students who enrol in college and university programs leave without earning a degree, with the highest withdrawal rate occurring during the first semester. This has a high cost for the institution in wasted resources, but also has important ramifications for the students themselves who may as a result be unprepared for the work force.

Learning community participation has been shown to have a significantly positive effect on persistence in college and university programs. Pascarella and Terenzini (1991) report on various studies undertaken by Astin and others in which completion of a program was positively influenced by environments with a high level of cohesion and concern for the individual student. Results of two parallel studies in 1994 by Tinto and Russo indicated that there was a higher rate of persistence from one semester to the next if students were involved in some kind of learning community. These longitudinal studies used both quantitative and qualitative methods, and focused on the academic and social experiences of college students.
Commenting on these studies, Minkler (2002) noted the significantly lower attrition rates of students enrolled in learning communities than in traditional courses. More recently longitudinal studies by Stassen (2003) and Waldron and Yungbluth (2007) also showed these lower attrition rates for students in learning communities.

A small study conducted by the Student Success Animator at John Abbott College in 2008 seems to support the above findings. The attrition rate in pre-university programs where courses are taken in sequence, but students are not part of learning communities, was 6.2% compared to 3.2% in professional programs between the Fall 2007 and Winter 2008 semesters (Haddad\textsuperscript{1}).

Gabelnick et al. (1990) argue that the increased likelihood of completion of a program is partly due to the strong social ties that accompany membership in a learning community.

4. EFFECT OF LEARNING COMMUNITIES ON CONNECTEDNESS TO PEERS, FACULTY, AND THE INSTITUTION

Researchers have explored the factors that contribute to gains in academic achievement and levels of persistence in learning communities. One of the most common findings has been that participation leads to an increase in academic and social connectedness. This could be defined as the sense of belonging which students feel towards their peers, faculty, program, and institution. While many studies have noted this link, few have looked at exactly how this benefits academic achievement and retention, but according to Astin (1993), the influence of the peer group is the single most important source of influence on the development of an individual. Furthermore, he argues that the extent of influence would be proportional to the individual’s frequency and intensity of affiliation or interaction with that group. “A

fuller appreciation of the potential of the peer group as a facilitator of the learning process could, I believe, serve to improve undergraduate education in all types of institutions” (p. 415).

Gabelnick et al. (1990) offer the basic premise that learning communities are created to restructure the curriculum to link courses in order to provide students with the opportunity to find greater connections between them. The authors also note that through increased personal contact, learning communities provide constant social support. In addition, the authors observe that faculty members in learning communities have more frequent contact with students. Teachers in learning communities get to know their students far better than in non-community models and are therefore able to respond to students’ work, progress, and problems differently.

In a study by Pike (1997) using the College Student Experiences Questionnaire (CSEQ) on the experience of students in residential learning communities in their first year at the University of Missouri, he concludes that students in residential learning communities experienced significantly higher levels of involvement and interaction than students living in residences who were not part of learning communities. These results indicate the important positive effect that out-of-class experiences can have on learning. However, it is worthy of note that this study was somewhat limited as it provided only a snap-shot of the 1996-1997 academic year at one institution. In the same study Pike also references the work of Pascarella and Terenzini (1991) who suggest that the perception of an enhanced college experience and cognitive gains are strongly related to students’ relationships with faculty and peers. Tinto and Russo’s (1994) studies report on the experience of students in a Coordinated Studies Program (CSP) concluding that a supportive community of peers provided important social support which led to increased exposure to academic support mechanisms. Students reported a learning experience that was “different from and richer than that with which they were typically
acquainted. They spoke not only of learning more, but also of enjoying learning more” (p. 16).

The important link between social and academic connections is also shown in a 1998 study by Maxwell investigating the impact of the creation of a supplemental learning community. The study found that students chose to study together outside class time without faculty involvement, thereby increasing social connections with other students and interactions around academic work.

In their extensive report on the importance of learning communities in higher education, Lenning and Ebbers (1999) conclude that involvement by students with peers and faculty both inside and outside the classroom affects academic achievement, educational goals, self-awareness, and development, as well as the rate of retention.

More recent studies by Lundberg (2001), Stassen (2003), and La Vine and Mitchell (2006) found that learning communities provide increased opportunities for students to connect with peers and faculty which enhanced the social life of students and may also enhance academic achievement. Martha Stassen’s longitudinal study of a random sample of approximately 800 learning community and non-learning community students, conducted over a two year period, concluded that even limited connectedness experienced within learning communities enhanced the academic performance, retention rates, and experience of students. She notes that students in learning communities are “significantly more likely to have contact with peers around academic work, engage in group projects, report positive academic behaviours, study more hours, perceive a positive learning environment, and have course assignments that require the integration of ideas” (2003, p. 602).

The important effects of learning experiences outside the classroom have been shown in studies by George Kuh and others. In a paper presented by Springer
(1994), he noted that peers and faculty play an important role in shaping the interest that students have in learning. 1993 and 1995 studies by Kuh found that the relationship with peers was a significant factor in the development of cognitive gains, social competence, self-esteem and autonomy. Again in a study by Zhao and Kuh in 2004, they suggest that by incorporating active and collaborative learning activities that extend beyond the classroom, students are more likely to connect and develop an affinity with peers which may result in increased academic effort and outcomes. In a study by Engstrom et al. in 2008, the authors offer the explanation that learning communities provide the opportunity for students to build knowledge through academic discussion, awareness of different perspectives, and the sharing of ideas with peers.

The effect of interaction between students and faculty has been studied extensively. According to Nadler and Nadler (2000), initially studies focused on the benefits of increased contact with faculty outside the classroom as a means of increasing student retention. Studies by Iverson, Pascarella, and Terenzini (1984), Pascarella and Terenzini (1991), Kuh and Hu (2001), and Halawah (2006), suggest that increased interactions with faculty have a positive influence on academic performance. In a study by Janusik and Wolvin in 2007 it was reported that students within learning communities self-reported that through increased interaction with faculty, their knowledge construction was enhanced. According to Cox and Orehovec (2007) even the most "fleeting" (p. 359) interactions outside of class time have a positive effect by helping students reduce feelings of anxiety and distance between themselves and their teachers. Moreover it is likely that these contacts lead to more meaningful interactions that may have a positive effect on performance, but most certainly help students feel themselves to be important members of their program or institution. Studies by Astin (1993 and 1999) and Kuh and Hu (2001) suggest that frequency of contact with faculty enhances student satisfaction with their educational experience.
There is, however, some disagreement on the extent of influence that increased connection and access to faculty within learning communities may provide. According to Kuh (1995), increased contact with faculty had a smaller impact on students, but did foster “feelings of self worth, particularly for women, and contributed to knowledge acquisition and the development of academic skills” (p. 146). Lundberg (2001) noted that adult students in particular showed increased learning gains through interaction with faculty; whilst in Stassen’s (2003) study none of the learning community models showed increased interaction with faculty and it was not considered necessary to achieve the goal of increased academic performance.

Authors of some studies have commented that membership in learning communities seems to increase students’ feeling of connection to their academic institution (La Vine and Mitchell, 2006; Lundberg, 2001; Zhao and Kuh, 2004). In the parallel studies by Tinto and Russo (1994) they noted how students in CSPs express more positive views of the institution, as well as the program, its faculty, courses, and peers.

The literature on learning communities prepares the terrain for this study. It has been observed that academic grades, retention, and motivation are increased when students are part of a learning community and that connections between students and between students and faculty play an important role in the success of learning communities. However, to date little or no research has been published concerning how students develop a sense of connection to each other, to faculty, to their program, and to the institution. This research project adds to the literature on learning communities in this relatively unexplored area.

5. METHODOLOGY USED IN RESEARCH ON LEARNING COMMUNITIES

Methods of data collection for this study have been influenced by those used by authors of studies included in the review of literature, particularly by those that
concentrate on social connectedness. A wide variety of methods have been employed, from large scale surveys such as the NSSE and CSEQ used by Pike (1997), Lundberg (2001), Zhao and Kuh (2004), and La Vine and Mitchell (2006), which provide quantitative data from large groups of students, to small qualitative only methods such as interviews and observation used by Kuh (1993), Tinto and Russo (1994), and Engstrom et al. (2008). Many studies focus only on the experience of students in their first semester in learning communities, but more recent research has taken a longitudinal approach such as those used by Stassen (2003), and Waldron and Yungbluth (2007). The work of Waldron and Yungbluth in particular has influenced the methodology chosen for the current research. Their study takes a quantitative and qualitative approach using semi-structured questionnaires and targets learning community and non-learning community students after their first semester, and first and second years. The current research study gathered both quantitative and qualitative data using semi-structured questionnaires and has attempted to recreate Waldron and Yungbluth's longitudinal approach by targeting students who are at different stages of completion of the program.

6. RESEARCH QUESTIONS

Constructivist theorists agree that learning is enhanced in an interactive environment. Learning communities provide interactive experiences and research has shown that students enrolled in some kind of learning community model, from the most simple featuring linked courses to the most integrated such as a CSP, experience higher academic averages, and are more likely to complete their program of study. Learning communities promote a sense of belonging to the institution and program through the feelings of connectedness that students develop due to increased interactions with peers and faculty. Furthermore, there is evidence that better integration of learning occurs when students synthesize the intellectual content of courses through interaction. This research study aimed to contribute to the current literature on learning communities by providing information on how students develop
connections to peers, faculty, their program, and institution and documenting the pace at which this happens. None of the research to date has examined how the availability to students of a designated learning space may affect the quality and pace of development of the social and academic connections in learning communities. If more is known about how the physical set up of a program affects students, this can be taken into account in the planning process for new construction or renovation and students will benefit from the changes. Therefore, this study sought to answer the following research questions:

1. Is there a difference in how and at what rate students develop connections to each other, to faculty, to the program, and to the institution between a learning community with a dedicated learning space and one without access to such a space?

2. How is the learning space used, and what is its impact on students’ experiences of the learning community?
CHAPTER THREE: METHODOLOGY

1. DESIGN

The first part of this research study was designed to answer the first research question and compared two professional CEGEP programs that are both learning communities. It addressed whether there was a difference in the rate of development of a feeling of connections by students to other students and to faculty, where one program had access to a dedicated learning space and the other did not. The extent of students’ feelings of attachment to their program and to the College was also explored. The second part of this research addressed the second research question and focused on the impact of the learning space in the one program with access to such a space, firstly to determine how much and for what purposes it was used by students and secondly, how its use affected their experiences of the learning community.

Students enrolled in Information and Library Technologies and Publication Design and Hypermedia Technology programs participated in the study. Students in ILT have access to a dedicated learning space that is not a classroom, while students in PDHT only have access to classrooms that are computer laboratories, with no additional dedicated learning space.

The design chosen for the comparative part of the study was a cross-sectional mixed methods approach that provided a “snapshot” of how social and academic connections were made in the ILT and PDHT programs. By using students who were in their first, third, and fifth semester of the program, this research study was able to gather data from a majority of students in both programs. In this way the data gathered reflected the connections between students at multiple points during the time spent in a professional program.
Questionnaires were chosen as the primary method of gathering as much data as possible in a short period of time. Two questionnaires were developed by the researcher since no standard surveys addressing the specific focus of this study were available.

To answer the first research question concerning how and at what rate students develop connections in both programs, two data sources were used. The main questionnaire – henceforth called the “general questionnaire” was completed by students in both programs (Appendix B). Faculty in both programs were asked to keep a record of visits by students to their offices for specified weeks during the semester (Appendix C). In this way they provided quantitative data on contact between students and faculty which was used to provide triangulation with the qualitative and quantitative data provided on the general questionnaire (Gay, Mills and Airasian, 2009, p. 463).

To answer the second research question concerning the use and impact of the learning space in ILT, two other data sources were used. The second questionnaire, the ILT questionnaire, was completed by students in first, third, or fifth semester in ILT (Appendix D). Additionally, students in the ILT program were requested to “sign in” to the learning space, HO-146, each time they used it for anything other than passing through to see a teacher or to attend a class in the computer lab. These “sign-in sheets” became a source of quantitative data for the second research question concerning the use of the learning space (Appendix E).

It was originally planned that participant observation of students in the learning space, HO-146, would be undertaken by ILT technicians and the researcher. It was hoped that observations made by the researcher would provide additional information concerning students’ body language, or how the nature of conversations developed and changed. However, it proved to be too difficult to complete this aspect.
of the study. The technicians perform many duties in the department and it was not possible for them to spend much time observing the students. The researcher was not able to sit in the learning space without being involved in conversations with students, making it difficult to take notes. After a few attempts, this portion of the study was abandoned.

2. DESCRIPTION OF THE POPULATION AND SAMPLE

Students in two professional CEGEP programs, ILT and PDHT, who were enrolled in specified first, third, and fifth semester courses were asked to participate in the study. These semesters were chosen because they represent all stages of completion of both programs. The sample comprised a total of 154 students from the two programs, 46 from ILT and 108 from PDHT. Students in the ILT program who were enrolled in Automation and Documentation I (1st semester), Physical Processing and Preservation (3rd semester), and Computerization and Documentation (5th semester) during the Fall 2009 semester were invited to complete both the general questionnaire as well as the ILT questionnaire on their use of the learning space. 46 ILT students completed the general questionnaire and this involved the majority of students enrolled in the Information and Library Technologies program, including a small number of students who only take program-related courses. These courses were selected because they were taught by the researcher and covered all three course years. Students were considered to be either first, second, or third year students depending on the courses in which they were enrolled. Students taking only ILT courses are sometimes enrolled in both Automation and Documentation I, a first semester course, as well as Physical Processing and Preservation, considered a third semester course for students completing the program in three years. The seven students in this situation were counted as belonging to the first year group.

Students enrolled in PDHT take classes as part of one of two sections. Students in both sections of Typography and Design, a first semester course, Book
Design (3rd semester), and Web Design IV (5th semester) were invited to complete the general questionnaire only. Of the 108 PDHT students who consented, 34 students were enrolled in Typography and Design, 43 students were enrolled in Book Design, and 31 were enrolled in Web Design IV. These courses were selected based on the willingness of the faculty to participate in the study and to allocate time in their classes for students to complete the questionnaires.

A total of 44 students took part in the second questionnaire which was given to ILT students only. These students were enrolled in the same three courses taught by the researcher and therefore represented all levels of completion of the program. A small number of out-of-pattern students who were not enrolled in any of these courses were also invited to take part in the study if they wished. These students were considered as fifth semester students, since they had been in the program longer.

3. METHOD OF RECRUITMENT OF PARTICIPANTS

Students who were registered in the courses listed above were invited by their teachers in PDHT or by the technicians in ILT to take part in this research study. Consent forms were issued and the completed forms were returned to the ILT technicians, who kept them in a secure location until final grades had been submitted for the courses taught by the researcher (see Appendix F).

Students were informed that their responses would be kept confidential, that their cooperation was voluntary, and that they had the right to decline to participate in the study or to discontinue at any time. Students were assured that this would not affect their standing in any of their courses or their program.

ILT students were requested by the technicians to use the sign-in sheets when they spent any time in the dedicated learning space. These sheets were collected
daily and held by the technicians in a secure location until after final grades were submitted at the end of the semester.

4. DATA COLLECTION AND INSTRUMENTATION

The general questionnaire was distributed to participating 1st, 3rd, and 5th semester students in both programs during week nine of the fifteen week semester. This questionnaire (Appendix B) took between 45 minutes and an hour and 15 minutes to complete and consisted of multiple choice and open-ended questions, providing opportunities for structured and unstructured responses. It was designed to address the first research question and to provide data for a comparison between programs focusing on some of the themes identified as central in the review of the literature on learning communities. In particular it addressed those dealing with students' feelings of connection to other students, to faculty, to their program, and the institution. Students were also asked to comment on their motivation to continue in their program, as well as where they spent time when not in class.

The second questionnaire was distributed to ILT students registered in Automation and Documentation I, Physical Processing and Preservation, and Computerization and Documentation. This questionnaire was distributed during class time by the technicians in week thirteen of the semester, and focused on students' use of the physical learning space and the impact that the space may have had on their experience of college life (Appendix D). The ILT questionnaire took between 30 minutes and one hour to complete.

Both instruments were tested on a small group of students to ensure some measure of validity. The general questionnaire was completed by two CEGEP graduates and a student who was at that time enrolled at John Abbott College, but was not in either of the programs that were the focus of the study. The ILT specific questionnaire was completed by three recent graduates of that program. Answers and
comments were analyzed and small changes were made as necessary. The time taken to complete each questionnaire was also verified. Teachers in both programs allocated time in class for completion of the questionnaires, thereby reducing the possibility of a low response rate and need for follow up that is usually experienced with survey research (Tuckman, 1994).

Faculty in both programs agreed to track the frequency, duration, and nature of visits of students to their offices. Weeks were selected at the beginning, mid-point, and near the end of the semester. Faculty were requested to complete “Faculty Office Visit” tracking sheets (Appendix C) for a total of three weeks. Training was provided by the researcher, and suggestions of possible categories for nature of visits were given such as workload, assignment-related, missed work due to absence, personal, etc. This method provided fairly reliable data on the amount of contact between students and teachers outside of class time.

Participating students in ILT were asked to monitor their use of the learning space, HO-146, for a period of eleven weeks of the semester, from week 3 to week 13, via a sign-in sheet (Appendix E). Students were asked to note down the approximate amount of time spent in the room as well as their main activities. Space was provided on the sheets to record two activities each time, for example, working on an assignment and eating lunch. The ILT technicians explained to students how to complete the sheets and suggested possible categories of activities, such as study, group work, social, eating, etc. New sheets were set out daily. This method of collecting information enabled students to “self report” their use of the learning space, providing quantitative data which ensured some measure of reliability when compared to the survey data that was gathered. However, there are some limitations in gathering data in this way; for example, students may sometimes have forgotten to sign in, or may not have reported fully what they were actually doing.
5. PROTECTION OF HUMAN SUBJECTS

Approval of this research study was received early in the Fall 2009 semester from the Innovation, Research and Development Committee at John Abbott College. The application included a summary of the design and sample procedure together with the signature of approval by Margaret Leech, Dean of Technologies, with responsibilities for both programs under study. The application also included copies of all instruments and the consent form.

In order to ensure anonymity of students to the researcher during the data collection process and confidentiality of information after final grades were submitted, all student questionnaires or forms containing identification numbers or names were provided with a unique code by independent facilitators, and the code key was kept locked in filing cabinets and not available to the researcher. All data gathered during the study were also locked in the same cabinets.

6. DATA ANALYSIS

To answer the first research question responses from the general questionnaire were analyzed to compare differences between programs and differences between course year level by program. The faculty tracking sheets provided data on differences between the programs concerning frequency and nature of visits by students to teachers’ offices. For the second research question, analysis of the sign-in sheets completed by students in ILT provided the data for type and frequency of use of the learning space. Data gathered from the ILT questionnaire were analyzed by course year level and focused on how students used the learning space as well as on how the learning space affected students’ experience of the program.
6.1 Quantitative Data

A variety of analysis techniques and methods of display were employed for this study. Categorical data were displayed using frequency tables and bar graphs. Box plots were used to illustrate the differences in distribution of friendships between students in the two programs. Contingency tables were used to display the relative frequencies of the responses of categorical data between the two programs and between students in the different course years. Chi square tests of independence were used to investigate whether the observed associations of the variables, such as connections to other students and faculty between programs and course levels, were statistically significant. Mann-Whitney U tests were used to compare ranked data where appropriate.

6.2 Qualitative Data

Extensive content analyses of responses to open-ended questions were required to examine students' perceptions of their connections to each other, to their teachers, and to the program and College. The second questionnaire, completed by ILT students, required them to provide unstructured responses concerning how they used the learning space and how they perceived that it affected their experience at the college. The goal of this examination was to construct meaning by identifying themes and patterns that emerged from the data analysis process.

Answers to questions were coded on initial reading for positive or negative perceptions. Sometimes these questions were in two parts, requiring a "yes" or "no" answer and then an explanation, and sometimes positive or negative ratings were applied to the answer given by the student. From a second reading of each response, words conveying similar feelings or themes were identified. Categories were created based on these themes and responses were coded accordingly. Third and fourth readings of the responses were required to identify additional minor themes and
instances of use of particular words by students to describe situations or feelings. Codes and comments were transcribed into Microsoft Excel spreadsheets by question number. Full answers were transcribed into Microsoft Word. The number of times a code was applied to each question was counted and totals were recorded in the spreadsheets. This technique for content analysis is described in “Social Research: A Simple Guide” by Morley Glicken, (2003).

The intent of this analysis was to give “priority to the voices of the participants” (Kirby and McKenna, p. 21) in this study. An essential element of the analysis technique therefore was to allow the themes that emerged from the students’ own comments to become the basis of the coding and interpretation of the data.

The variety of methods of data collection and analysis provided a more complex and complete picture of the experience of students in these learning communities.
CHAPTER FOUR: PRESENTATION AND INTERPRETATION OF RESULTS

1. RESEARCH QUESTION 1

Is there a difference in how and at what rate students develop connections to each other, to faculty, to the program, and to the institution between a learning community with a dedicated learning space and one without access to such a space?

Findings in this section represent the results of analysis of the general questionnaire that was administered to students in both Publication Design and Hypermedia Technology and Information and Library Technologies (Appendix B).

The questionnaire addressed a number of aspects concerning how students experienced college life outside the classroom, specifically, who they spent time with and where they spent time between classes. It focused on how much contact they had with other students from their program and with their teachers. Finally participants were asked to comment on their level of connection to their program and to the College.

Statistical tests were conducted where appropriate and open-ended questions were analyzed using content analysis techniques as described in the methodology section. Comparisons were made with respect to program, and by course year within the programs, in an attempt to provide information on how feelings of connection developed as students progressed through their courses. In an effort to add to the research literature on learning communities in CEGEPs, both statistically significant and some non-significant but important differences have been reported.
1.1 Demographic Features of the Sample

A total of 154 students completed the general questionnaire, 108 from PDHT and 46 from ILT. This sample encompassed students in two professional programs enrolled in first, third, and fifth semester courses offered in Fall 2009 at John Abbott College. The sample represents 68.3% of PDHT students enrolled in the program and 79.3% of ILT students, therefore providing a good representation of the population of both programs. The questionnaires were distributed in courses in each of the three years of both programs and students were given time in class to complete them. It is probable that a smaller percentage of questionnaires were received by the researcher from PDHT students because parental consent to participate in the study was required for a greater number of students who were under 18 years of age, and these were not always returned by the students.

<table>
<thead>
<tr>
<th>Program</th>
<th>Course Year</th>
<th>Average Age</th>
<th>Age Range</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDHT</td>
<td>Year 1 = 34</td>
<td>19</td>
<td>19 or under = 65</td>
<td>Female = 55</td>
</tr>
<tr>
<td>(n = 108)</td>
<td>Year 2 = 43</td>
<td>21</td>
<td>20 - 29 = 38</td>
<td>Male = 53</td>
</tr>
<tr>
<td></td>
<td>Year 3 = 31</td>
<td>21</td>
<td>30 + = 5</td>
<td></td>
</tr>
<tr>
<td>ILT</td>
<td>Year 1 = 21</td>
<td>31</td>
<td>19 or under = 6</td>
<td>Female = 39</td>
</tr>
<tr>
<td>(n = 46)</td>
<td>Year 2 = 8</td>
<td>33</td>
<td>20 - 29 = 14</td>
<td>Male = 7</td>
</tr>
<tr>
<td></td>
<td>Year 3 = 17</td>
<td>30</td>
<td>30 + = 26</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows the breakdown of students in PDHT and ILT who took part in the research project. It should be noted that the populations of the programs are quite different. The proportion of male to female students is much closer to being equal in PDHT. In ILT more than 50% of the participants in the study are aged over thirty. Originally it was hoped that analysis of differences between programs would include
comparisons by age and gender, but due to the demographic differences, this was not possible.

Some students in ILT complete the program in two years because they have already received a CEGEP diploma or have other post secondary education and are therefore not required to take general education courses in English, French, Humanities, and Physical Education. These students (n = 7) were enrolled in both Automation and Documentation I (a first year course) and Physical Processing and Preservation (a second year course). They were therefore categorized as first year students as they were experiencing this professional program for the first time.

1.2 Connections to Other Students

Several questions concerning participants' connections to other students were included in the questionnaire.

Table 2
Connections to Other Students by Program

<table>
<thead>
<tr>
<th>Connections to Students Differences between Programs</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who do you spend time with at the College?</td>
<td>Students in program</td>
<td>54.6%</td>
</tr>
<tr>
<td></td>
<td>Friends from high school</td>
<td>13.9%</td>
</tr>
<tr>
<td>What percentage of your friends are in your program?</td>
<td>All or more than 75%</td>
<td>30.6%</td>
</tr>
<tr>
<td>Do you see friends from your program outside of the College?</td>
<td>Yes</td>
<td>72.2%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>27.8%</td>
</tr>
<tr>
<td>Will you spend time with program students after completing diploma?</td>
<td>Yes</td>
<td>69.4%</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>25.0%</td>
</tr>
<tr>
<td></td>
<td>Maybe</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

* Chi square value = 14.3, 3df, p < .01
The results of quantitative analysis of the differences between the programs are presented in Table 2. Students in ILT spent more time with others from their program. The difference between the programs is statistically significant. Students were asked to estimate the number of people that they considered to be friends at the College. Again statistically significant differences were found between the programs. 59.2% of PDHT students responded that they had eleven or more friends, compared to only 19.5% of ILT students. The responses were tabulated on a scale of 0 to 5 (0 indicating no friends and 5 indicating 21 or more). When the responses were analyzed by course year, no significant changes were found; students in PDHT continued to have more friends throughout the College than students in ILT.

![Figure 1: Percentage of Friends in Program](image)

When students were asked to estimate the percentage of friends that were in their own programs, a far larger percentage of students in ILT responded that all or
more than 75% of their friends are in their program compared to PDHT. This difference between the two programs is illustrated in Figure 1 with box plots. The distributions of the responses (on a six point Likert scale where “1” denotes “no friends” and “6” denotes “all friends”) show that the spread of the Interquartile range is much smaller in ILT and the median is very much higher. The single data point outside the main distribution may be attributed to a specific living arrangement for one student.

Table 3
Connections to Other Students by Course Year within Program

<table>
<thead>
<tr>
<th>Connections to Students By Course Year</th>
<th>Course Year</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the people I spend time with at the College are within the program</td>
<td>1</td>
<td>41.2%</td>
<td>85.7%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>53.5%</td>
<td>75.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>71.0%</td>
<td>88.2%</td>
</tr>
<tr>
<td>All or more than 75% of friends are within the program</td>
<td>1</td>
<td>26.5%</td>
<td>71.4%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>25.6%</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>41.9%</td>
<td>88.2%</td>
</tr>
<tr>
<td>See friends from the program outside of the College</td>
<td>1</td>
<td>50.0%*</td>
<td>23.8%**</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>86.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>77.4%</td>
<td>88.2%</td>
</tr>
<tr>
<td>Anticipate seeing friends from the program after graduation</td>
<td>1</td>
<td>70.6%</td>
<td>54.2%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>62.8%</td>
<td>75.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>77.4%</td>
<td>82.4%</td>
</tr>
</tbody>
</table>

* Chi square value = 12.9, 2df, p<.01
** Chi square value = 17.2, 2df, p<.001

Results of analysis of the same questions concerning connections to other students by course year are presented in Table 3.

It can be seen from Tables 2 and 3 that students in ILT are much more likely to spend time with students in their own program from their first year and throughout
their time in the program. As students in PDHT progress from first to second to third year, the amount of time they spend with students from their own program increases.

As an indicator of the level of friendships that develops between students, respondents were asked whether they spent time with friends from their program outside John Abbott College, i.e. in their free time. A lower percentage of students overall in ILT indicated that they do this compared to students in PDHT. But when the results were analyzed between programs by course year, interesting and statistically significant differences were found. Initially more students in PDHT spent time with students from their program outside the College compared to first year students in ILT, but by third year, a higher percentage of students in ILT saw others from their program outside the College. This suggests that, as would be expected, friendships became stronger as students spent time together in a three year program, but the change over time was greater for students in the ILT program. Similar results were found in ILT when students were asked if they anticipated meeting students from their program after graduation. A lower percentage of students in ILT than PDHT initially thought that they would meet friends from their program after graduation, but by third year, the frequency not only increased, but was greater than third year students in PDHT. Again, this suggests that friendships became stronger or more important to students as they progressed through the ILT program.

When asked why they felt they would or would not see people from their program after graduation, a majority of students in both programs indicated positive responses that expressed the feeling that they would continue to see friends after their time at John Abbott ended (PDHT 132 positive comments to 31 negative, and ILT, 74 positive comments to 14 negative). In fact the reasons that they expressed were very similar. For example, students in both programs noted that they felt that they had made true or good friends in their program and that they would continue to see these friends after graduation (PDHT n = 54, ILT n = 26). A second year PDHT student summed up this feeling well commenting: “I've built friendships that will last, I make
it a personal goal to stay in touch with people I'm friends with. I would hate to lose these friendships” (#65).

In addition, many students noted that there was a difference between acquaintances and real friendships, and they thought it probable that they would stay friends with the “true” friends after graduation (PDHT n = 17, ILT n = 6). The most common reason given for not meeting after graduation was because they anticipated moving away or out of the province.

1.3 Connections to Faculty

Students were asked to report on the nature and frequency of contact with teachers in their program. Several questions were included in the questionnaire to provide an accurate picture of how, where, how often, and why students talk to teachers. A summary of the results is presented in the following tables.

Table 4
Connections to Faculty by Program

<table>
<thead>
<tr>
<th>Differences between Programs</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you know where</td>
<td></td>
<td></td>
</tr>
<tr>
<td>program teachers' offices</td>
<td>Yes</td>
<td>92.7%</td>
</tr>
<tr>
<td>are located?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How many program teachers</td>
<td>None</td>
<td>55.2%</td>
</tr>
<tr>
<td>do you see on a regular day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>outside class time?</td>
<td>1–2</td>
<td>34.3%</td>
</tr>
<tr>
<td>How do you usually</td>
<td>Majority face-to-face</td>
<td>27.8%</td>
</tr>
<tr>
<td>communicate with teachers?</td>
<td>Majority electronically</td>
<td>36.1%</td>
</tr>
<tr>
<td>How often do you visit</td>
<td>Once a week or more</td>
<td>18.9%</td>
</tr>
<tr>
<td>teachers' offices?</td>
<td>Rarely</td>
<td>42.5%</td>
</tr>
<tr>
<td>Do you ever seek out a</td>
<td>Yes</td>
<td>18.9%</td>
</tr>
<tr>
<td>teacher to talk about</td>
<td>No</td>
<td>81.1%</td>
</tr>
<tr>
<td>personal matters?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Statistically significant differences (Mann-Whitney-U)
Table 4 shows the differences between programs concerning contact between students and teachers. The responses to the question on how many program teachers students saw informally, on a regular day outside class time, were tabulated on a scale of 0 to 4 (0 indicating none and 4 indicating more than six). Students' responses to the question on how they usually communicated with teachers were tabulated on a scale of 1 to 3 (1 indicating majority face-to-face contact, 2 indicating majority electronically, and 3 indicating equal use of both methods). Responses to how often students visited teachers in their offices were tabulated on a scale of 1 to 5 (1 indicating more than once a week and 5 indicating never).

Despite similar results concerning students' knowledge of where their teachers' offices were located, students in ILT reported seeing more teachers on a regular day than students in PDHT. This difference between the programs was statistically significant. It is probable that ILT students see their teachers more often outside class time because of the physical arrangement of the learning space with respect to teachers' offices in ILT. The layout in ILT is conducive to students seeing their teachers who must walk through the learning space (HO-146) to enter their offices and to go to the classrooms to teach (see ILT Department plan, Appendix A). The convenience of the location of the teachers' offices in ILT may also be the reason that students reported visiting their teachers more often. The difference between the programs was statistically significant. Simply having teachers close by and accessible when students are working, and perhaps having difficulties, may contribute to the increased frequency of visits.

An interesting and statistically significant difference was found when students reported on their methods of communication with teachers. Students in PDHT are much more likely to use electronic means to contact their program teachers — either by e-mail or through the College's internal e-mail system. This may be a result of the nature of the PDHT program. Students work almost exclusively with technology in this program and it could therefore just be a matter of convenience that
students use electronic means to ask questions about assignments, etc. However, the ILT program also contains many courses that require use of technology starting with courses in the first semester. Students in ILT are also encouraged to inform teachers of anticipated absence from classes and electronic means are often used for this.

No significant differences were found between programs concerning visiting teachers in their offices to talk about personal matters. Indeed, students in both programs indicated similar reasons for visiting teachers in their offices. The fact that students approach teachers more frequently in ILT does not seem to change the nature of the student-faculty relationship to a more personal one. Generally the main reasons given for visiting teachers by students in both programs were to discuss assignments, projects, or class work. The next most frequently cited reason was to ask about tests. Some students in both programs (15 in PDHT and 5 in ILT) noted that they may just go for a social chat with teachers, but expressed it in different ways, for example, “just to say hi” or “to chat” etc. In PDHT one student noted that they find USB keys and give them to the teacher, and another noted that they go to the teacher’s office to pick up USB keys that they have lost. Apparently this is a fairly frequent occurrence.
Table 5
Connections to Faculty by Course Year within Program

<table>
<thead>
<tr>
<th>Connections to Faculty Differences by Course Year</th>
<th>Course Year</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students know where program teachers' offices are located?</td>
<td>1</td>
<td>85.3%</td>
<td>95.2%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>93.0%</td>
<td>97.5%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>See one to two teachers on a regular day outside class time?</td>
<td>1</td>
<td>26.5%</td>
<td>47.6%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>34.9%</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>38.7%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Most often communicate with teachers face-to-face</td>
<td>1</td>
<td>14.7%</td>
<td>52.4%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>37.2%</td>
<td>50.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>29.0%</td>
<td>88.2%</td>
</tr>
<tr>
<td>Visit teachers' offices once a week or more</td>
<td>1</td>
<td>11.8%</td>
<td>28.5%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>16.3%</td>
<td>75.0%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>29.1%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Seek out a teacher to talk about personal matters?</td>
<td>1</td>
<td>17.6%</td>
<td>14.3%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>23.3%</td>
<td>37.5%</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>12.9%</td>
<td>23.5%</td>
</tr>
</tbody>
</table>

Table 5 shows the results of analysis of connections to faculty by course year. The statistical analysis examined the changes between the years, but did not make a comparison between the programs. There were no differences between the course years that achieved statistical significance. However, some of the changes between the years showed interesting trends.

The frequency with which students saw their program teachers increased as they progressed through the program. There was a lower frequency noted by students in second year ILT courses. The small number of students in this group (n = 8) may be a factor in this anomaly. However, it should also be noted that first year students
usually take more general education courses away from the vicinity of the department and therefore would see teachers less often as a result. Analysis by course year also shows that the frequency of visits to offices generally increased as students moved through the program (again the second year students in ILT provide an interesting anomaly, but again this may be explained by the small number of students in this group). Simply having teachers close by and accessible when students are working, and perhaps having difficulties, may contribute to the increased frequency of visits. It would be expected that students feel more comfortable approaching their teachers after being taught by them for a while and that the course work becomes more difficult which means that students are more likely to need to see teachers for further explanation of course material.

With respect to methods of communication with teachers, results of analysis by year level in each program were interesting, but not statistically significant between the years. In ILT, the most commonly used method of communication with teachers was always face-to-face whereas in PDHT, face-to-face communication was never the most frequently used method. Once again it is possible to suggest that the proximity of the teachers’ offices to the place where students gather is a contributing factor to the frequency of face-to-face contact between students and teachers in ILT.

1.4 Connections to Faculty as Reported by Teachers’ Recording of Visits by Students to their Offices

Six teachers in the ILT program agreed to track the number of visits by students to their offices during the assigned weeks near the beginning, middle, and end of the Fall 2009 semester. However, the majority of these teachers are part-time instructors and in order to examine differences between the programs under similar conditions, the researcher chose to analyze only the results collected from both department chairpersons and one other full-time instructor in each program.
Table 6
Number of Visits to Teachers' Offices as Tracked by Faculty

<table>
<thead>
<tr>
<th>Week Fall 2009</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairperson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept. 14–18</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Oct. 19–25</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Nov. 16–20</td>
<td>7</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>75</td>
</tr>
</tbody>
</table>

| Full-time teacher |       |     |
| Sept. 14–18      | 6     | 9   |
| Oct. 19–25       | 1     | 14  |
| Nov. 16–20       | 0     | 11  |
| Total            | 7     | 34  |

Table 6 shows the differences between programs concerning the number of visits by students to the offices of faculty in their program. Results indicate that many more students visited the office of CJ (ILT Chairperson) than JH (PDHT Chairperson) during the 3 separate weeks that teachers kept track of students visiting their offices. This difference was particularly revealing when the disparity between the total numbers of students in each program is considered. Similar reasons for students’ visits were noted by both chairpersons. These included subjects related to the duties of the chair such as program and course changes, pre-registration, etc. In addition, the chairperson of ILT noted many visits were course-related dealing with questions about projects, homework, and a comprehensive assessment. Both department chairpersons also have teaching responsibilities, but the Chairperson of PDHT was teaching a first semester course and so it is possible that fewer of those students visited her office because they did not yet feel comfortable approaching teachers outside the classroom. The full-time teacher in ILT also reported many more visits by students over the three week tracking period than the number recorded by the full-time teacher in PDHT, but all questions received by both teachers were course-related. Students tend to visit the offices of faculty members who are teaching
them that particular semester. Both full-time faculty members taught third and fifth semester courses.

1.5 Connections to Program and the College

Table 7
Connections to Program and College

<table>
<thead>
<tr>
<th>Connections to Program and College Differences between Programs</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you feel a sense of connection to this program?</td>
<td>Yes</td>
<td>91.7%</td>
</tr>
<tr>
<td>Do you feel a sense of connection to this College?</td>
<td>Yes</td>
<td>64.0%</td>
</tr>
</tbody>
</table>

Table 8
Connections to Program and College by Course Year

<table>
<thead>
<tr>
<th>Connections to Program and College Differences by course year</th>
<th>PDHT</th>
<th>ILT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students do feel a sense of connection to this program?</td>
<td>Year 1</td>
<td>94.1%</td>
</tr>
<tr>
<td></td>
<td>Year 2</td>
<td>88.4%</td>
</tr>
<tr>
<td></td>
<td>Year 3</td>
<td>93.5%</td>
</tr>
<tr>
<td>Students do feel a sense of connection to this College?</td>
<td>Year 1</td>
<td>70.5%</td>
</tr>
<tr>
<td></td>
<td>Year 2</td>
<td>58.1%</td>
</tr>
<tr>
<td></td>
<td>Year 3</td>
<td>58.0%</td>
</tr>
</tbody>
</table>

Tables 7 and 8 above summarize the results of questions asked concerning students feeling of connection to their program and the College. Generally students felt more connected to their program than to the College itself, but there were no statistically significant differences between the programs. Some students noted that
this was either because of the amount of time they spent in the areas of the
departments rather than in more general activities offered by the College. A first year
student in ILT commented: “I feel more of a connection to the department as opposed
to the school. I never realized this until I had to answer this question” (#115).

A higher proportion of students in ILT indicated that they did not belong in
the program compared to PDHT (15.2% in ILT compared to 4.6% in PDHT). This
may be explained by the nature of the ILT program. Students’ expectations are
sometimes quite different from the reality of the work and a number of students
decide that it will not suit them and generally leave the program during or at the end
of the first semester. It is possible that students in PDHT are more aware of what will
be involved in their courses and have chosen this field of study because they enjoy it.

There does not seem to be a discernable pattern in these results when
analyzed by year level. One would assume that feelings of connection to both the
program and College would increase as students spent more time at John Abbott, yet
this does not seem to be the case. However, students in ILT in their third year did feel
a greater sense of connection to the College than PDHT students in the same year
level.

Students were asked to comment why they felt this way about the College. A
few students noted that it takes time for a feeling of connection to grow and four ILT
students expressed that in all likelihood they would form this connection given more
time. Other students commented that they had been at the College for a long time,
either completing programs consecutively or returning to complete a second diploma
after some intervening years, (ten students in PDHT and six in ILT) and so their
feeling of connection was quite strong. Students in both programs noted that the
beautiful campus and setting of the College was a factor in the development of a
feeling of connection (seven students in PDHT and five in ILT). A third year ILT
student commented: “I loved it on sight” (#141).
The welcoming nature and friendly atmosphere of the College was also noted by students in both programs as positive factors in creating the feeling of connection. Fourteen students in PDHT and four in ILT commented on this. The fact that friends attended or that good friendships have been made was also noted by students as contributing to their feeling of belonging. There also seems to be a generational quality that contributes to this feeling. Two students in each of the programs noted that their siblings, parents and children either used to attend or would likely do so in the future. A second year student in PDHT noted that they had “grown up around it” (#65).

Good teachers and good services contributed to the feeling of connection. One first year student in PDHT noted that: “Teachers remember faces, names and can have time to connect with students” (#3).

There were those who felt that you could not connect to an institution or those that were focused on the goal of graduation that would enable them to move on to their desired careers. Three students in PDHT and two in ILT commented on this.

1.6 Summary of the Results of Findings for the First Research Question

Results showed that students in PDHT had more friends throughout the College but the friendships in ILT were much more likely to be within their program. In both programs students spent more time with friends in their program as they progressed through their courses, but the change over time was more marked in ILT, shown by the transition from a smaller proportion seeing friends outside the college than PDHT in first year, to a greater percentage than PDHT in third year.

The demographic differences between programs may help to explain some of the differences found. For example it would be expected that students who enrol in
John Abbott College directly from high school would have more friends in the college community generally than students who return to a program as mature students. The higher proportion of young students who enter John Abbott directly from high school would therefore explain why PDHT students have more friends throughout the College. ILT is a much smaller program than PDHT and so it may be easier to get to know other students in the smaller class sizes in ILT. It may also be expected that mature students in the programs with increased responsibilities outside the College would not create close connections to other students and yet this does not seem to be the case with the high proportion of mature students in ILT.

There was a striking difference between the two programs when contact with faculty was examined. ILT students saw more of their teachers outside of class time and visited them in their offices more frequently — even though the reasons for contact were similar. Students in PDHT were much more likely to use electronic means to contact their teachers than students in ILT where the majority of contact was always face-to-face. It is probable that the availability of the learning space in ILT and general layout of the department's classrooms and offices contributes to these differences.

The feeling of connection to the program was high in both programs — but higher overall in PDHT right from the start of studies. However, these feelings in ILT did increase as students progressed through the program. A feeling of connection to the institution increased over the three years in the program in ILT, so that by graduation, the level of connection was higher than in PDHT.
2. RESEARCH QUESTION 2

How is the learning space used, and what is its impact on students’ experiences of the learning community?

Findings in this section represent the results of analysis of the questionnaire that was administered to students in the Information and Library Technologies program (Appendix D). In addition, an investigation into how the room was used by students and how often they used it was undertaken.

2.1 Demographic Features of the Sample

Table 9
Demographic Information on Students in the Sample

<table>
<thead>
<tr>
<th>Program</th>
<th>Course Year</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILT</td>
<td>Year 1 = 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Year 2 = 7</td>
<td>Female = 37</td>
</tr>
<tr>
<td></td>
<td>Year 3 = 17</td>
<td>Male = 7</td>
</tr>
</tbody>
</table>

(n = 44)

A total of 44 students completed the questionnaire that was administered during the 13\textsuperscript{th} week of the semester. Demographic features of participants are shown in Table 9. These students were enrolled in the same three courses taught by the researcher at the first, second, and third year level. The questionnaire was administered by the ILT department technicians and students were given time to complete it during class time.
2.2 How the Learning Space is Used

The bar graph showing how the learning space is used (Figure 2) was collated from the sign-in sheets and indicates that the most frequent activity undertaken is eating lunches or snacks between classes. Work on homework or assignments is the next most frequent activity with socializing and use of computers 3rd and 4th in frequency across the three chosen weeks. It should be noted that students who were completing assignments on the computer may have indicated that they were doing homework rather than using a computer. Also when the room is busy, students are requested to give priority on the computers to people who are completing work, rather than browsing the Internet and checking e-mail, etc. Those who indicated that they were reading, waiting, or making phone calls formed a small number and were put into a category “other.”

When analyzed by week, it may be expected that students would use the room more for homework towards the end of the semester because they are more
familiar with the space and have more work to do as the semester progresses, and yet more students signed in during week 4 than either week 9 or week 13. This may be because students were more vigilant about recording their activities at the beginning of the semester when they had just been given the instructions, and towards the end of the semester, they may have been too busy or just may have forgotten the importance of signing in – despite being reminded by the program technicians. It is also possible that students used the room for longer periods of time to work on assignments etc., but did not sign in and out multiple times during the day, and so the numbers appear to be fewer.

![How HO-146 is Used - by year level](image)

*Figure 3: Analysis of Sign-in Sheets, Use of Learning Space by Course Year*

The reasons given for use of the room on the sign-in sheets, as can be seen in Figure 3 where use is analyzed by year level, were confirmed by responses provided by students on the questionnaire. Here students again answered that the main reasons they used HO-146 were to eat or to work on homework and assignments. Absence of responses for some year groups in some of the categories in Figure 3 can be
accounted for by the different ways students reported the activities in which they were involved.

When students were asked on the ILT questionnaire if there was anything that they preferred not to do in HO-146, the most frequently stated activity was studying for tests. Thirteen students gave this answer and most also commented that the room was too noisy to be able to concentrate. Some students also commented that they did not surf the Internet. The general feeling was that this could be done at home. “I think this is a place to work not to check other stuff” (first year student, #7).

2.3 Frequency of Use of the Learning Space

When frequency of use of the room was examined, students signed into the room more frequently during week 4 of the semester than in weeks 9 and 13. In fact, week 4 showed the highest frequency of use between weeks 3 and 13, with a total of 249 “sign-ins.” As students had only been given the instructions the week before, this could mean that they were particularly vigilant about recording their visits during that week. The number was particularly high for the Tuesday of that week, suggesting that a particular activity was undertaken that day or that perhaps students in a class were given time to work on an assignment and were able to use the room for that. It is also possible that a teacher cancelled a class, so students had some extra time between classes to use the room.
When frequency of use of the learning space was examined by year level (see Figure 4), it is interesting to note that even though students in first year formed the greatest number of students, they used the room less frequently near the beginning of the semester. The third year group indicated that they used the room the most often. By weeks 9 and 13 of the semester frequency of use was much closer for 1st and 3rd year students. As noted earlier, the second year group is a much smaller group of students.

On the questionnaire students were asked to estimate how much time they spent per day in HO-146. When analyzed by course year no statistically significant differences were found, but it was revealing that the students who used the room for the shortest periods of time were first semester students: 45% of first years used the room for only up to 30 minutes per day. These students are considered to be “minimal users” of the space. Another 25% only used it for up to an hour per day. In year two, 57% of students said that they used the room for up to 2 hours per day. Students in third year courses used the room more consistently and for longer periods of time with 79.5% using the room for up to 2 hours per day. Perhaps this occurs because
students take fewer program courses in first year and so may spend time between classes in other areas of the College.

Students were asked whether they used the room for a few minutes at a time or only when they had a significant block of time. Unfortunately students tended to answer this question by again indicating what they did, however from those that answered in the expected way, a pattern did emerge. It seems that if students only have a short period of time to spend in the room between classes, or a break time during a class, they would check e-mail, check their mailboxes, eat snacks or lunch, and chat to friends. If they had a longer break between classes, they used the room to work on assignments, study, read, relax, or type up assignments and do homework on the computer. Some students noted that they went into HO-146 early in the morning before classes started and others stayed there after classes ended. A small number of students used it after hours or on weekends. A selection of students’ comments is presented below:

I use the room to eat lunch, to chat between classes. When I have a longer break I will do homework (third year student, #34).

Usually to eat (breakfast, snack, lunch) before or between classes. Sometimes, I will spend up to an hour doing homework (depending on the day) (second year student, #27).

It was interesting to note that none of the students who completed the questionnaire indicated that they didn’t ever use the room. Four students indicated that the reason they used it for a minimal period of time each day, i.e. less than 30 minutes per day, was due to lack of time and a heavy course load. One commented that it was often too noisy and crowded and another went home between classes. “I do not generally work in HO-146 because it is usually crowded and noisy. I prefer the quiet in the computer lab” (second year student, #28).
2.4 Impact of the Learning Space

Students were asked a number of open-ended questions concerning how they felt that having access to HO-146 had affected their experience at the College. Comments received on the impact of this room were overwhelmingly positive. The following is a summary of the important results and themes brought out by the students.

2.4.1 Building friendships

Table 10
Friendships Attributed to HO-146 Analyzed by Course Year

<table>
<thead>
<tr>
<th>Have you made friends with people as a result of having access to HO-146?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>52.6%</td>
<td>47.4%</td>
</tr>
<tr>
<td>Year 2</td>
<td>85.7%</td>
<td>14.3%</td>
</tr>
</tbody>
</table>
| Year 3                      | 88.2% | 11.8% *

* Chi square value = 6.4, 2df, p<0.05

Table 10 shows that students experience a significant change of opinion as they progress from first to third year, concerning their feeling that access to the learning space encourages the building of friendships. But even in their first year, more than half of the students in the sample felt that having access to the room made it easier to make friends.

When asked to explain their feelings on this question, students (n = 20) commented that because they are together in the same room between classes for lunch or a social time, it is easier to get to know each other. Seven students noted that HO 146 is where you get to know students who are in ILT but in other years, or not in
your classes. “Having a program room has allowed me to develop friendships both within and outside my year” (second year, #30).

Two students noted that if you are looking for someone in particular, you know exactly where to find them, a third year student commented: “We spend a lot of time there and we know where people we wanted to meet were going to be there as opposed to spread around all the College” (#40).

Three students commented that even though they are shy, in that room you are almost forced to interact, but two students commented that they felt too intimidated to go there on their own initially because of their shyness. One third year student said: “Honestly, at first, I was inhibited, I did not use the room until I knew people in my program year well enough to sit in the room with them! I would not have used it by myself first” (#35).

Students acknowledged that spending time in the learning space between classes had a positive effect on making friends with students both in their classes and with others who are in their program, but not any of their classes. Students seem to become more aware of the value of this as they progress through the program. The addition of a learning space within a program may provide even greater opportunities for frequent interpersonal interactions between peers than in other learning communities in the College. It is particularly interesting that students noted that having this room allowed them to become friends with students who were not in any of their classes. Students may therefore spend time with people who have completed more of the courses in the program than themselves. The increased opportunity for academic and social discussion with more intellectually advanced peers has been documented as one of the advantages of learning community membership as far as cognitive development and persistence are concerned. This was noted by Gabelnick et al. (1990), Pascarella and Terenzini, (1991), Springer, (1994) and Zhao and Kuh, (2004). Studies by both Pascarella and Terenzini (1991) and Tinto and Russo (1994)
also noted that students felt that their college experience was improved by these connections. Friendships that form between students from different year levels may also enhance the feeling of being part of a family that some students noted.

2.4.2 Belonging

Comments that the room provides a place where students feel a sense of belonging to a group was a positive theme repeated by 26 of the students as illustrated by the following quotes:

It creates an atmosphere, a family within the college and a sense of belonging. Without the room where we gather as the ILT group this connection to one another would be lost, and it is important for success to feel part of a group (first year, #13).

You get to chat with people outside class time so there is a sense of being part of a group (first year, #17).

It makes you feel like a family (second year, #22).

I feel more like a part of a family, not a high school click. Like I have somewhere to go where I know I will absolutely be welcome (second year, #23).

At least within the department, feel connected (sic), a sense of belonging to something, a group, a program (third year, #35).

It's the living room of the ILT program that students get together like family (second year, #25).

I think it is absolutely essential to have this space to connect with others in the program - it contributes to the sense of belonging to a group (third year, #28).

I honestly feel that not having this room to congregate in would have made a difference to how ‘included’ I would’ve felt in the program. Something as simple as not having to find and fight for a lunch table or library booth makes my day go much better. From academic aid/support to friendly emotional support on a bad day (or week) it all adds positively to my academic experience and output (third year, #44).
Students commented on how having access to this space affected their first few days in the program:

The first few weeks of the first year, I was shy about spending time in HO-146. I quickly realized how necessary it was to my sense of belonging and understanding (third year, #28).

It helped me feel like I was part of a group even though I didn’t really know anybody yet (first year, #10).

It was a place of our own to go after class. It was less intimidating to spend time in HO-146 than the rest of the college on my own (third year, #38).

Students recognized that the learning space provided a place for them to come together as an identifiable group. What is more interesting is that students often used the term “family” to describe this group, which implies that a closer and more important relationship exists. The description of the room by student #25 as “the living room of the ILT program” also promotes an image of a family being together – eating, working, and socializing. This image of a group as a family echoes comments made by cohort members in a study by Maher (2005) in which students noted that in their “family” there was some sense of responsibility to care for and support other members, for example by taking notes for students who were absent, etc. It is possible that the variation in age between students in this program and the fact that students spend time with others who are not even in their classes contributes to this sense of family.

An awareness of belonging to a group is an important aspect of learning community membership. Increased connections that students develop through interactions with peers and faculty help to strengthen this feeling (Gabelnick et al. 1990). Comments made by students on this subject therefore support findings from research on learning communities. Students may also have enhanced feelings of belonging to an institution because of the sense that they belong to a group within it.
2.4.3 Food

The importance of the connection between food and social interaction was noted by eleven students who appreciated having access to a space where they could eat between classes. A selection of their comments is presented below:

I probably would skip meals if I didn’t have this place nearby to eat (the cafeteria is too far away). It gives the students a place to get to know each other where socializing is encouraged (third year, #27).

I do not have to eat lunch on the floor next to my locker (third year, #35).

I often socialize while eating lunch and there are a few people that I would not likely have spoken to if we didn’t have a place of our own to sit and eat together (third year, #28).

In a small area with a lot of students, it is common that food preparation and consumption is discouraged because of the resulting mess. In fact, in many areas of the College eating is either not allowed or not possible – for example, in some classrooms, near computers, etc. It is therefore quite surprising for some students to find that they may boil a kettle, use the microwave and, with certain limitations, eat snacks or lunches. Rules do have to be reinforced, reminders are sent to students to be responsible for cleaning up after themselves and never to eat or drink near the computers. Generally, however, students respect the guidelines and seem to appreciate that they do not necessarily have to face sitting alone at the cafeteria and snack bar, or eating in the hallways near their lockers, but can instead relax, eat, and socialize in this learning space.

2.4.4 Relaxation

Fifteen students noted that this room is a convenient place to relax and feel comfortable. A selection of their comments is presented below:
Back then it was the room I could go to when I was feeling overwhelmed, I could just sit and try to forget about things for a few minutes (first year, #1).

This room is like a haven and allows me to escape the John Abbott hallway madness. I feel that I can breathe and relax, and enjoy my time in school, except when it's too noisy and crowded (no spots left at the table) in the lab (first year, #14).

We need a hammock (third year, #30).

Some students expressed the feeling that they were initially overwhelmed by the “college experience” and therefore appreciated having a place that is quieter and more relaxing. Studies on learning communities have in the past focused on the first semester or first year experience of students – finding that those in learning communities develop connections to peers and faculty more quickly and easily and are therefore more likely to continue and complete their program of study (Tinto and Russo, 1994). Finding ways to help students settle into college life is very important. For students who are initially overwhelmed by new experiences, new routines and expectations, making connections with fellow students and discovering that they have the same feelings is of tremendous comfort. Providing a place where socializing is encouraged may help students to decide to persist in a program in which they were initially less invested.

2.4.5 Resources

Twenty seven students felt that having access to this learning space encouraged them to do more academic work. The main theme of the comments centred on availability of resources such as large tables for reference books, computers, as well as teachers, technicians, and classmates to ask questions. A selection of comments is presented below:
I have access to computers, they are difficult to obtain at other places, and also having tables to put out our books and people one can ask questions too is tremendously helpful (third year, #42).

It does inspire me to stay and do homework as opposed to leaving at the end of the day, since I'd (sic) have all required resources and can work in comfort (third year, #30).

Since some of the books we need to use are bulky, having this space allows us to complete work using these books even when the classroom & lab are being used. I often do work at school because of this (third year, #27).

Everyone knows and understands when we spread out our work. There's almost always someone to help you with a problem (second year, #44).

Books + computers + access to teachers hopefully means higher quality work (third year, #28).

It helps a lot because you always have a place to go to study with all the resources available in one place (third year, #40).

Having the support of classmates, technicians and teachers nearby was also considered a positive element. A selection of typical comments is presented below:

I can ask other questions about assignments that I don't feel are important enough to approach teachers with (third year, #34).

HO-146 provides chances that I can discuss my assignment with other students and teachers (second year, #25).

More opportunity for input from other students doing the same work, and to ask teachers for clarification, so the final work handed in is better (third year, #38).

It's a good place to work with other classmates (first year, #6).

The books are here / the contact with teachers + other students — lots of work done here (third year, #28).

I can easily use the resources, question teachers and discuss assignments with other students (third year, #30).

I can easily ask teachers questions and easily access sources like the books there or a computer (first year, #8).

Yes — I see teachers more often and can grab them for help if needed; great for times when I’m unsure who’s in and who’s not (second year, #23).
Very often when I am working in the room, teachers are in their offices, so when I have a question, I can go and ask it directly (first year, #24).

The technicians help me with computer questions and general questions about the program (first year, #9).

However, two students noted that the quality of work completed there was worse, a third year student commented: “Any work done in HO-146 is generally rushed and I am usually distracted and interrupted. I would say that in general it does not result in quality work” (#43).

Having access to physical resources such as large tables and reference books as well as computers is an important feature offered within the program to encourage the completion of academic work. But more importantly to note from the above comments may be the access that students feel that they have to “human” resources in this space. Students commented that they can discuss and ask for help from other students, from the technicians, and from their teachers. Studies by Gabelnick et al. (1990), and Lundeberg and Moch (1995) on learning communities concluded that integration of learning is enhanced through academic discussions with peers and faculty. A study by Terenzini et al. (1995), reported in Terenzini, Pascarella and Blimling’s review of literature on students’ out-of-class experiences (1999) proposes that an atmosphere of collaboration rather than competition may also enhance cognitive development. This discussion suggests that peer tutoring, both structured (i.e. arranged by a teacher) and unstructured, benefits both students involved. In this learning space, both forms of tutoring take place.

2.4.6 Teachers

When students were asked how they thought having access to HO-146 affected the amount of contact with teachers, thirty eight of the forty four students who completed the questionnaire felt that frequency of contact was increased because
of this learning space. Students generally noted that proximity to teachers’ offices and the fact that they passed through HO-146 meant that it was easy to ask questions about work or chat socially. A selection of their comments is presented below:

The fact that the teachers are readily available because of their proximity favours meeting with them. It is not like going out of our way to go and ask a simple question (first year, #13).

They come out to use the printers, their offices are just down the hall from this room so you don’t feel intimidated about saying hi on the way to the microwave (third year, #27).

You know where to find your teachers are (sic) and sometimes you can chat with them on subjects not related to school (third year, #26).

Twenty seven students commented that, as a result of having access to HO-146, conversations with teachers were more relaxed and comfortable and incorporated both academic and social interactions. Five students noted that they felt teachers were more approachable because of the frequency of just seeing them around. A selection of comments is presented below:

Also seeing the teachers outside of class helps to make them less intimidating (first year, #10).

We probably converse more frequently and on a more personal level than we would if we didn't have use of HO-146 (third year, #43).

Having this room allows students to have more social contact with teachers. It gives us a chance to see and talk to them without having a specific question (third year, #27).

You can talk to the teachers anytime if something is bothering you, if you need to ask questions about a test or assignment and often too. The quality of conversations get better and easier when you feel comfortable talking with them (second year, #14).

A few students commented that teachers were more aware of how their students are doing and what they are feeling as a result of their proximity to the learning space.
We have good quality conversations with teachers because in HO-146 we see them almost every day and the teachers know who we are and are friendly. They probably know how to talk to each different individual (third year, #26).

I think being able to use the space makes the teachers more accessible, it probably gives the teachers a sense of how the students are doing (stressed, calm etc.) (third year, #43).

Seven students didn’t think it made a difference to the conversations and one first year student felt that the room affected conversations adversely commenting: 
"Absolutely dismal. The space is too open and busy. It offers no privacy" (#18).

Several of the students noted that they thought that teachers were aware of how students were feeling because the location of their offices allows them to sense the mood of the group. It is certainly true that some of the teachers can monitor the level of noise and activity in the room from their desks. It is also possible that because they pass through the room so frequently, they see who is in the room and could note which students are working. Observations by teachers and the technicians of students in the past have certainly enabled teachers to identify students who were upset or experiencing difficulties with their work.

Seeing teachers pass through the room on a regular basis enables students to become less shy about approaching them “without having a specific question” (#27). Students in first year courses are able to observe that students who have been in the program longer approach teachers for help with work when they pass through on their way to their offices, or visit teachers in their offices. Newer students may therefore imitate this behaviour.

Many research studies have reported positive associations between frequency of contact with teachers and cognitive gains (Pascarella and Terenzini,
Moreover, studies by Astin (1993), and Kuh and Hu (2001), suggest that frequency of contact with faculty enhances their feeling of satisfaction with the whole educational experience.

2.4.7 Sense of Privilege

Some students realized that having access to a learning space dedicated to one program was unusual in the College and a rather special addition. A selection of their comments is presented below:

Because it is a place that is specially (sic) reserved just for ILT students. There is no high traffic, (sic) and we can very easily talk to one of our teachers (first year, #16).

I was really surprised that ILT department has its own room. I felt like I am at somebody’s home (first year, #24).

It’s nice to have a room of our own to eat in with all the facilities (food & computer) (second year, #32).

I’m glad we have this room. It has really made a difference in both my social and academic experience in ILT. It is especially necessary in a small technical program like ours (third year, #27).

I believe that every program should have a room like this. Having experienced both, this (ILT) atmosphere is more conducive to learning and achieving (third year, #34).

2.4.8 Negatives

Not all comments were positive about this learning space, some students complained that it is noisy, crowded and too small, and eight students said that for this reason they did not do academic work there. Some of these comments are presented below:

If I used HO-146 to work - I wouldn’t get any work done. It’s too difficult to concentrate (first year, #17).
Not so much within room HO-146, it is getting too busy, too crowded and too loud. I think that room HO-146 has lost in academic homework and school related purpose. It is a mixture of everything on a social basis (third year, #35).

Sometimes I do avoid the room, because it can be a place of socialization rather than work (first year, #12).

Others felt that the small size contributed to the friendly atmosphere, one third year student commented: “Also, it is small so it is less intimidating” (#27).

Generally students appreciated having a relaxed, friendly place where it is possible to get to know each other easily. For the majority of students, having access to this learning space has been felt to be beneficial. Some comments are presented below:

I tend to be shy but it is harder to keep to yourself with the atmosphere in the room and the way the tables are placed. You almost always get drawn into conversations (third year, #27).

Yes. I feel that we are quite close to many of the students/teachers in our program and having a place where we can talk/work without being distracted by other members of the college is fabulous (first year, #16).

I think it is great that students of a program have a place to gather among them. It helps forge new friendships and find support in areas of difficulties (academic). The fact that the teachers (sic) offices are next to it makes it the perfect gathering place for studying. I like that room and use it for many different reason (sic) but it mainly make (sic) me feel part of the ILT family! (first year, #13).

2.5 Summary of the Results of Findings for the Second Research Question

The second research question addressed the purpose and frequency of use of the learning space HO-146, and took an in-depth look at how students felt that having access to this room had affected their experience at the College. Results showed that the room was used primarily for academic and social reasons — particularly for
working on homework and eating. The amount of time spent in the room increased as students progressed from first to second to third year, suggesting that their level of comfort increased. In general students expressed that having access to this room enhanced their experience of college life – contributing to their sense of belonging, building friendships, increasing academic endeavours and the amount of contact with teachers. This finding is particularly important for a program where students may not be initially as engaged in the program.
CHAPTER FIVE: DISCUSSION AND CONCLUSION

1. DISCUSSION AND CONCLUSION

The social and interactive nature of learning had been well documented. Providing learning environments that encourage interaction can benefit academic goals, encourage involvement, and enhance the experience of students. Dedicated learning spaces where students can relax and interact, or work between classes may help them to feel more comfortable in the college environment.

The first research question addressed whether there was a difference in how and at what rate students developed connections to each other, to faculty, to the program, and to the institution between a learning community with a dedicated learning space and one without access to such a space. This study has shown some interesting and significant variations between the programs. However, consideration must be given to the limitations of the study when determining the extent to which the differences can be attributed to the learning space.

It was found that students in ILT had fewer friends overall at the College than students in PDHT. The majority of friendships in ILT were made within their program. By the time students in ILT graduated, they not only spent time with friends from their program on campus, but also off campus and furthermore, they anticipated continuing the contact after they graduated. The change over time for seeing friends from the program outside the College and the anticipation of continuing to see these friends after graduation, were greater in ILT than in PDHT. This was an unexpected result particularly when the profile of a typical ILT student is taken into account. The ILT program appeals to a higher proportion of female students than some other programs, and also attracts more mature students – often looking to acquire skills that will allow them to change careers, or return to work after spending time out of the job
market. It would not be expected that students in these circumstances, having other responsibilities in addition to attending college, would give a high priority to enhancing their social connections. A high proportion of ILT students in third year courses (88.2%), expressed the opinion that they had made friends as a result of having access to the learning space between classes. The review of literature on students' out of class experiences by Terenzini, Pascarella, and Blimling (1999), as well as studies by Springer (1994) and Kuh (1993 and 1995), note the importance of these experiences for academic and personal growth. By accessing a learning space between classes, ILT students have an advantage in making academic and social connections with peers.

An important finding from this research study is that students in ILT had significantly more face-to-face contact with faculty than students in PDHT. This was a statistically significant difference between the programs. The nature of the PDHT program is primarily technology-based and students who choose this program are comfortable with technology, making electronic communication their preferred method of contact. But from their first day in the program, students in ILT are encouraged and actually required to contact their teachers by phone or e-mail in order to report their absence from classes, thus promoting these other communication methods. Since the reasons for students to make contact with faculty were found to be the same in both programs, it is probable that the more frequent contact between students and faculty in ILT is due at least in part to the presence and layout of the learning space (see ILT Department plan, Appendix A). The learning space in ILT provides a simple way for students to make frequent contact with teachers with either specific questions or for casual conversation. Each contact provides an occasion for further development of a relationship between the student and the teacher. As the students noted themselves, increased frequency of contact makes it easier to approach teachers with questions about their studies. While contact via electronic means with a teacher may provide the answers to specific questions, it does not provide the same opportunities to further develop a relationship between student and faculty.
The benefits of frequent interaction between faculty and students have been widely acknowledged. According to Astin, "[s]tudents who interact frequently with faculty members are more likely than other students to express satisfaction with all aspects of their institutional experience, including student friendships, variety of course, intellectual environment, and even the administration of the institution" (1999, p. 525).

The level of connection that students in both programs felt to their program was generally higher than the level of connection that they felt to John Abbott College. By their third year, however, a higher proportion of students in ILT reported feelings of connection to John Abbott College than students in PDHT. It is possible to suggest that not only does a dedicated learning space provide more opportunities for students to approach and interact with faculty and so to develop closer relationships with them, but also that this may contribute to their satisfaction with the institution and overall college experience.

The second research question addressed how the learning space was used, and its impact on students' experiences of the learning community. Students in ILT indicated that they used the room, HO-146, for many different activities. The learning space provided a place for them to spend time between classes where they could wait in comfort with a snack or drink in hand and chat with friends or make new ones. Students reported that they were able to complete assignments, use the resources, such as books and computers, and spread out their reference materials on the large tables. If they experienced problems, they could ask a teacher or technician for help.

Frequency of use of the room increased as students progressed through the program. It is possible that this was partly because students in first year take fewer program-related courses, and partly because they initially felt less comfortable using the room. Since students in ILT have fewer friends overall at the College, this space
may play an even more important role in encouraging the development of connections than it may have in other programs. One recommendation that could be made to faculty and staff in the ILT department would be to initiate some kind of activity to encourage use of the room by first semester students during the first few weeks of classes.

Students were overwhelmingly positive about being able to use this learning space. Furthermore, the feeling of its value to their general well-being, as well as their enjoyment of the college experience, seems to increase as they progress through the program. One important aspect to consider is that this may have contributed to their decision to persist in a program in which some were initially less invested. In the words of one student "I think every program at JAC [John Abbott College] should have such a room."

According to social constructivist theories, learning is enhanced through an interactive experience where opportunities are provided for communication between students, with intellectually advanced peers, and with teachers (Snowman and Biehler, 2006). According to Alexander Astin, learning and personal development in an educational program increases when the student is involved in that program. Involvement may be defined as the level of engagement that students devote to the educational experience— not only the amount of studying, but also other factors such as time spent on campus, and frequency of interaction with faculty members and other students (Astin, 1999).

Astin also found that the level of satisfaction with the educational experience increases where there is frequent interaction with peers and faculty members and that there are also positive associations between level of satisfaction, GPAs, and retention (Astin, 1993).
The results of this research project suggest that students in ILT see and interact with their teachers more frequently than students in PDHT due to the physical location of the learning space. What is more, students report that this space provides them with a place where they feel they belong, where it is possible to work and relax in comfort, and where help is always available. In their literature review of students’ out-of-class experiences and influence on learning and cognitive development, Terenzini, Pascarella, and Blimling ask how the potential for learning through interaction with faculty and peers can be increased (1999). Surely planning learning spaces that encourage this is one relatively simple solution.

2. LIMITATIONS OF THE STUDY

In interpreting the results of this research study several limitations must be acknowledged and addressed. Firstly, the data comes from a relatively small sample of students at one institution and therefore findings may not be generally representative of the larger college community. Secondly, the time period for data collection was during one semester. Students’ responses were only recorded once throughout their time in the program, and therefore do not show how the attitudes of individual students changed over time. Following the same students throughout their three years in the same program would have provided more compelling evidence of this change over time.

The ILT and PDHT programs share similarities in that they are both three-year programs in which students follow courses specific to their program in a prescribed order. Students in both programs are likely to be taught by teachers more than once and have the same opportunities to experience the same College activities and to spend time in the same areas between classes. However, it must be acknowledged that the programs are different in nature and size and that the profile of a typical student was quite different. The ILT program attracts more female students than males and the majority of students do not enrol in the program directly from
high school so the average age of an ILT student is greater than in PDHT. Comparing programs of similar size with similar courses and student profiles would allow for control of any effect that these differences may have had. Despite the differences in demographic profile, comments made by students suggest a range of concerns in both programs that were often remarkably similar.

3. RECOMMENDATIONS FOR PLANNING A LEARNING SPACE

From the themes garnered from students' comments it is possible to make recommendations about how program learning spaces should be designed and what facilities should be incorporated.

First of all, it is important to have a place that allows students to gather as a program and to be able to sit, eat, and socialize. Ideally, this space should be in a central area for students attending their program-related classes. Their academic experience is enhanced when students feel that they belong to a group or a program. The need for a sense of inclusion has been extensively reported by experts on learning community research such as Gabelnick et al., (1990), Lenning and Ebbers, (1999), and Terenzini, Pascarella, and Blimling, (1999). The learning space should therefore foster this kind of environment.

Gathering together to eat is a time-honoured activity. If at all possible there should therefore be areas in a learning space where eating is allowed. The presence of a kettle and a microwave makes the space more convenient for students and may also make it possible for shy students to avoid having to face the cafeteria alone. Eating and talking together encourages friendship.

Large tables with chairs around them encourage students to sit in groups to work and socialize. In ILT students appreciate being able to spread out their work without feeling that they are taking up too much space. Access to resources is an
important consideration when planning a learning space. Students must have the tools they need – whether books or computers. Access to academic support, in the form of classmates, faculty, or technicians, helps to ensure that academic work will be completed. The size of the learning space should accommodate the majority of the students in the learning community at one time without becoming an impersonal space.

Interaction with faculty is of particular importance and benefit to students. Therefore when planning a learning space, a design that ensures that teachers have a reason to pass through it, for example, between classrooms and offices should be considered.

4. RECOMMENDATIONS FOR FUTURE STUDIES

While this research study has shown that students appreciate dedicated learning spaces, and increased access to faculty, ideally it would be of value to compare CEGEP students in programs that are of a similar size and focus within the same college or to study students in the same program at different colleges, where one program had access to a learning space and the other did not. This study provided a snapshot of two learning communities during one semester. A longitudinal study could provide additional information about how students experience a learning community over time.

Due to the demographic differences of the programs it was not possible to make a meaningful comparison of students by gender and age. It would therefore be interesting to look at these variables in future studies.

The complexity of the approach taken to answer the research questions has produced some interesting results which may have implications for the design of program spaces. Data from the comparison between programs give some indication
that a learning space has positive impact on the development of connections to peers, faculty, program, and institution. The more qualitative data from ILT students about the learning space makes it clear that, from their point of view, a learning space adds positively to the college experience. In particular the results of this study suggest that the physical arrangement of a learning space may influence the frequency of contact between students and teachers which are important factors that influence student involvement and therefore have implications for good teaching practice.

This project has implications for both of the programs that were the focus of this study. In planning for the expansion and renovation of John Abbott College, PDHT would like to acquire a multipurpose space for students. A growing enrolment in ILT means that changes may be necessary to the configuration of space in the program. It is hoped that both programs will be able to draw useful information from this study.
BIBLIOGRAPHICAL REFERENCES


APPENDIX A
ILT DEPARTMENT PLAN
APPENDIX B
GENERAL QUESTIONNAIRE
Student ID number: _______________________________

Please note that your identity will be protected and any comments made will be kept confidential.

1. Name of Program: ____________________________________________

2. I feel that I belong in this program:  (please indicate how you feel about this statement)
   Strongly agree □  Agree □  Neutral □  Disagree □  Strongly disagree □
   Don’t know □

3. How many semesters have you completed in the above program?
   0 □  1 □  2 □  3 □  4 □  5 □  Other □

4. Age (please indicate the range): 19 or younger □  20-23 □  24-29 □  30-39 □  40-49 □  50 + □

5. Sex □ Male  □ Female

6. What language do you typically speak at home?
   a) French □  b) English □  c) Other □

7. Why did you decide to register in this program?
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
8. How important is it for you to complete your DEC?
   a) Very important ☐  b) Somewhat important ☐
   c) Slightly important ☐  d) Not important ☐

9. What do you think you will be doing in ten years time in your professional life?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

10. Have you thought about not completing your current program? Yes ☐ No ☐

    ☐

    If you answered yes, please explain when & why this happened, and what changed your mind:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
If you answered no, please describe the factors that made you decide to stay:


11. During the semester, about how many hours a week do you usually spend outside of class on activities related to your academic program, such as homework, studying, reading, lab work etc.?

- 5 or fewer hours a week
- 6-10 hours a week
- 11-15 hours a week
- 16-20 hours a week
- More than 20 hours a week

12. Are you employed during the semester? If so, how many hours a week do you work for pay?

- None (I don’t have a job)
- 6-10 hours a week
- 11-15 hours per week
- 16-20 hours per week
- 21 – 30 hours per week
- More than 30 hours a week

Describe any responsibilities you have other than attending John Abbott College; these might include financial responsibilities, family commitments such as raising children, participation in competitive sports etc.
13. Please indicate the answer that most closely resembles your situation at John Abbott College by circling the appropriate letter:

a) Most of the people I spend time with at the College are people I knew in High School
b) Most of the people I spend time with at the College are students in my program
c) Most of the people I spend time with at the College are people I have met at John Abbott who are not in my program
d) Other – Please explain:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

14. In your first semester did you get to know students in your program?
   Yes □ No □

15. Explain why or why not?
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

16. How many people do you consider as friends at the College?
   None □ Fewer than 5 □ 6-10 □ 11-15 □ 16-20 □ 21 or more □
Of the friendships referred to in the previous question, how many friends are in your program?

All □ more than 75% □ 50 – 75% □ 25 - 49% □ less than 25% □ none □

17. Do you spend time with anyone from your program that is not in any of your classes?

Yes □ No □

18. Please explain:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

19. When doing homework at the College: (circle the answer that most applies to you)

a) I prefer to work alone
b) I prefer to work with a friend
c) I prefer to work with someone from my class
d) I prefer to work with a group of people

20. Why do you prefer this? – Please explain more:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
21. When studying for tests at the College: (circle the answer that most applies to you)
   a) I prefer to work alone
   b) I prefer to work with a friend
   c) I prefer to work with someone from my class
   d) I prefer to work with a group of people
22. Why do you prefer this? – Please explain more:

23. How often in your program-related courses do you work together in class?
   Never □   Rarely □   In about half of my courses □   Frequently □
   □
   In every course □
   How often do you work on group projects (e.g. assignments) in your program courses?
   Never □   Rarely □   In about half of my courses □   Frequently □
   In every course □
24. Do you ever spend time with students from your program outside of JAC?
   Yes □   No □
25. If yes, how often?
   Occasionally (about once a semester) □   Regularly (weekly or monthly) □
   Never □
26. Do you think that you will spend time with students from your program after completing your DEC? 
Yes □  No □

27. Why or why not?

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

28. Describe the kinds of activities you are most likely to spend time doing with friends or acquaintances between classes?

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

29. Approximately how much time do you spend with people from your program on a regular day outside of class time?

Less than an hour □  1-2 hours □  3-4 hours □  more than 4 □

30. Where do you spend time at the College between classes? Please indicate as many as apply:

Library □  Cafeteria □  Munchbox □  Hallways/stairwells □  Student lounge □

Computer lab □  Classroom □  Dedicated program area or room □

Teachers’ offices □  Other □  (please indicate where)
31. **What** do you do there? (For example work on homework or group projects, use a computer, hang out with friends, eat, sleep, etc.). Please give as full an explanation as possible:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

32. What is your favourite area to spend time between classes at the College?
   Place: ________________________________

33. How much time do you spend there each week:
   - Less than one hour □
   - 2-4 hours □
   - 5-7 hours □
   - 8-10 hours □
   - more than 11 hours □

34. Do you feel confident that you will succeed in this program? Please explain your answer:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
35. Why do you feel this way?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

36. Do you feel a sense of connection to this program – the people, the courses, the teachers, etc.? (Do you feel that you fit in?)

Yes □   No □

37. Please explain how you feel:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

38. Do you feel a sense of connection to John Abbott College? Please explain:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

39. On a regular day, approximately how many of your program teachers do you see or meet outside of class time?

None □   1-2 □   3-4 □   5-6 □   More than 6 □

40. Do you know where all your program teachers’ offices are located?

Yes □   No □
41. How do you usually communicate with teachers in your program outside of class?

☐ In person, in the teacher’s office
☐ In person, wherever I see them
☐ By telephone (e.g. to leave a message about missing a class)
☐ Via email
☐ Via MIO (Lea’s email option)

42. How often do you visit the offices of teachers in your program?

☐ More than once a week
☐ Approximately once a week
☐ Approximately twice month
☐ Rarely
☐ Never

43. What are some of the main reasons you visit teachers in their offices? For example, to ask about assignments and tests, or tutoring.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

44. Do you ever seek out a teacher to talk for personal reasons? Yes ☐ No ☐

45. Do you talk to your program teachers in other places in the College outside of class time?

Yes ☐ No ☐
46. Where?


47. How often have you applied material learned in one course to another course this semester?

Every course □  Very often □  Often □  Occasionally □  Never □

48. Please provide an example: (include the names of the courses)


49. How often have you applied material learned in one course to another over the past few semesters?

Every course □  Very often □  Often □  Occasionally □  Never □

50. Please provide an example:


51. How often this semester have you explained information learned in class to someone else e.g. another student, friend, co-worker or family member?

Every course □  Very often □  Often □
Occasionally □

Never □

52. Please provide an example (include whether it was to another student or someone else):

________________________________________________________________________
________________________________________________________________________
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53. Can you relate an experience where another student was able to help you to understand something that you hadn't understood in class? How did it happen?

________________________________________________________________________
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54. What do you usually do when you are given a difficult assignment? (Explain what you do first, second etc.)

________________________________________________________________________
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55. How do you think that studying with classmates affects what you learn?

56. Please indicate the range that most of your course grades have been so far **within your program**? If this is your first semester, please check the N/A box (Not applicable) and answer question 60 instead.

- Less than 49 □
- 50 – 59 □
- 60 – 64 □
- 65 – 74 □
- 75 – 84 □
- 85+ □
- N/A □

57. First semester students: please indicate the typical grade range that you achieved in high school:

- Less than 49 □
- 50 – 59 □
- 60 – 64 □
- 65 – 74 □
- 75 – 84 □
- 85+ □
- N/A □
58. **First semester students**, please indicate here if you have returned to a formal education program after a period of more than five years:  Yes □ No □

Thank you for taking the time to complete this questionnaire
APPENDIX C

FACULTY OFFICE VISITS TRACKING SHEETS
## Faculty Office Visits

<table>
<thead>
<tr>
<th>Student’s Name &amp; Semester</th>
<th>Approximate Length of Visit</th>
<th>Reason for Visit</th>
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</table>
For ILT Students Only

Please note that your identity will be protected and any comments made will be kept confidential

Student ID number: ________________________________

1. How many semesters have you completed in the Information & Library Technologies program?
   - 0☐ 1☐ 2☐ 3☐ 4☐ 5☐ Other ☐

2. Do you only take courses in the ILT program? Yes ☐ No ☐

3. Approximately how much time do you spend in the ILT multipurpose room, HO-146 per day?
   - ☐ Less than 15 minutes per day
   - ☐ Between 16 and 30 minutes per day
   - ☐ Up to one hour per day
   - ☐ Up to two hours per day
   - ☐ More than two hours per day
   - ☐ I do not spend any time in HO-146

4. Describe how you use the room – for example, do you drop in for a few minutes at a time between classes or only use it when you have a significant block of time to be there etc.?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
5. If you do **not** spend any time in HO-146, explain to me why not, please give as much detail as possible:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

6. Approximately how much time do you spend in HO-146 in the average **week** this semester?

________________________________________________________________________

7. What is the **main reason** you spend time in HO-146? (please check one choice only)

- [ ] I work on homework and assignments
- [ ] I study for tests
- [ ] I use this room to eat lunch/snacks
- [ ] I use this room for class work that has been assigned to be worked on in groups
- [ ] I use this room to socialize with friends
- [ ] I use this room to work with one of the program technicians
- [ ] I use the computers to surf the Internet
- [ ] Other (please explain briefly)

________________________________________________________________________

8. For what **other reasons** do you use HO-146 (please check as many as apply)

- [ ] I work on homework, assignments and study for tests
- [ ] I study for tests
- [ ] I use this room to eat lunch/snacks
- [ ] I use this room for class work that has been assigned to be worked on in groups
- [ ] I use this room to socialize with friends
- [ ] I use this room to work with the program technician
- [ ] I use the computers to surf the Internet

________________________________________________________________________
9. Are there any activities from the above lists that you never do in HO-146?  Yes ☐  No ☐

10. Please identify the activities and explain why you do not do them in HO-146:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

11. Do you believe that being able to spend time in HO-146 has helped you to feel more comfortable at the College?

   Yes ☐  No ☐

12. Please explain your answer:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

13. Have you made friends with people as a result of being in HO-146?  Yes ☐  No ☐

14. Please explain:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
15. Do you bring friends who are not in the program into the room?  Yes ☐  No ☐

16. Think back to when you started your first few days in ILT, how did having access to HO-146 affect your experience?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

17. Does having access to HO-146 affect how you feel about the ILT program? Please explain:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

18. Describe how you think that having access to HO-146 affects the amount of contact you have with teachers in the program? For example do you see teachers more frequently because of HO-146?

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

19. Explain how you think that having access to HO-146 affects the type and quality of conversations you have with teachers:

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
20. Describe how you think having access to HO-146 affects how much academic work you do at school:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

21. Describe how you think that having access to HO-146 affects the quality of academic work that you do:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

22. Have the technicians working in HO-146 given you help during this semester? Yes □ No □

23. If yes, describe an experience where they have helped you – what did they do, what did you ask etc.? 

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
24. Do you have anything else to say about your experience associated with this room? (Feel free to continue on the back of this sheet).


Thank you for taking the time to complete this questionnaire
APPENDIX E
ILT STUDENT SIGN-IN SHEET
## ILT Student Sign-In Sheet

<table>
<thead>
<tr>
<th>Name:</th>
<th>Arrival Time</th>
<th>Activity 1 e.g. Homework</th>
<th>Activity 2 e.g. Lunch etc.</th>
<th>Departure Time</th>
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APPENDIX F
STUDENT CONSENT FORM
RESEARCH PROJECT CONSENT FORM

My name is Sally Robinson and I am an instructor in the Information & Library Technologies (ILT) program. I would like your help in completing a research project entitled “The Experience of Students in Learning Communities in College Professional Programs.” As this title suggests I am interested in how you feel about your program - how and where you spend your time between classes, the friendships you make and how you learn what you need to know for your professional career.

I would like your permission to ask you questions. Questionnaires will form the basis of the information you will be asked to provide. These questionnaires will be completed during class time. Students in the ILT program are also requested to sign into HO-146. Participation in this study will not involve any extra work on your part.

ALL INFORMATION COLLECTED FOR THE PURPOSE OF THIS RESEARCH WILL BE KEPT STRICTLY CONFIDENTIAL. NO NAMES OR ANY OTHER IDENTIFICATION WILL BE USED IN ANY PUBLICATION(S) THAT MAY RESULT FROM THIS STUDY AND NO NAMED DATA WILL BE RELEASED TO JOHN ABBOTT FACULTY. IN ADDITION, STEPS WILL BE TAKEN TO ENSURE CONFIDENTIALITY OF IDENTITY FROM THE RESEARCHER UNTIL AFTER FINAL GRADES HAVE BEEN SUBMITTED.

By participating in this research project you will contribute to improving the quality of education at John Abbott College. However your cooperation is voluntary and you have the right to decline to participate in the study or to discontinue your cooperation at any time. Be assured that this will not affect your standing in any course(s) or program(s).

Any questions or concerns you have with respect to this research should be addressed to Sally Robinson via e-mail at sally.robinson@johnabbott.qc.ca or via a phone message at 514 457-6610 ext. 5112.

Please indicate your acceptance by filling in the appropriate section below.

I agree to participate in this research project conducted by Sally Robinson. I have carefully read the above description and understand the agreement. I freely consent and agree to participate in the collection of data for this research project.

Name: (please print) __________________________________________
Student ID ___________________________
Student's signature: ___________________________ Date: ___________________________

(Parent's signature if a minor)

I would like a copy of the study's findings when they are available. _____ yes _____ no

THANK YOU FOR YOUR TIME AND COOPERATION. GOOD LUCK IN YOUR STUDIES