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MILLENNIALS PROJECT FINAL RESULTS

Prepared by Heather Campbell

For Catherine Ross

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Brescia University College is the only university level, all-women's institution in Canada. Established in 1919, Brescia serves an undergraduate population of around one thousand in the disciplines of Arts and Humanities, Social Sciences, Management and Organizational Studies, and Foods and Nutritional Sciences. The Master's level program in Foods and Nutritional Sciences was recently established, although these students are not included in the Millennials Project sample.

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Introduction

The idea for studying the Millennial generation came after the 2008 drop-in library workshops at Brescia University College's Beryl Ivey Library had extremely lacklustre attendance: despite intense marketing of the frequently-offered and varied-in-content sessions, students simply did not attend. At the same time, professors were requesting in-class instruction on the same topics that the workshops covered, and students frequently came to the reference desk asking for research help – again, on the same topics. Students seemed aware of the workshops, were in the library while they were offered, and were spending the same amount of time with library staff (albeit one-on-one) that the workshops took: however they still preferred not to make the commitment to attend the workshops. As a result, the staff at the Beryl Ivey Library started to wonder whether this format was really addressing the needs of their students.

Library staff and Brescia faculty had also started to notice a number of interesting trends and characteristics associated with their undergraduate students, more broadly during the period of 2006 through 2009: a larger number of students seemed overwhelmed and anxious with the demands of academia and of research in particular. More students were requesting one-on-one, intensive research assistance from library staff, while faculty anecdotally reported an increase in plagiarism and academic accommodation requests. The questions students were asking at the reference desk often indicated a very limited experience with research in general: students seemed to be lacking in information literacy skills compared to what their faculty expected. Beryl Ivey Library staff started to wonder about these incidents: did they reflect an actual shift in the abilities and interests of a new “Millennial” generation, or were a few students overshadowing the overall whole?

A study, therefore, was proposed that would focus on students attending Brescia University College: who are our students? What characteristics, if any, make this new Millennial generation unique? How do these characteristics affect their learning here at Brescia, and their research in the library? Do they have specific research needs that our reference and library instruction services are currently not meeting? As mentioned above, our marketing efforts may also be ineffectual: are there better or more effective ways of reaching the Millennial student?

Over the course of the 2009-2010 academic year, focus groups, a user survey, and content analysis of course syllabi and assignments documents were conducted to help answer these questions. The results of the project revealed that the age of a student does not, in fact, relate to their overall research skills. Millennial characteristics did not seem to influence students' use of the library or preferences for library programming, either: more research is needed to determine the true cause of this apparent information literacy deficit. But it appears that the inconsistent research requirements of first year assignments contribute to a gap in the research abilities of Brescia students. As a result, a two-tiered instruction program is recommended, with a basic or standard level of research skills being required of first year students. Regardless of the format, whether Brescia's University Student Toolkit should evolve into a required certificate program or through the development of an integrated, curriculum wide plan, this two-tiered program would help students enter university with a comparable level of research skills. In

the interim, updating the existing library instruction program and the marketing plan of the Beryl Ivey Library will be necessary, so suggestions are included below.

Literature Review

There has been a great deal published on the subject of Millennials. A review of the literature proves only one thing: there is absolutely no consensus on who makes up this generation and what characteristics make them unique. Take the name, for example: still, after Neil Howe and William Strauss' seminal *Millennials Rising* was published in 2000, a variety of different names are being used in the literature. The main titles include: Millennials, Net Generation, and Generation Y (as they follow Generation X) (Howe & Strauss, 2000; Cvetkovic & Lackie, 2009; Oblinger & Oblinger, 2005). Worst yet is the limited amount of "reliable" information available on this generation. As Deal, Altman and Rogelberg explain, "the relatively sparse empirical research on Millennials can be confusing at best, and contradictory at worst" (2010).

Many characteristics about Millennials have been debated over the past ten years. Initial publications, such as that from Howe and Strauss or from individuals like Don Tapscott (1998), were more popular than academic, and often discussed the observable traits that were considered "good" and "bad" among contemporary youth. Despite recognition for a more moderate interpretation of the generation, many of these traits continue to appear in current literature, both popular and academic. These characteristics include:

1. Millennials are digital natives: many researchers believe that technological innovation, rapid change, and the arrival of the internet played an important part in creating this new generation. Early researchers believed Millennials are more technologically adept than other generations, although this claim is more widely debated in current literature (Bennet, Maton, & Kervin, 2008; Palfrey & Gasser, 2008)
 - a. Multi-taskers: while true multitasking is arguably impossible from a biological perspective (Bowman et al, 2010), Millennials are seen to be very adept at switching tasks rapidly. Many tie this to their exposure to technologies such as computers and video games from an early age (Oblinger & Oblinger, 2005; Carrier et al, 2009).
 - b. Linked in: communication is expected to be immediate for Millennials, as they use a variety of platforms to suit the communication need. Constant communication and a network of friends and family are just a touch away, whether with cell phones, texting, instant messaging, emailing, social networking, etc. (Bennet, Maton, & Kervin, 2008; Howe & Strauss, 2003).
 - c. Instant gratification: outside of communication, Millennials demand instant results in whatever they do, whether it is getting a promotion at work or receiving feedback from a professor (Alsop, 2008; Black, 2010).
2. All about me: education and business research in particular focus on the entitled attitude that many Millennials possess. Jean Twenge (2006) claims that the self esteem push in public and high schools during the 90's was almost too successful.

- a. Customizable: some researchers point to the Millennials' demand for a customizable world as a generational trait. Everything the Millennials use should be personalized and catered to their interests – from computer desktops to workplace vacation schedules (Tapscott, 2009).
 - b. Victims of helicopter parenting: over involved, indulgent parents are often blamed for the main “problems” with this generation. Parental involvement in post-secondary education and when Millennials transition to the work place is of particular interest to many researchers (Alsop, 2008; Bauerlein, 2009).
3. Team oriented: Millennial research points to a preference for collaborating with peers and working with others, whether in an educational or work environment (Foster & Gibbons, 2007; Jones & Ramanau, 2009). Similarly, family – and their parents in particular – are of great importance to Millennials (Howe & Strauss, 2003).

Current research continues to be contradictory and varied. Deal, Altman and Rogelberg (2010) look at a few of the problems plaguing current research on Millennials: much of the literature discussing “characteristics” of the generation is popular and anecdotal (including Howe and Strauss). These resources are often the foundation of many arguments, as well. As a result, issues that may be less important over time receive a large amount of attention in the literature. An example of this could include technology: are Millennials actually more technologically savvy than previous generations? Or is the availability and exposure to technology from a young age the real explanation? Will there be continue to be generational divides between Millennials and those who come after them, now that the speed for technological change has been set? (Deal, Altman, & Rogelberg, 2010).

Deal, Altman and Rogelberg also discuss authorship, or voice: current publications have been written by older, non-Millennials and are not likely objective or accurate, from a Millennial's point of view. Jean Twenge (2006) argues the same in her book, *Generational Me*. Deal, Altman and Rogelberg also argue that there is a research monopoly on Millennials: with so few studies completed, the authors council against any hasty changes to policy, since so few researchers have studied the generation empirically. Similarly, many of the studies on Millennials focus on a cross section of the generation, mainly those Millennials who enter college and university. What of the Millennials who graduate high school and go onto the work force? Or those who do not graduate high school at all: what are their characteristics? Finally, the authors discuss context, emphasizing the importance of long-term observation: what was true about Millennials in 2000 is not necessarily true today, and we cannot assume that the Canadian experience is the same as the Japanese. At present, the majority of Millennials research focuses on the Western world and North American in particular (Deal, Altman, & Rogelberg, 2010).

Millennials and University

Some attention has been paid to the debilitating fear of failure that many Millennials seem to possess, especially when it comes to academics. Mark Bauerlein discusses that from an early age, Millennials have been pressured to achieve an A in every subject: “an A-average [is] now a stigma, not an accomplishment” (2009, p. 2). Understandably, this assumption affects Millennials as they enter university: Carolyn Jackson claims that many high school graduates are extremely anxious about failing grades and that, unlike other childhood anxieties, test anxiety actually increases with age (2010, pp. 42-

3). Greenberger et al (2008) note that some students feel pressured from their parents to succeed academically, as they are often rewarded when successful. Twenge (2006) also states the importance of getting higher education in today's world: "young people and their parents are increasingly aware that a college education . . . is a virtual necessity for securing a good job" (p. 117).

This could relate to the theory of "academic entitlement" that some educational researchers have discussed (Lammers et al, 2005). As Greenberger et al (2008) found, some students enter university demanding a grade much higher than their efforts deserve: 66 percent of students surveyed, for example, said they should be rewarded by their professors for "trying hard," while 34 percent believe they deserve a B (or higher) for simply attending class (Greenberger, Lessard, Chen, & Farragguia, 2008). Again, though, the literature is contradictory: Achacoso and Valteau (2002) demonstrated that the percentage of students both feeling and exhibiting academic entitlement was fewer than 6 percent (2 students out of 30), and while this behaviour may have been productive for these students in the past, there was a negative correlation between academic entitlement and the students' ability to self manage their learning. Similarly, Greenberger et al (2008) found that academic entitlement actually increased the likelihood of bad grades and academic dishonesty, whether cheating or plagiarism. In their study, the authors found that age (and therefore, the "generation" a student belonged to) did not impact the students' level of academic entitlement: how students' perceived their parents – whether they were feeling pressured, for example – and low self esteem contributed much more. The study also found that the few students who demonstrated academic entitlement were simply difficult all around: these students were more likely to have an exploitative nature, were seen as unhelpful to others, with a poor work ethic, and had lower grades as a result (Greenberger et al, 2008).

Another contributing factor to the confusion over Millennials is the phenomenon of grade inflation. This is a topic that has been frequently discussed but not systematically studied in Canada. James Côté and Anton Allahar (2007), both from the University of Western Ontario (UWO), examined the issue in their book *Ivory Tower Blues*, arguing that Millennial students are entering university with higher averages for having done less work than students in the past. This system, the authors remind us, is not one that the Millennials did not create: "it appears that Ontario is one of the worst offenders . . . with some 40 per cent of its [high school] graduates leaving with A averages" (p. 195). Greenberger et al (2008) also mention grade inflation in their study, saying that being rewarded for minimal work is likely contributing to the overall sense of entitlement that teachers and professors are observing.

Disengaged Millennial students are another problem reported by faculty, as are episodes of academic dishonesty. The 2007-2008 Faculty Survey of Student Engagement (FSSE) in the National Survey of Student Engagement (NSSE) (2008) found that nearly 40 percent of faculty believed that plagiarism and improper referencing was a problem at their institution. Carrie Myers (2008), meanwhile, found that students and their professors had very different priorities when it came to the students' educations: faculty ranked critical thinking as a significantly more important skill than students did, while the students felt that career preparation was the goal of post-secondary education. This misunderstanding of educational goals may contribute to students seeming disengaged with their classes (Myers C. B., 2008). Other studies emphasize the Millennial students' dissatisfaction with their professor's teaching style, as many students prefer an active learning environment over the traditional lecture-based system:

Oblinger and Oblinger (2005) found that students prefer a balance of traditional lecture and interactive learning with classmates, while students in Sander et al's study (2000) preferred group work, research essays and problem solving exercises over lectures and presentations.

The result is that a number of students arriving at university unable to cope with the demands of post secondary education (although how many students this includes no one seems to agree on). In some studies, students report a feeling of disillusionment at the purpose of university: many Millennials expect that their degrees will prepare them for their future career path, whatever it may be. As Oblinger and Oblinger (2005) explain, these students have an enormous fear that their four year degree will be irrelevant. Similarly, Bob Pletka (2007) believes that education for many students is about getting through as much material (as successfully as possible) in as little time as they can. Côté and Allahar (2007), meanwhile, speculate that the majority of Millennials are disengaged from their studies, and are simply going through the motions in order to obtain their "piece of paper" at the end.

This theory of academic capitalism (or of universities being businesses selling a product, rather than the traditional higher learning model) is a current area of research in Millennial literature. Slaughter and Rhoades explain that contemporary universities look to students as a source of income: "colleges and universities are initiating marketlike [sic] and market practices . . . to exploit the commercial potential of students" (2004, p. 279). By focussing on the development of professional programs and marketing higher education in a way that benefits the institution, rather than the student, universities run the risk of creating a generation of "exploited employees" rather than students (Slaughter & Rhoades, 2004). Singleton-Jackson, Jackson and Reinhardt (2010), meanwhile, agree that students behave like customers or consumers of an educational product, but argue that they hold the purchasing power to take control of their university experience, and mould the system to suit their needs. But not all studies have found that students act like customers: Finney and Finney (2010), for example, found that the more academically entitled students felt that they were customers. But the authors also discovered that it was older students in the mature bracket that displayed this type of customer-knows-best behaviour, not the students who were 18 or 19 years old (Finney & Finney, 2010).

Millennials and the Library

Once Millennials arrive at university, the issue of disengaged and ill-prepared students seems to carry over to the library. There has been a considerable amount of library research published on the subject of Millennial undergraduate students and the library, including their use (or rather lack thereof) of the university library and their apparent generation-wide lack of information literacy skills (Weiler, 2005; Hardesty, 2007; Kennedy, Vardaman, & McCabe, 2008). Library use surveys are frequent and varied: Alison Head and Michael Eisenberg (2009), for example, found that Millennial use of reference librarians (either in person or online) was significantly lower than online resources or even the use of course professors: "it seems that a very large number of students operationalize research tasks independently of librarians – but not independently of library resources (scholarly research databases) and/or of their instructors" (p. 32). Similarly, Oblinger and Oblinger (2005) argue that the use of academic libraries is decreasing, since students can find basic information from other, more independent avenues. Applegate (2008), meanwhile, agrees that reference use is declining, but argues this is because it is

being replaced by other services, including information literacy, liaison librarians, and virtual reference services.

Physical use of the library seems to be staying consistent or even growing in some cases: Bridges (2008) found that nearly 30 percent of students visit the library several times a month, while 34 percent visited several times per week; only 4 percent of students never used the library. Applegate (2009) and Gardner and Eng (2005) all found that Millennials prefer to use library space for studying, and that the perfect library “is one that addresses the entire spectrum of student needs” not just reference services (p. 345). Other studies, meanwhile, have shown that students’ preferences for reference services have evolved: point-of-need reference is becoming increasingly popular, according to Attebury, Sprague and Young (2009), through such initiatives as librarian “office hours,” roaming reference or even instant chat messaging (Avery, Hahn, & Zilic, 2008; Ruppell & Fagan, 2002; Carpan, 2010; Gale & Evans, 2007).

Many researchers have examined the influence that technology has had over the preferences and research behaviours of the Millennial student. As Hardesty (2007) explains, this is the first generation of students fully immersed in the internet and in online research. Along with Hardesty, many other researchers assume that the availability of online resources and of Google has forever changed how undergraduates conduct research (Geck, 2006; Rowlands, Nicholas, Williams, Huntington, & Fieldhouse, 2008; Grafton, 2009). But as Bennet, Maton and Kervin (2008) discuss, the “digital native” debate is far from over. In their 2008 article, the authors maintain that many of the apocalyptic-type articles on technology are simply overreactions: “arguments are often couched in dramatic language, proclaim a profound change in the world, and pronounce stark generational differences” (Bennet, Maton, & Kervin, 2008, p. 782). Empirical research, as Deal, Altman and Rogelberg (2010) advise, is needed to determine the real influence of technology over Millennials: “the picture beginning to emerge from research on young people’s relationships with technology is much more complex than the digital native’s characterisation suggests . . . Young people may do things differently, but there are no grounds to consider them alien to us” (2010, p. 783). Fundamentally altering the structure of post-secondary education on a faulty assumption, then, should not be our immediate next step.

There is a considerable push, however, to address the information literacy deficiencies among Millennial university students. A number of studies have found that students entering university do not possess the necessary skills in order to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (Association of College and Research Libraries, 2000). Shih and Allen (2007) and a variety of other studies have found that some Millennial students are overconfident in their research abilities, assuming they know everything needed to “get by” or, depending on their technological skills, into order to teach themselves (Hinchliffe, Kubiak, Hunt, & Simonds, 2003). Gross and Latham (2007) for example, found that the fewer information literacy skills a student possesses, the less likely they are to pursue traditional library instruction methods to assist with their research (i.e. seeking help at the reference desk, attending a workshop, etc. A more recent study by Gross and Latham (2009) found that the less proficient students concentrated on finding physical resource, rather than trying to develop a knowledge base like the information literate students did. In a bilingual study based out of Québec, meanwhile, Diane Mittermeyer (2005) assessed first year students in the following abilities or skills: defining their information need; formulating a research topic and

identifying the key concepts; developing a search strategy (i.e. mapping the concept, determining appropriate document types); executing the search, and; using the results by locating and retrieving documents, evaluating the information they found, and citing sources effectively (Mittermeyer, 2005, p. 211). Like the previous studies mentioned, some students in Mittermeyer's study (although not all) performed poorly in many areas. Particularly troublesome tasks included: using Boolean Operators and controlled vocabulary during searches, defining the difference between the library catalogue and bibliographic databases, and evaluating information found on the internet. Knowing when and how to cite sources properly was also difficult for some students (Mittermeyer, 2005, p. 222).

In order to bridge the information literacy gap that many first year Millennials seem to have, librarians have developed a number of services and programs that have not always been universally successful. Some of these include an update to traditional library instruction programs: some libraries have been collaborating more with their university's faculty, helping to create research certificate programs, non-credit courses, graded information literacy-based assignments, and even research-based credit courses (Harrison & Rourke, 2006; Lindstrom & Shonrock, 2006; McGuinness, 2007; Brendle-Moczuk, 2006; Malone & Videon, 2003; Guise, Goosney, Gordon, & Pretty, 2008). Brescia, too, launched a pilot project this past January for a "University Student Toolkit," of which research and critical thinking skills make up a large portion of the curriculum. Much of the library literature on Millennials also discusses the need for instruction to consider the multiple learning styles of undergraduates (whether tactile, auditory or visual), and encouraging the use of active learning strategies (Manuel, 2002).

New technologies, though, have been at the centre of these programs, likely to appeal to the interests of Millennials and their frequent demand for point-of-need reference service (Attebury, Sprague and Young, 2009; Avery, Hahn and Zilic, 2008). Some examples of these new technologies include: chat reference and instant messaging (Naylor, Stoffel, & Van Der Laan, 2008; Desai & Graves, 2008; Luo, 2007), Facebook, MySpace and other social networking sites (Chu & Meulemans, 2008; Greenwood, 2009; Connell, 2009), Web 2.0 technologies like blogs, wikis, RSS feeds, YouTube, and podcasts (Ramos & Piper, 2006; Liu, 2008; Maness, 2006; Cvetkovic & Lackie, 2009), and even virtual world technology like Second Life (Grassian, Trueman, & Clemson, 2007; Bell & Trueman, 2008).

While there has been success with some of these initiatives, many librarians report that what worked at one library does not work at another. A study from the University of Guelph, for example, found that students wanted to separate the technologies they use for fun, like Facebook or online gaming, from the technologies they need for school (Kope & Lupien, 2008): "students will only use library tools and services developed using [online social networks] if they perceive that these are useful and address a need they have. They won't use them simply because we think these tools are 'cool'" (p. 19). Similarly, Lizah Ismail (2010) from Maryland University Library found that upper year students (i.e. second years and above) are much less receptive to technology-based reference services, and tend to choose face-to-face contact with librarians more often. As a result, some researchers are now cautioning libraries to think before they leap when it comes to developing new reference services: as Booth and Guder (2009) advise, librarians should really consider the longevity of some of these technologies (i.e. Second Life), their library's finances and availability of staffing, and above all the needs and interests of Millennials before scrapping their existing programs. As Lizah Ismail councils, "when catering to this new user

group, the question that should be asked is not which new technologies and services should we implement in the library today, but what new technologies and services, if any, will be most desired by our Net Gen users” (Ismail, 2010, p. 21).

Purpose of the Millennials Project

Given the large questions that exist surrounding the Millennial generation and the problems they may or may not have when arriving at university, a study was proposed for the Beryl Ivey Library to determine the truth about Brescia University College’s student population. It is not clear how great a role technology plays in the academic lives of Millennials students; nor does it seem wise to develop a large number of new services before fully understanding what Brescia’s students want. Many characteristics about the college make it unique from the few empirical studies already completed on this generation: Brescia has a small (roughly 1000 full and part-time students), predominantly undergraduate, all female population. The results from previous studies – as contradictory and complex as they were – may not apply to Brescia’s unique circumstances.

The objective of the Millennials Project was to derive useful information from library patrons that would allow library staff to revamp current library services, if necessary, to best meet the needs of users. Through the use of focus groups, a user survey, and an analysis of first year course assignment documents, the following information was sought:

1. The research process of Brescia’s students:
There have been many studies on the research process of students throughout library literature: UWO’s own Gloria Leckie (1996), for example, looked at the differences between faculty expectations of research and that of their students. It would be worthwhile, however, to see whether Brescia’s students are unique in any way. Particular focus in the Millennials project was given to: the resources students use when researching, the people they consult when researching (if any), how students evaluate their resources, and any problems they may experience while researching.
2. The library services Brescia’s students currently use:
As previous research has suggested, communication is extremely important to Millennials. Before scrapping the existing library instruction program, it is critical to see which services are currently being used and who is using them. Following that, the marketing and communicating techniques of the Beryl Ivey Library would also need to be examined. The study hoped to determine whether better marketing was needed over new programming.
3. The library services or programs that they would like developed:
The Beryl Ivey Library has not implemented any of the technology-based services that many libraries have embraced (i.e. Facebook applications, chat/instant messaging reference, etc). Before investing in this type of programming (considering the argument of the “entitled” Millennial student), it is important to determine whether students would actually use these

different services.

4. The research requirements of first year course assignments:

While the opinion of students is essential for the future success of library programming, their academic needs must also be considered. As discussed above, many faculty members have had problems with their students plagiarizing. It would be important to consider, then, the research expectations that faculty have of their students and what information literacy skills are needed in order for students to succeed. Another objective of the project is to determine whether there is a gap between what skills students are arriving at Brescia with and what their professors are expecting.

5. What kind of change is needed to our instruction program

Using the results from the focus groups, the survey and the analysis of course syllabi and documents, the Beryl Ivey Library staff will determine what changes, if any, are needed to the library instruction program, including what new services will be developed and what existing services should be abandoned.

Methodology

Past library studies have influenced the methodology of the Millennials Project. Many libraries have conducted user surveys, for example, which offer the benefit of a large amount of patron input for considerably less resource expenditure (Bridges, 2008; Creaser, One Size, 2006; Creaser, User Surveys, 2006; Kope & Lupien, 2008). The LibQUAL+ surveys (Association of Research Libraries Statistics and Assessment Program, 2010) were considered as they are standardized and allow for comparable data with other studies (Thompson, Cook, & Kyrillidou, 2006; Thompson, Kyrillidou, & Cook, 2007). The heavy focus on customer service, however, coupled with the fact that Western Libraries planned a LibQUAL survey for the spring of 2010 (which was to include the Beryl Ivey Library) encouraged the development of a unique survey instrument for the purpose of this study. Limitations with user surveys were also considered before this method was chosen: small sample sizes are a regular problem among library survey, making generalizing difficult and risking potential bias (Creaser, One Size, 2006). Incentives can be offered if funding is available, but this can change the motivation of survey respondents. Surveys – in the public library sector, particularly – tend to miss information from non users, as well (Alreck & Settle, 1995; Herson & Altman, 2010) since it is usually regular library users who respond to surveys (Toner, 2008).

Syllabus studies were also considered – an economical way to determine the research requirements of first year course assignments. Reliability can be an issue with this method, though, as can the amount of information extracted from each document (Babbie, 2004; Jackson & Verberg, 2007; Palys, 2003). A number of syllabus studies were reviewed (Hrycaj, 2006; Dewald, 2003), including the work of Amy VanScoy and Megan J. Oakleaf (2008), as their methodology adjusted for a limitation of this type of study: Brescia first year students are only required to take three of their five credits at Brescia, meaning they can take the other two at any other campus at UWO. VanScoy and Oakleaf sampled real students'

course loads, analyzing course documents in combinations that real students would be working with. Access to this student information from Brescia's Registrar's Office could not be obtained, however, without considerable assistance from Office staff, resulting in a major limitation of this study (see [Limitations](#) below).

The true inspiration for the Millennials Project came from the work of Alison J. Head, of Saint Mary's College of California (SMU). Head is part of Project Information Literacy, a national study of university students' research processes and how students resolve issues of "credibility, authority, relevance, and currency in the digital age" (Head & Eisenberg, About, 2010). An ongoing initiative, Project Information Literacy has roots in Head's 2007 study at SMU, where she conducted a three-part project hoping to determine the following:

1. How students, majoring in lower-division humanities or social science courses, conceptualize the course-related task of research and operationalize these concepts into research activities for course related work?
2. What information resources students majoring in humanities and social sciences used to carry out course-related research?
3. What challenges, barriers, and obstacles exist for students conducting research for humanities and social sciences courses? (Head, 2008, p. 40).

Already considering both a user survey and a syllabus study, and unable to participate in the United States based Project Information Literacy, Head's model was used in the development of the Millennials Project's methodology, with permission from the author. Over the course of the 2009-2010, the following studies were completed:

1. Focus groups:

Focus groups were conducted to gain a better understanding of students' research processes and any problems they may encounter. Suggestions for improvements to existing programs or for the development of any new library services were also encouraged. The focus groups were also used to generate survey questions. Participants were recruited through email, in-class announcements by faculty members or by the researcher, and by online advertisement on the Brescia University College website, and were all Brescia students (and therefore female). The sessions were moderated by the researcher, with another library staff person acting as a recorder. An incentive of a \$5.00 Tim Horton's gift card and refreshments were offered to participants, and the sessions were held in one of the Beryl Ivey Library study rooms. Each focus group took no more than one hour.

2. User survey:

The survey incorporated the results of the focus groups into more specific questions on students' research processes and use of library programs and services. Suggestions for improvement to these programs and services, along with new ideas, were also requested. All 1000 of Brescia undergraduate students were included in the recruitment efforts, so there was no sampling needed (limitations of this method are discussed below). Recruitment efforts

included emails to Brescia student accounts (from the researcher's staff email account), in-library advertisements, in-class announcements from the researcher (with consent from faculty members), and electronic displays in Brescia's St. James building. Survey Monkey was used to collect and analyze the survey data.

3. Course Syllabi and Assignment Document Analysis

Course syllabi and supplementary documentation on assignments were used to identify the research requirements of first year students. Permission and documents were received for 38 of the 44 first year Brescia courses. The documents were analyzed using a pre-coded sheet (see [Appendix F](#)) developed by the researcher. Collected information included: required library resources for assignments (i.e. scholarly journals), research expectations or tasks (i.e. develop an original thesis), and assignment type (i.e. essay). Documentation was requested via email and, as a result, follow-up interviews with faculty were deemed not necessary (although may be considered in further research – see the [Discussion](#) section below). The results were then compared to those of the survey and focus group to determine the similarity between faculty expectations and student interpretation. The information gathered from course assignment documents were also weighed against the Association of College and Research Libraries' (ACRL) Information Competency Standards for Higher Education (Association of College and Research Libraries, 2000), although less intensively than some other studies (Davidson, McMillen, & Maughan, 2002). The objective of this was to determine whether any information literacy skills are considered standard for first year courses at Brescia. The ACRL standards themselves were chosen as they are the current foundation of the Beryl Ivey Library Instruction Program and its Education Policy (Beryl Ivey Library, 2007).

Limitations of this Study

Recruiting efforts for the focus groups and user survey had their limitations: of the 20 focus group participants only two self identified as non library users, while only nine students (2%) out of 368 survey respondents said they had never visited the library for any purpose. Careful selection is needed, then, for focus group participants in the future (a screening question of library use would be necessary) and more active recruiting of non-users for surveys would also be helpful. There was no sampling conducted for the user survey, either, since the total population is so small.

Marketing may also have been affected by a conflict of interest: the researcher conducting the focus groups and emailing the survey was the same person who assisted the students on the reference desk, taught in-class library instruction sessions, and participated in many college events throughout the year; responses may have been skewed as a result. In future studies, it would be interesting to compare these results with those collected by an anonymous or unknown researcher. This study is also limited in its applicability to other studies: Brescia is an all-female, undergraduate, multi-disciplinary college with only a few hundred students in each program – a unique population.

A few errors may have affected the results of the survey, as well:

1. Consideration of part time and full time status

When developing the survey questions, part-time and full-time status for students was considered: it was not included in the final survey draft in order to reduce the number of questions, and because similar information was collected in a separate question (“how many courses did you take at Brescia this year?”). In the end, the question should have remained in the survey for a few reasons: first of all, Brescia’s Registrar’s Office does not keep program statistics on their part-time students. As a result, the number of students in each discipline (and therefore, the representativeness of the survey sample) could not be verified. Secondly, residency requirements for Brescia students are three courses in first year and two courses in every subsequent year, meaning that senior level students can take more than half of their courses away from Brescia’s campus. This could have affected any number of things, such as the nature of the assignments that students were asked to complete, the amount or variety of research that they had experience with. Since the majority of reference questions received at the Beryl Ivey Library centre on Brescia courses, though, and the number of survey respondents was high, this oversight was still manageable.

2. Philosophy and Religious Studies

The program options listed in the survey were taken out of the Western Libraries’ Academic Calendar, which Brescia also uses: in that document, Philosophy and Religious Studies are listed under the same program. In the end, these programs should have been separated, however, in order to accurately compare each program. This is particularly the case since Religious Studies is a program not offered at UWO and because Brescia’s Philosophy program has very few students in the upper years.

3. Beryl Ivey Library Website and Customer Service

Intentionally, the Beryl Ivey Library website was not analyzed in the survey; neither were the library staff’s customer service skills. There were a variety of comments about both of these services in the additional comments section of the survey, however, indicating that students may have feedback to share (both positive and negative). Both of these may be areas for future study, as a result.

Regarding the last portion of the Millennials project, the course syllabus documents were not an exact representation of first year research requirements. As mentioned above, Brescia first year students are only required to take three of their five credits on Brescia’s campus. Their remaining two credits can be taken at any UWO campus. As a result, the 38 courses analyzed for this project do not represent every course that students could have taken. Alternatively, though, averaging of Brescia as a campus (rather than focussing on Brescia’s students) was possible which is why this methodology was chosen.

Focus Groups

Participation and Demographics

Three focus groups were held at the Beryl Ivey Library in Brescia University College, on November 10, 2010, at 9:30am, 11:30am, and 3:30pm. The focus groups each took one hour, and were moderated by the researcher. Pseudonyms were used, which the students got to choose. Emma Cereghini, a library staff person and MLIS graduate, acted as observer and the focus groups were audio recorded. In total, there were twenty female participants: six in the first session, eight in the second session, and six in the third; twenty-six students had originally volunteered. The breakdown of program and year can be seen in the chart below. Not all programs offered at Brescia were represented, but there were mature students and international students in each focus group.

Table : Focus Group Participation by Year of Study

	1 st year	2 nd year	3 rd year	4 th year
Business Management and Organizational Studies	4	1		
Foods and Nutritional Sciences	3		1	1
History			2	
English			1	1
French		1	1	1
Kinesiology	1			
Family Studies				2
Biology				1
Psychology			2	
Political Science	1			

Questions

Participants were asked a series of questions by the moderator, although not all groups were asked the exact same questions. All three groups of participants, though, did discuss the following:

- Can you tell me what you usually do when conducting library research? What is your first step?
- Have you ever experienced problems when conducting library research?
- What is the library's role in helping you research?
- What help, if any, do you think students need to complete their course work successfully?

Two groups also discussed:

- What current library programs and services are you familiar with (list provided)? Have you used these programs/services? Should we keep them?

And finally, one group also covered:

- What do you think is the best way for the library to increase student participation in its programs and services?

Results

Research Experience

Of the nine first year students, five had never conducted university-level research before, and only four were expected to do so during the fall 2009 term. Research experience increased in frequency with the upper year students, as seven third and fourth-year students reported they do research “many times” a term. Some inexperienced first year students reported library anxiety about the first time they will need to research, although they were confident in their research abilities:

Heather: What other kinds of assignments have you been doing in your other classes?

Jack Frost: We have a group essay, research kind of company financials paper.

Tyra: And it’s like 4 of us doing it

Jack Frost: Yah, we’re all in the same class

Heather: Have you started this assignment yet?

Tyra: No

Heather: If you don’t mind, we’ll talk about that, since there’s 4 of you doing the same assignment. Is there, is there’s something that’s giving you fear? Are you confident in being able to complete this assignment effectively?

Jack Frost, Tyra, Rain, Flapjack: Yah

Heather: Oh good! How did you learn these skills?

Jack Frost: We had a presentation where the library staff came in and it was a whole period. We went through everything, and we asked questions. And we had a slide show handout. And the teacher was really good about it.

Tyra: But I kind of forgot what she said, and I’m kind of scared... like if I have a question to ask later again I might not get help, ‘cause no one knows.

Some students’ confidence in their research abilities went down the longer they have been at university. Two mature fourth year students, for example, reported the following:

“I’m in fourth year and I’ve definitely learned from my mistakes, that’s for sure. But I still have no idea what’s out there, like I don’t know what options I have. I know JSTOR, and I know books, and mind you that’s my fault ‘cause I’m not the one going out and seeking it, but I don’t know what’s out there.”

“It’s not easy at all. I’m taking now the research methodology course, and I cannot imagine how precise you want to find the things that you need, the data, the statistics, it’s really so difficult.

It's not easy for me. And to find it, we are having so much [sic] difficulties finding the journals that you need to refer."

And students' concepts of research often revolved around the vast amount of information available to them:

"It's like a big sea; you have to search something really specific for your research project."

"It's kind of like when you go to work on a piece of research, it's like a big hay pile and you're looking for a needle in it."

"It's like a maze."

"It's hard. That's my word for research."

The Research Process

Those students experienced with research say they rely on academic resources of various types to conduct their research. For first steps in the research process, the most popular responses were: searching for journals and asking library staff for help; searching the catalogue was the third most frequently stated response. How students start researching, though, may change as they progress through their degrees. As one fourth year student reported:

"I felt like in the first few years I would start with the catalogue, too. And I would leave the journal articles for last because they're the hardest to find. But now I do that first, because the books are always going to be there and they're pretty broad and pretty general, and they're usually just for background information."

Many students said they asked library staff for assistance when they were not sure what to do:

"I had a little presentation to do and there were three people in my group, and none of us knew what we were doing. So we asked the librarian and she wrote down the steps of what we should do."

"To me and my class, a librarian taught us and it was better that way, too. And she showed us how to do the searching and stuff like that. It was really helpful."

While one first year student said she started with Wikipedia, she also justified her choice:

"I go first, I know this is bad, but I go on Wikipedia and look at all the words that relate to my topic, and I find all the ones that appear the most, and when I see those words I go to search on the library database for books that have those

When considering what they do next, students said they: use the library catalogue; search Google; ask library staff for help; look for books; look for journals; and search Wikipedia. Most upper year students identified that the "catalogue" is used to look for books, although not all students who said they

searched for articles said they used “databases” to look for them. In some cases, library jargon was confused, even though the meaning was clear:

“I go to search on the library database for books.”

“I was surprised when they told me not to use databases like Google and Wikipedia.”

“What is JSTOR? It’s not a website, it’s a...”

Overall, the experienced students named a wide variety of reliable, academic resources that they use to conduct research, which are summarized in the chart below.

Table : Research Process (in order of frequency)

1 st step	2 nd or later steps
Ask library staff for help	Search catalogue
Look for journals	Ask library staff for help
Search catalogue	Use search engine (i.e. Google)
Search engine (i.e. Google)	Library website
Library website	Look for journals
Look for books	Look for books
Wikipedia	Wikipedia
Library handouts	Use bibliography of other resource
Talk to professor	Ask friends
Check course website	

Problems with Researching

In general, students reported high levels of frustration with all aspects of the research process – from knowing where to start a project to preparing a bibliography. Some students specifically mentioned not knowing what resources are available to them, for example, while others find it difficult to get applicable search results for their topic:

“I have to say that finding the actual information I’m looking for is a problem. Like you can type in your words and that’s no problem, but finding what you’re looking for is really hard.”

“We have found stuff, and it’s just been from trial and error . . . so it’s really hard that you’re searching for books that *are* in the library [and they] don’t even come up.”

“The information out there can be so broad, so it might be difficult to find the specific information that you’re looking for, that relates directly to your topic that you’re researching.”

This problem related to finding specific types of information, as well, such as Canadian content or correlational studies:

“A lot of the articles too are from the States, so it’s so hard to find stuff for Canada. That makes it even more work.”

“For psychology, we do a lot of research for correlational studies so we have two keywords, and when I do that to look for journal articles I’ll find either one or the other. And really only a few articles have the two, and not all of them are relevant, so that’s a problem I usually have.”

“I think that if you have a topic you’ve never heard of before, I think that using things like the library website and different journals is actually more difficult because you don’t know anything about your topic to begin with. So one of my topics for history is Muslim rebellions in 19th century china – I know nothing about that – so when I type that into the library catalogue, I get four or five books . . . and if I type that into the journals I’ll get 30 to 40 or so journal articles. But I still don’t know anything about the general thing of it. And I think that, despite its faults, that’s what Wikipedia is good for, is that it’ll tell you: here’s what happened or here’s what it is. I think that is something that could be added to the library catalogue, is kind of the general idea of what things are, if you’ve never heard of it before.”

Some students identified that they need better knowledge of limits and Boolean operators:

“[It’s hard] knowing how to use the connecting words, like a plus sign or a comma, or last name first or first name last.”

“If you put it in brackets you’ll get the whole word together, and star places importance on it, and I feel like you have to know all of these things to be productive in your research. . . So there’s all of these tricks that you have to know, but not everybody knows.”

Accessing resources, once they’ve found them, is also a common problem for many students. Finding full-text articles and navigating the off-campus authentication had many students frustrated:

“I’ve had many problems with researching. Mostly with journals because some of the websites don’t let you open the PDF’s of journals. So you have to go and sign in off campus access and then do it, so then sometimes that doesn’t work either.”

“I guess it’s just locating physical copies of books and the articles. I completely steer clear of that. If it’s not online, it’s really bad to say, but if it’s not online I really just stay away from it. And I run into the problem of having to pay for articles. But I never pay for it.”

“If you find something once, and you try to find it later, sometimes you can’t. No matter how much you try to find it.”

Journal articles seem to be the most difficult resource for students to access:

Sara: I just had one really major project, and it was a group project, and I did not know how to do journal articles so my group members did that, but I do have another project coming up where I’ll have to, so I know I’ll have to learn then. But I don’t know how to do journal articles yet.

Heather: And that's totally fair, because one of my questions for this focus group was whether any Brescia students could get to an upper year level and not have had to do major research projects before. Is this the case for you, Sara?

Sara: Yes, I did do research, but I only left the journal articles to others. I knew I was weak there and it was my first time. The others had more experience so I left it to them and they did it. But it now puts me at a disadvantage because now I have to do it, and I'm expected to know it way better this time, and I don't know how to do it.

"I'm more [likely] to go for the book because I just read the instruction, even though my profs are usually telling me I need journal articles, and I'm like 'noooooo!'"

But navigating Western Libraries – and Weldon in particular – causes problems, too:

Heather: So finding physical copies of things is difficult?

Cinderella: Especially at Weldon.

Jack Frost: Weldon's scary

Maverick: But I've also been to the Weldon library.

Heather: How was that?

Maverick: It was actually kind of confusing, because they have the... it's a very big library, and with all the letters they have I got kind of confused. I had to get an oversized book, and they're at the back and on a different floor, and it was... yah.

Many students discussed the importance of library instruction in learning how to effectively research, but mentioned how frustrating it can be when the instruction is poorly timed:

"But from the time at the start of the year where we get that information to the time that we actually have to start our assignments, I've forgotten everything that the librarians have talked about."

"There was one of the librarians that came to one of my classes in English. And she explained an awful lot . . . I still couldn't remember where JSTOR was . . . And I probably needed that about five more times, once was not enough because I didn't get it."

Infrequently conducting research was mentioned by a number of students, as well:

"I think my major problem is not being used to the major research. Okay, yes, I've done research throughout my program, but it's not something I do regularly. I do projects months

apart. And it is something you get used to . . . but if you're not doing it constantly, how are you going to be really good at it, and not take as much time as you did the first time?

"Once you're doing your history essay and you've gone through the research the first time you don't ever go back, because you've got all the resources you need. So if you have one or two history courses in a year, once you've got all your resources you don't ever do it again. I've always found my biggest problem is that after April and exams, when September roles around again you're like 'I have no idea what I'm doing,' and you think to yourself that you really should. Because I've been doing this for two years already and in different courses, but the hardest thing for me is getting into the groove again, like: catalogue, journals, primary resources and all that."

Finding resources once does not mean students are problem free, either: quite a few students described trouble they have had with organizing and evaluating resources:

"[It's a problem] when resources aren't reliable. That's the biggest thing: when you Google something and you can't use it. Especially when you find something that's perfect for what you're looking for and you can't use it for your assignment."

"I think we need an education on what's available and how to use it. I think we need ways.... I don't know if it's to be taught how to organize it, because obviously people organize things differently, but . . . when you get to university, things get more complicated, you have more things on your plate, and sometimes it's harder to keep things organized. So, I think that's necessary: I think you need the skills to be able to use the resources that are available."

Cordelia: I find that I'm looking to get certain information from a journal and their level of speech and their level of speech is SO up here and I'm so not there. I'm just trying to even understand what I'm reading just to get a little tidbit, and I find that tidbit and I mark it down and I'm quoting it, and then I get out of there and I go to another journal, and you go through so many you don't, I didn't write the journal name down, I didn't write the pages down, where was that, how do you go back and find it. 'Cause half the time what you find it's by mistake, you know so how do go back and find it?

Xena: I was going to add what Cordelia said, that the journals, they're from all different kinds of levels and people with PhD's have written it. So we're doing a research project right now and there are some journals that have the biggest words, and not only the complexity of how they're saying it. So if they can do it by age group, like first years – do you know what I mean? There are some stuff that I have to pull out dictionary.com for.

Cordelia: journals for dummies!

Xena: Yah!

Much of the focus group discussions surrounded the issue of “research problems.” Many students, particularly those more experienced with research, had experienced a whole host of difficulties. In the focus group feedback, multiple students appreciated the opportunity to express their frustration with the research process:

“It’s nice to finally have a chance to talk about some of the issues, since there is no other place to address them.”

Other problems mentioned during the focus groups are summarized in the table below.

Table : Problems with researching

Understanding LOC call numbers	Not enough education on research early on
Getting too many search results	Missing book still in the catalogue
Google searching is time consuming	Need program specific resources/help
Not knowing tech tricks for searching (i.e. CTRL F)	Contradictory resources
Not having English translations	How to save research to use it later
Assigned topics = books all checked out	Keyword searching versus title searching
Rules change across libraries	Using academic resources instead of internet
Problems with works cited	Reading print resources quickly
Finding resources from citation list	Inconsistent demands between disciplines
Knowing what a primary resource is	Limitations on number of internet resources

Library Programming

Overall, the feedback on library programming and staff performance was extremely positive. Many students reported the service they receive at other campus libraries as a problem, while the help the Beryl Ivey Library provides is excellent:

“I don’t ask for help at main campus like I would at Brescia because I’ve had experiences with the librarians here where I would say I’m looking up this topic and you guys will literally sit with me for 15 minutes and search, and if we can’t find it together you’re emailing me the next step with a link to something, whereas at main or other schools they don’t do this, they’ll just say “go to this database,” they’re just a lot more distant. I mean they’re there, and maybe it’s because they have way more students, but they don’t take as much time as the librarians do here, which is amazing.”

“I don’t feel comfortable at Weldon like I do here. When I’m there, it’s too... there’s too much going on. Here, I can like I don’t know, it’s easy. And the other thing, when you first walk in here you’re right at the door, I don’t even know where to go if I needed help [at Weldon]. Like, I know there’s the central thing, but where the help is? Or are those just workers? I don’t really know.”

“I would say everything I know about research is simply because of the library here. . . [Librarians] will actually go on the computer and actually ask for my computer and have me do it, that’s wonderful. So, all the stuff I know is just because of the library.”

Many students also talked about how they view the Brescia library as a comfortable place to study:

Heather: Is environment a factor in what the library is to you?

Many: yes, huge

Xena: Even today, we were walking with some girl and she was like “I love Weldon,” and we were like “no, but Brescia has yellow walls! That one has concrete boxes!” This has drywall – it’s a big deal

Sam: There’s couches and lighting

Xena: And we have a wall that’s just of glass. It’s so important to us the environment, where we’re doing our research and where we’re studying

Melanie: It’s so dark in there, too

Xena: Yah, it’s dark. We have drywall! It’s such a big deal!

The Beryl Ivey library seems to play an important part in the lives for many students at Brescia. Without being prompted, many students had a story to share about how the library affects them:

“The atmosphere is positive: when you walk in, they smile at you, and if I have something on hold they know what I need, they’re grabbing my stuff before I even have my card out or I’m at the desk. I mean I live here, it’s my second home.”

“I think the camaraderie that we have is really important when you’re a student, because you don’t want to just go into a place and just be told “go do this,” but when you go into a library and they tell you your name and they know you by name, that really puts you at ease so you don’t really approach research as something to be afraid of, because you’re not afraid of the people who represent research, so you’re not really afraid of research itself, and I think that’s a really important role for the library.”

Instructional Services

Of the twenty focus group participants, fourteen had received in-class library instruction from a Beryl Ivey Library staff member. While most reported that the experience was positive, two first-year students stated their experience was boring:

“To have a three hour food and nutrition lecture turn into a three hour this is the library, this is how to write a sentence, this is where to put your period. It was a lot.”

A few students discussed the need for changes to library instruction: as mentioned earlier, many said that the time between library instruction and when they needed to use the skills made it easy to forget what they had learned. One student said that more hands-on training was necessary when learning how to research, as well:

“When [professors] show us slides in class, and they tell us how to do [research], they don’t interact with us so that we understand it. They show us how to ‘do research,’ but they don’t really focus on us, we don’t really KNOW how to do research.”

As an alternative suggestion, some students thought that basic research skills should be taught at the beginning of university, with advanced skills being the focus on upper-year classes:

“When you first start, not necessarily an o week event, but the first class you have a hands on library moment, ‘cause you get your syllabi and you’re all... I have to write a what?! ‘Cause when you’re in high school, the classifications system is totally different, it’s Dewey and you get here and it’s like “What’s BF?” I’ve never seen BF before. Not only do you have to learn how to use the library but research and everything else... but having some kind of... here’s a head start on university research, and then the Profs can arrange for more advanced stuff in the class room.”

Other students mentioned the need for library-related workshops – a service the Beryl Ivey Library is already providing:

“[It would be helpful if the library continued] the sessions that you offer primary and secondary sources, how to navigate through pages, maybe more specific sessions could be formed on how to properly search. I haven’t come across one of those yet, like on the asterisks or, and things like that. And I think a lot of students would find that helpful, I know I would.”

“Like the SDC down on main, have workshops you can attend at the library, maybe you take over the study room for an hour or twenty minutes and get us to go through these steps, and maybe research something like Wal-Mart or something really arbitrary, and go through it and try it out right away and then bring our problems back right away and have someone there to help us.”

“Maybe there can be times the library can set up for students to come in to learn how to use the library system, maybe like once a month.”

Program Familiarity

When discussed, students in third and fourth year were more familiar with library programming and services than students in their first two years. Most students understood that the library provided access to books and journal articles (through the catalogue and online databases), offers research help at the desk, provides course reserve services, including overnight reserves, and has a dedicated library website. Student familiarity with web-based programming, however, was much more limited:

Heather: What other ideas would make your life easier?

Peter Pan: Something designed with a website, by the library, for each program in general: Psych, Foods and Nutrition, that has all the stuff. Like an online version of the APA sheet that you have downstairs. . . Or with links information and handouts about how to use the catalogue on there, something we can get to and wouldn’t have to come to the library to use.

Sam: In high school, we had four or five databases, so if we wanted science research we went to this specific database, and here I only use just the [Brescia journals]... this might be that's all I know... so maybe to have other databases to use?

Xena: Yah, if there can be specific as well, like she said, for science students you can have different journals, so if you're doing a psych thing, you can have something else for that.

Petri: That does exist, but just getting the knowledge out there to students that it exists.

Peter Pan: Maybe make the library website more prominent. People kind of know it's a gateway to... and it pops up when you turn on the computers here at the library, but to make it known that there is a library website that does have things on it, as opposed to it just being...

H: A gateway to Western Libraries?

Peter Pan: Yah, 'cause that's how it kind of feels like

H: Does anyone else agree with that? That our website feels kind of redundant?

Flapjack: Yah, it's easier just to go to Western and then it'll show Brescia's in there, so I just assume it'll give me everything

New Library Programming

In order to help solve their school-related problems, students generated a list of ideas for potential new library programming that would help them complete their assignments and course work:

"It's always good to have old exams."

"After working on an essay for months you need to read it, and sometimes it's helpful to have someone else read it, so I know there are programs that will read your essay for you... having the computer read your work to you is really helpful for anyone who has an essay and know if it sounds funny."

"Some programs have support that have voice recognition and reading and translation from one language to another one, and it will read it to you in that language as well. So you could probably install it on the computers here."

"You know how there's that writing centre. Where you can bring your pages for help? I'm not saying that someone would need to read the whole thing, but maybe the first few pages? Or give you some ideas. It would be nice if there was someone like that in the library, like all the time. So that you didn't have to go to the writing centre, make an appointment. 'Cause sometimes, with time management, my essay's due in 2 hours and I don't have time to go see her, but there's no one there to help me before I have to hand it in."

“Like people with special needs, do we help people with learning disabilities?”

“And also sometimes you find something that’s really good and you want to print it out or take it home, but that day you don’t have your library card, and you can’t print it and you don’t want to go find it again. I wish that there was a limit or something in your account that you could print stuff off.”

Many students discussed additional online support for their course work, especially when prompted:

Heather: So, just so that I know, would it be helpful to have library links in your WebCT?

Flapjack: What kind of thing do you mean?

Heather: Like links to resources, help sheets, research, and that kind of thing, on your WebCT, would it be helpful? Yes, everybody’s nodding.

Tyra: I think that’s already happening with some of my teachers in some classes

Snow White: I’ve never thought about that before, but I think it would be really helpful

Peter Pan: I think it would be really good

Heather: What if this kind of thing [library workshops] was offered online? That you could do it on your own?

Many: Yes, that would be way better

Sam: No, I’m [an] auditory learner. I would go to hear a person tell me.

Heather: Those of you who prefer online, can you let me know? 4 [of 6] of you prefer online?

Gigi: Yes

Cordelia: Yes

Library Facilities

All three focus groups discussed the Beryl Ivey Library facilities, and most students expressed pleasure in the building. As mentioned above, the lighting, temperature, balance between loud and quiet, and atmosphere were all considered positive:

“I like that you can sit alone in the cubicle areas, or you can sit in the group areas and where it’s okay to talk to talk to your friends, and there’s spaces where it’s silence, or there’s the study rooms. I like that there’s lots of different places to sit and study.”

Students consider the Beryl Ivey Library a place to escape, to use resources such as the computers, and to study. Several students mentioned that there is not enough space to study, while others complained about the noise level:

“Like sometimes you just need to study, and lately you can’t. Usually this side is quiet over here, but lately it isn’t. Like, people are in the cubicles and they’re still loud, and you can’t concentrate. And it’s hard to find anywhere to sit, and it’s always noisy on the right side.”

“I find that when it’s really busy in here, it’s hard to find a space to study. So that’s when I head over to main campus. I don’t really like the social aspect of the library. I know you have to sit and talk and do group work, but unless I have group work I usually book a study room.”

“If I’m on this side [south side], and then I’m down there and people are talking on their cell phone upstairs, at the computer up here, that’s what gets me. The sound carries from up here.”

“I think it’s important to have one side that’s talking in group, because sometimes I think there’s not enough time in the group study rooms, because someone else is waiting for it. I feel bad talking in this library, but sometimes we have to. So maybe, like you know that little glass wall you put up by the photocopiers? Maybe you could put another up, and you can designate that this side as the quiet side and that one as the group side.”

Library Policy

A few students talked library policy. As mentioned above, some students were displeased with the noise level in the library, and one thought more signage was needed regarding food in the computer lab:

“I do understand that you guys allow snacks in the library, but I had a problem 3 weeks ago and in the computer lab and had to tell on a girl who opened up Chinese food in the library. But it was so smelly and so distracting. And there’s no signs in the library about no food, but you might want to consider it because it mixes people up, because they assume that since you can have snacks out in the main part they can have snacks in the computer lab too.”

Other comments regarding library policy included:

“I just wish that the reserves were on... I know you have overnight reserves now, but for 8:00 in the morning the next day, I have an 8:30 class but I get here at 8:15 ‘cause I’m walking off campus, so like it’s kind of an inconvenience in that sense. I’m not here late, so I can’t stay home late ‘cause my area doesn’t have buses either, so I have to be here out of here before it gets dark. So, that kind of sucks.”

“Like printing is difficult to figure out and photocopying is difficult to figure out, and the rules change all across campus. You go to Weldon and you want to print something and it stays there for 24 hours, and you come here and you want to print something and it stays for 15 minutes.”

In the evaluation forms voluntarily filled out by students at the end of the focus groups, as well, one student suggested that the library have longer hours more similar to Taylor library.

Library Marketing

When programming was mentioned that students were unaware of, ways to improve library marketing was then discussed. Students identified that a number of good programs they want the library to keep that simply need better marketing, including:

- Library workshops
- Online and print handouts
- Online Reference Shelf
- Western Libraries' Online Tutorials
- Advanced searching tips
- Role of the library and library staff in the research process
- Resource variety (including databases)

Students made a variety of suggestions on how to improve marketing. Some were aimed at first year students living in residence, such as:

Petri: "I was just thinking, I look at our lounge boards or hallway boards in residence, and I don't know if it would help for the librarians to contact the RA's and get them to put up information and mention it in floor meetings. So the frosh can be more aware of where to access things."

Xena: "Yah, that would be awesome. Yah, 'cause whenever we have our floor meetings, everybody comes so that's just such a great way of letting people know, and if librarians can contact RA's that'd be amazing. "Cause they have bulletin boards full of information, and that library information can benefit us, so if you can relay that information to a second party who can relay it to us."

Sam: "Yah, 'cause in university it's not like everybody needs to use the library at one point, it's going to happen. So in first year to start off with a good foundation, would be awesome."

"In Brescia's residence in our mailboxes we get the Brescia Buzz, and it gives information, so I think if there was something about the library, me and my roommate went through everything really fast."

Heather: What other ways would you pay attention and attend something that we can communicate with you.

Melanie: Those things you had on the desk, that's how I knew about these focus groups.

Heather: The little triangles?

Melanie: Yah, 'cause there's nothing on the tables, so if something's there, you're like "oh!"

Gigi, others: Yes

Sam: You can even put them in the rez dining area, there's always triangles there.

Other suggestions focussed more on the visible presence of the library:

Heather: If we were to do announcements at the beginning of class, would that work for you?

Many: yes, that's perfect

Cordelia: Yes, that would probably work best for me

"Maybe have one of the library staff, I mean I know that there's lots of first year classes, but have someone hit every class once to be like "here's what we offer" hand out a little package. And I think the internet can be used more effectively to advertise the library."

"Even in business we have a teacher that goes through the things that are going on at Brescia at the moment, and everybody gets their agenda out. And everybody does it."

"Attaching it to the weekly leader would be a good idea."

"I think it's just, maybe have like, something where people can sign up where they're interested in what Brescia is offering across lots of subjects. Like you're offering, this, this, this and this, and then people can sign up if they want more information and they're not bombarded with things they don't want. I think that putting up posters, or little pieces of paper, or even pink ones, isn't going to attract people. What's going to attract people is having a massive presentation in the hall going through the building. Like when you had the Refworks one I saw people stop and look at it. Or having people stop and catch you, rather than making it about us trying to find you and the library."

In one focus group, students agreed that email advertising was where the library could expand:

Petri: And in terms of the off campus students, maybe an email can be sent out. Just introducing them to some services, or a list of services that are available.

Heather: Are you bombarded by email from departments?

Gigi: No

Heather: You don't feel that you get too many emails?

Sam: If you sent me an email from the library, I can tell you right now, I wouldn't read it

Xena: Some of them from Brescia, I don't know if it's, but they're so wordy – so just skim, and be like, okay trash. Because, I don't know, I feel like I get too much email from school

Sam: I get at least five a day

Heather: How many of you feel that you would not read library emails? If they were brief?

All: yah, if they're brief

Sam: A lot of the time, I'll open it: the ones that are long and wordy and you have to scroll. I get to the first "Hi, this is!" I just am like, pfft, I don't even care. If it was to the point, like "if you're looking for this kind of sources, do this" or something you can print off.

Heather: Like fifteen words or less kind of thing?

Sam: Yah

Petri: when I suggested that, it was more like big bold letters: "services available!" This, this, this.

Gigi: It's really nice to send email of the services of the library, so that the students, especially first years students, so that they will be aware of everything that they need

Sam: Just a suggestion even like, even in high school, there's things that you could put your email down and have things sent to you, if you care, so if you're having trouble doing research you can put your email down saying, I would like things sent to me, and do it that way, and that would be your consent

A similar conversation occurred in another focus group:

Peter Pan: Yah. And with all of the library things, if you guys were going to do anything with these ideas, emailing them out is probably the best idea. 'Cause I know the SDC sends a lot of emails out about "this workshop is happening here, sign up here", this work shop...

H: Would it be annoying to get more emails, though?

Peter Pan: Maybe if you send them out once monthly

Cinderella: Or in the Weekly Leader

Two others: Weekly Leader

Peter Pan: From Colleen

Flapjack: That'd be good

Maverick: Like, these workshops are going on, this is happening this week

Peter Pan: You had that before, though, right? You're already doing a lot of this?

Another student had a different idea for improving library marketing:

“There’s something they did down on main where they had a contest back in September, or no it wasn’t a contest, but if you attended a certain number of professional or development programs you were entered into a draw for a cash prize, so... I was thinking that “I’ll attend the workshops,” and I think it was that you had to attend ten workshops. That worked.”

In terms of timing, one student suggested that library marketing start later in the year:

Flapjack: So if you gave us something definitely after a week sometime, about the library, we were paying attention

Heather: Like, what are you thinking, maybe October-ish?

Maverick: Yah, when we’re thinking “Oh, I should start my school work.”

Many: agreeing

Brescia Campus Programming

An opportunity was provided for students to discuss: any problems they have experienced with completing their coursework in general; and ways that the Brescia campus community could improve their services to help students succeed.

The number one problem that students identified – more than any research-related problem discussed above – was that of time management. Regardless of their year of study, students in all three focus groups agreed that more help was needed in time management and in avoiding procrastination:

Cinderella: I’m not sure if the library already has this, but like, especially for first year, but an info session on time management, ‘cause it’s pretty key for course work, especially around this time. I remember when I was in first year awhile back it was very overwhelming, I remember my research assignments were really half baked, you get really desperate around like define time. I’m sure that’s why my assignments didn’t do well.

Heather: Do other people agree?

Tyra: Yah, that’s my main issue

Heather: Let’s take a tally. Oh, all eight people. So, is that something – just for clarification – is that something you feel is a problem right now? Is knowing how to time manage?

Peter Pan: Especially in first year

Heather: Especially for you in first year?

Flapjack: I think, yah, in the beginning but I feel like now I have it a little bit more under control

Snow White: It’s a big problem for me.

Melanie: Maybe it's 'cause people wait 'til the last minute to do research, and maybe that's why you wouldn't go to a librarian if you know you can, 'cause I knew librarians can help us with APA formatting and researching and all that kind of stuff, but I didn't have really time to go learn them and then do my research, I just wanted to it, so I just search on Google.

H: So is time management an issue then, in learning these kinds of skills, or learning what other options there are, is it that you've run out of time? Or?

Melanie: I think it's that we've never made time to do it

Xena: I think procrastination is an issue for every first year student

Other areas that students need assistance with included:

"[Something] which I didn't have to do in high school, was paraphrasing, or like you had to cite where you got it from, or that idea, and we have to do that in kinesiology but not in high school, I've never had to do that before"

"Math help. Something that Brescia doesn't really have. And I know we don't have that many math classes, but the help on main campus is limited."

"I was thinking if it was MOS, like careers, you could have an area to help with that, like career path. 'Cause when I go to academic advisors I feel like they're hiding something from me, like options, and that's the stuff that I need help with. So, that really confuses me more, and I'm in first year and I don't know what to do. Like more career help. 'Cause that's why we're all here anyway."

"Does Brescia have along the same lines as what the Learning Skills have, like those manage time, speed reading, multiple choice options?"

"How to speed read. Sometimes I feel like I'm taking too much time reading, and then when I go and write my research essays, I feel like I've wasted so much time just reading and then I have to actually write my project. So if they could teach us how to read, and then how to manage our time more effectively."

Xena: Another thing, I know the library, well I'm not sure if the library, but I've heard that there's some conferences and stuff about how to study, and how to memorize, and how to do this and how to do that, and I'd be so interested in going, because learning the way you learn and stuff, but I've never – and maybe it's because I'm unaware – but I just haven't found anything that's advertising to that kind of stuff. And I know most universities do that, 'cause my friends in other universities are like "oh yah, I went to this workshop" and whatnot, and it was usually at the beginning of the year. But does Brescia hold those? And if they do, maybe they should send out emails about that kind of stuff. Or even if you guys put up flyers or pamphlets that has all of these meetings, that we can pick and choose and be like "oh well, this one's good." 'Cause I know some girl on my floor on frosh

week, she went to something called “how to memorize,” and they teach you really good ways, ‘cause memorize isn’t everything, but there’s some things you just have to know. And like those things are so interesting and I guess it would be really cool if you guys advertised to that.

Heather: Would that be beneficial to all of you, or is it beneficial to first years especially?

Gigi: No, to all years

Heather: To all years. Just to clarify, do you mean study skills?

Petri: And taking notes

Sam: All of it

A few students also said that it would be helpful for Brescia staff and faculty to be more aware of the services offered at Western that cover the above topics, as well:

Cordelia: There was a teacher’s college seminar over at main campus, that came to me via email, and I came to Brescia and I really wanted to go, and I “where is this place.” And they said, I don’t know. And I came to the secretary of the principal, can you tell me, and they didn’t know. And people at Brescia just didn’t know about, for some reason. I don’t know how to fix that, it’s not a huge deal.

Heather: Just to clarify, do you mean the services available to you as a Western student making sure that Brescia...

Cordelia: That Brescia knows about it. Which very rarely happens, since Brescia usually knows, but this particular time Brescia didn’t.

Summary of Focus Group Results

The goal of the focus groups was to help address three of the Millennials Project’s objectives: what is the research process of Brescia University College students; what existing services are students currently using and/or would like to see improved, and; what new programming, if any, would students like to see develop, and actually use? A good deal of information was gathered regarding the students’ researching techniques and how they view the entire research process. The focus group participants were, on the whole, overwhelmed by the amount of information there is available and were not confident in their ability to navigate the system. They viewed research largely as the search for relevant resources, rather than the process of acquiring lifelong critical thinking skills, much like Gross and Latham’s study (Gross & Latham, 2009).

First year students’ experience with research was patchy, as many were only going to complete one research project throughout their entire first year. Upper year students explained that this inconsistent experience in the first few years of university often harmed them in their senior classes, as professors had the expectation that students were familiar with the basics of researching. Overall, though, students’ use of different resources fit with the previous research completed on the subject. They relied

heavily on journal articles, books and the catalogue, and Google, along with a surprising reliance on the staff at the Beryl Ivey Library. Terminology was not always correct, though, when students listed their research resources, and they did not always understand how different types of resources (such as journals and databases) were connected. The purpose and function of different resource types, though, and their benefits seem to be learned over time and with research experience. Problems with researching were the major focus of all three discussions: these issues were varied and frequent among all participants, regardless of year of study or age. They included finding relevant search results using the catalogue or databases, finding specific types of documents (such as correlational studies) efficiently, and finding full text resources, whether online or in the physical library.

The focus group participants seemed generally pleased with the service they receive at the Beryl Ivey Library and with in-class instruction, but did offer a few points of constructive criticism. A few first year students emphasized the need for active learning or hands-on experience during library instruction, while others discussed improvements to the library webpage. This fits with the different learning styles emphasized in much of the literature (Manuel, 2002; Sander et al, 2000). Students agreed that marketing efforts should improve over the elimination of any current library services, as things like drop-in workshops and program-specific webpages are unknown to the majority of students. Very few new services were suggested and students seemed only vaguely interested in technology-based services, aside from a library WebCT presence. The main improvements the library can make are in the area of marketing, which should be short and to the point. Suggestions here included working with faculty, focussing on first years when advertising services, and using proper timing (i.e. in the first three weeks of school).

There was only minor evidence of the Millennial characteristics described above, as well. Students seemed to have a wide range of experience with technology, and only first year students were interested in a library Facebook presence. One student did discuss her career as the primary purpose of being in university, though, lending weight to the theory of academic capitalism. In general, though, the focus group participants were too varied and unique to lend weight to the theory of Millennials. Overall, particularly regarding the research process, the focus groups were informative, and helped to prepare the user survey that was completed the following term.

User Survey

Participation, Methodology, and Demographics

The survey was emailed out to all Brescia undergraduate students (rather than to a sample) on March 22, 2010 and was available until Sunday, March 28. It was used to build on the focus group results and determine the research process of all Brescia students, including the resources and library services they use and any problems they may encounter along the way. Suggestions for improving library programming, and the marketing used to promote these services, was also collected. Survey Monkey was used to collect responses: in total, 386 students completed the survey – 34 percent of the overall student body (Total = 934 full time students, 187 part-time students). An additional 57 students answered the survey but were not included in the following analysis due to incomplete results. The breakdown of the participants' year of study, age, and program can be found in [Appendix A](#). While not all disciplines were proportionately represented in the survey respondents, students from each program participated in the study. Forty-three mature students (or those ages 26 and older) and 36 international students also completed the survey. The questionnaire took an average of ten minutes to complete and contained twenty questions: ten focussed on the students' research processes, four looked at Beryl Ivey Library programming, and six were simple demographic questions. Participants were also given the opportunity to provide additional comments or suggestions about the library at the end of the survey. For the complete list of survey questions, see [Appendix A](#) below.

Results

A note on results

Because some programs were underrepresented (or generally have few students at Brescia), they were not specifically mentioned in the survey results beyond the general summaries. This will affect the following disciplines: Health Sciences, Kinesiology, and Scholar's Electives, for a total of 17 participants; the students who chose "Human Ecology" as their program of study have been grouped with Foods and Nutritional Sciences. When discussed below, "Arts and Humanities" includes the following disciplines: English, French, Philosophy and Religious Studies. "Social Sciences" includes: Community Development, History, Political Science, Psychology, Sociology and Undeclared Students (who are statistically grouped with Social Sciences in Brescia's Registrar's Office). Because of its multidisciplinary nature, Family Studies will have its results displayed on its own, as will Management and Organizational Studies (MOS), and Foods and Nutrition. Where tables have been included, the following short forms will be used: Arts, Family, Foods, MOS and SocSci.

Grade averages were affected the same way: very few survey participants chose the "59% and below" and "91% and above" grade average categories in the demographic section. Where grades are discussed below, then, the following categories will be used: 60% and below, 61 to 70%, 71 to 80%, and 81% and above. When any these variables (such as year of study, age, or program) did not vary from the overall survey results, they will not be specifically discussed in the results below.

The Research Process: Assignments

Total Number of Assignments

The participants were first asked to report the number of assignments they completed during the 2009-2010 academic year, and then how many of those required research of some kind. A definition of research was provided. On average, the respondents completed ten to eleven assignments during the 2009-2010 academic year. This number increased the longer students have been in university: students in first year, on average, completed between eight and nine assignments each year, while students in fourth year completed between eleven and twelve. The number of assignments also varied by program of study: MOS students reported the fewest assignments, at an average between eight and nine per year, while Arts students complete more than twelve each year (see tables below).

Survey Results: Total Assignments by Year of Study

	First	Second	Third	Fourth
None	0%	0%	1%	0%
1-3	10%	8%	3%	2%
4-6	23%	21%	17%	10%
7-9	28%	18%	14%	17%
10-12	24%	26%	25%	22%
13-15	10%	17%	23%	34%
16 or more	5%	10%	17%	15%

Survey Results: Total Assignments by Program

	Arts	Family	Foods	MOS	SocSci
None	0%	0	0%	0%	0%
1-3	2%	2%	4%	17%	6%
4-6	9%	18%	19%	27%	16%
7-9	14%	24%	16%	20%	20%
10-12	22%	30%	31%	17%	20%
13-15	31%	16%	22%	13%	21%
16 or more	24%	10%	7%	7%	15%
Average #	12-13	10	10-11	8-9	9-10

Assignments Requiring Research

Of the total assignments students completed, an average of six required research (although over 50 percent of survey respondents completed fewer than six research assignments – see the table below). Again, the number of assignments requiring research increased through each year of study, which was consistent with focus group results: students in first year completed between three and four research assignments, while students in fourth year completed between eight and nine. MOS students were required to complete the fewest number of research assignments, with an average between four and five; and Arts students, along with Foods and Nutrition, had the most between six and seven. See the tables below for more information.

Survey Results: Total Assignments by Year of Study

	First	Second	Third	Fourth
None	2%	2%	1%	0%
1-3	52%	33%	18%	14%
4-6	32%	32%	28%	20%
7-9	8%	19%	29%	28%
10 or more	6%	15%	25%	34%
Average #	3-4	5-6	6-7	7-8

Survey Results: Total Assignments by Program

	Arts	Family	Foods	MOS	SocSci
None	0%	0%	2%	3%	0%
1-3	20%	22%	27%	50%	29%
4-6	27%	42%	21%	23%	30%
7-9	37%	14%	17%	10%	20%
10 or more	15%	12%	33%	13%	20%
Average #	6-7	5-6	6-7	4-5	5-6

Type of Assignments

In order to determine the research process of Brescia's students, survey participants were then asked to choose one of their recent assignments that required research. A number of questions then focused on this one assignment, which was supposed to be typical of the assignments the students usually complete. Essays were the most popular choice for the assignment type requiring research (48%), while group work of various types followed (group essay 5.5%, group presentation 8.3%, group report 8.8% = 22%). Case studies (11.9%) and other individual assignments such as presentations, reports, and lab reports/tutorial work rounded out the other top answers (15%).

When first year students were required to complete a research assignment, the type of assignments they did were comparable with other years of study. Students selected case studies increasingly through years one to four, though, while group essays decreased. Other types of group assignments slightly increased from years one to four (see the table below): interestingly, the variety of assignment types was much lower in fourth year than in others years. Looking at program differences, Foods and Nutrition students were more likely to select presentations, case studies, and group essays than students from other programs. Indeed, Foods students' assignment types had a much broader range than most other programs: Social Sciences, Arts and Family Studies students primarily selected essays for this question.

Survey Results: Type of Assignment by Year of Study

	First	Second	Third	Fourth
Case study	2%	8%	17%	20%
Essay	58%	40%	50%	46%
Group essay	16%	5%	1%	1%
Presentation	1%	18%	5%	0%
Group presentation	5%	11%	7%	11%
Report	4%	7%	8%	9%
Group report	7%	7%	10%	12%
Lab report/tutorial	4%	4%	2%	0%

Survey Results: Type of Assignment by Program

	Arts	Family	Foods	MOS	SocSci
Case study	0%	4%	34%	7%	2%
Essay	80%	70%	8%	35%	88%
Group essay	0%	2%	13%	3%	0%
Presentation	5%	4%	14%	0%	1%
Group presentation	7%	8%	7%	7%	17%
Report	3%	4%	7%	17%	11%
Group report	2%	4%	14%	28%	6%
Lab report/tutorial	0%	0%	2%	3%	4%

The Research Process: Resources and Services Used

Participants were then guided through a number of questions identifying the types of resources used to complete their research, whether any library services were used, and if they consulted any other individuals for assistance. The students were also asked to rate how helpful each of the resources, services and people had been.

Resources

Students at Brescia use a wide variety of resources while conducting research. The most commonly consulted resource was their textbook or readings from class (93%), with Google and journals taking the second spot (both with 90%); databases were a close third (87%). This varies from the results of the focus groups, above, where textbooks and course readings were not mentioned. Survey participants also reported regular use of the library catalogue and books from the Beryl Ivey Library or other campus libraries. Wikipedia was the least used resource included in the survey question (at 52%) – again, not the case for focus group participants. Students were also given the opportunity to list other resources not covered by the question. Some of the responses included: pamphlets and brochures, local public libraries, local archives, the ARCC special collections, and reference material (such as dictionaries and encyclopedias).

Even when students used a resource, it did not mean they found it helpful. In general, students found library resources the most helpful (including databases, the catalogue, textbooks and other books, and

journals) and found internet resources less helpful: only 50 percent of students who consulted Wikipedia actually found it helpful for their research. Google too, while a popular choice for most students, was somewhat less helpful than library resources (see the table below). First year students were much more likely to use online encyclopedias like Wikipedia than students in other years of study (95% versus 72% average), although they found it the least helpful of any year (38% compared with 50% average). First years also reported the highest use of Google, the library catalogue, books, and online databases, but found many of them less helpful than did students in upper years. Online and print scholarly journals, for example, were found increasingly helpful the longer a student had spent in university. Interestingly, age was not a factor in whether students found a library resource helpful.

It is interesting to note that 100 percent of Arts and Humanities students reported use of Google while conducting research, although they found it no more helpful than other students did. Arts students had the highest rate of use for every type of resource in fact, with 100% also reporting that they referred to their course textbook, and 97% or above using the library catalogue, books, databases and journals. Again, though, there was little difference in how helpful they found the resources when compared with other programs of study. MOS, meanwhile, used a few resources less than other programs, including online databases and books. They also found these resources less helpful than other disciplines. MOS students felt that Google and Wikipedia were particularly unhelpful, compared with other disciplines.

Survey Results: Resources Used and Found Helpful by Year of Study

	Used				Helpful			
	First	Second	Third	Fourth	First	Second	Third	Fourth
Textbook or readings from class	94%	89%	91%	96%	83%	76%	81%	83%
Google or other search engines	98%	89%	91%	91%	65%	73%	73%	64%
Wikipedia or other online community encyclopedias	95%	69%	74%	77%	38%	55%	51%	43%
Online databases	98%	84%	89%	90%	63%	84%	89%	86%
Online or print scholarly journal	97%	86%	90%	96%	76%	87%	90%	93%
Library catalogue	98%	78%	82%	91%	43%	82%	85%	86%
Books found in Brescia or other campus library	97%	67%	77%	84%	54%	81%	83%	80%

Survey Results: Resources Used and Found Helpful by Age

	Used			Helpful		
	17-19	20-25	26+	17-19	20-25	26+
Textbook or readings from class	93%	95%	84%	74%	80%	72%
Google or other search engines	89%	91%	88%	72%	70%	71%
Wikipedia or other online community encyclopedias	69%	74%	67%	53%	50%	41%
Online databases	84%	88%	84%	79%	84%	86%
Online or print scholarly journal	89%	90%	91%	84%	77%	85%

Library catalogue	76%	86%	79%	75%	85%	82%
Books found in Brescia or other campus library	69%	68%	72%	70%	94%	81%

Survey Results: Resources Used and Found Helpful by Program

	Used					Helpful				
	Arts	Family	Foods	MOS	SocSci	Arts	Family	Foods	MOS	SocSci
Textbook or readings	100%	98%	94%	87%	91%	78%	88%	80%	85%	73%
Google or other search engines	100%	90%	93%	90%	89%	69%	67%	70%	59%	69%
Wikipedia or other community encyclopedias	86%	74%	69%	70%	76%	55%	57%	43%	43%	48%
Online databases	97%	88%	86%	93%	86%	86%	84%	88%	68%	82%
Online or print scholarly journal	97%	88%	94%	83%	89%	89%	91%	90%	88%	90%
Library catalogue	97%	82%	82%	80%	83%	89%	83%	79%	75%	84%
Books found in Brescia or other campus library	98%	76%	76%	70%	76%	88%	84%	80%	62%	79%

Library Services

The same question was then applied to the services offered by the Beryl Ivey Library. Overall, library services were used less than the research and internet resources discussed above. The most popular library service was the Western Libraries' website (87%), followed by its subsidiary Browse by Program (subject-specific resource pages) (70%). Services provided by the Beryl Ivey Library were less popular than Western Libraries (see the table below for more information). Surprisingly, 92 students reported that they participated in the University Student Toolkit when only 78 students actually did. Students were also able to identify additional library services they consulted, beyond the provided list in this question. These included: instruction from library staff in-class, main campus research workshops, and the intercampus book delivery system.

The survey participants seemed to find most library services helpful. Western Libraries' website was helpful to 86 percent of the students who used it, while library handouts and the Browse by Program web pages were both helpful to 76 percent of students. The most surprising result was, again, revolving around the University Student Toolkit: only 39 percent students who said they used this service found it helpful – a dramatic difference from the Toolkit feedback provided in another avenue.

When looking at the differences between years of study, first year students took the University Student Toolkit more than other years (although, again, the numbers are not accurate) but all other services were generally used the same amount by students in each year of study. Again, first year students found some of these services less helpful than other years, including: library handouts and the online reference shelf. When considering program of study, MOS students were least likely to use the Western Libraries' website; they also found library handouts and the online reference shelf the least helpful of all

programs. Foods and Nutrition students, meanwhile, found the University Student Toolkit the least helpful of all programs.

Survey Results: Services Used and Found Helpful by Year of Study

	Used				Helpful			
	First	Second	Third	Fourth	First	Second	Third	Fourth
University Student Toolkit	48%	17%	14%	17%	48%	38%	15%	38%
Library Handout	53%	43%	54%	60%	55%	78%	82%	88%
Western Libraries website	84%	83%	92%	89%	80%	82%	93%	88%
- Browse by Program pages	69%	72%	67%	70%	70%	84%	77%	73%
Beryl Ivey Library website	73%	65%	65%	71%	69%	68%	75%	72%
- Online Reference Shelf	47%	42%	43%	41%	44%	65%	74%	69%

Survey Results: Services Used and Found Helpful by Age

	Used			Helpful		
	17-19	20-25	26+	17-19	20-25	26+
University Student Toolkit	33%	21%	23%	44%	36%	40%
Library Handout	46%	53%	63%	61%	79%	85%
Western Libraries website	82%	90%	81%	81%	88%	89%
- Browse by Program pages	73%	68%	70%	80%	73%	83%
Beryl Ivey Library website	67%	69%	67%	64%	70%	83%
- Online Reference Shelf	39%	45%	42%	53%	66%	67%

Survey Results: Services Used and Found Helpful by Program

	Used					Helpful				
	Arts	Family	Foods	MOS	SocSci	Arts	Family	Foods	MOS	SocSci
University Student Toolkit	19%	24%	22%	33%	26%	64%	58%	30%	40%	45%
Library Handout	47%	46%	51%	50%	56%	71%	87%	77%	60%	79%
Western Libraries website	93%	90%	86%	83%	88%	85%	78%	89%	80%	89%
- Browse by Program pages	73%	74%	72%	67%	69%	77%	70%	81%	70%	78%

Beryl Ivey	61%	80%	70%	77%	66%	69%	65%	72%	74%	72%
Library website										
- Online	37%	54%	46%	40%	41%	55%	70%	68%	50%	65%
Reference Shelf										

People

Finally, participants were asked to indicate whether they consulted other people for assistance with the research process. The most popular choices for respondents included: their professors or course instructors (81%), friends or classmates (71%) and the Beryl Ivey Library staff (67%). Unfortunately, Brescia's writing instructor Joan Ellsworth was not included in the initial list, however three students on their own identified that they consulted her during the research process. Other responses beyond the provided list included respondents' local public librarians, local archivists, and municipal representatives.

How helpful students found these people varied drastically. The most helpful people overall were the Beryl Ivey Library staff members: 93 percent of survey respondents who asked the library staff a question reported that they were helpful. Professors and course instructors (82%) and friends and classmates (76%) were also found to be helpful. Lab instructors and TA's were much less helpful than others, however, and were found to be the least helpful resource that students conducted after the University Student Toolkit (see the Table below).

First year students were more likely than other students to consult a number of different people, including: course instructors, lab instructors, and family members. The same students found library staff, professors and lab instructors to be the least helpful. Age affected which people students sought help from: younger students in the 17 to 19 year old category were much more likely to consult their TA's than older students, and were just slightly more likely to talk to family. Students age 26 and older were less likely to consult their friends or classmates, TA's, and professors than younger students, as well. Mature students found other campus library staff (than Brescia) and their professors more helpful than did students in other age groups, as well, but found their friends and classmates less helpful.

The differences that discipline made can likely be explained by the structure of the programs themselves: Foods and Nutrition students consulted their friends and classmates more than other programs, but also completed a higher number of group projects, as we saw above. Foods students also sought help from other campus library staff people less often than other programs, but then the Beryl Ivey Library is the main Foods and Nutrition library on campus. Arts students, meanwhile, only rarely sought help from lab instructors, but are less likely to have lab instructors in the first place. Differences that are less likely to be explained this way include the higher rate of MOS students consulting family members than students in other programs, and Arts students seeking help from friends less often than other students. When Arts students did receive help from friends, they found it less helpful than did others as well, while they found their family members more helpful. Foods and Nutrition students, meanwhile, found Beryl Ivey and other campus library staff, teaching assistants, and their family members the least helpful of any program of study.

Survey Results: People Consulted and Found Helpful by Year of Study

Person	Used				Helpful			
	First	Second	Third	Fourth	First	Second	Third	Fourth
Beryl Ivey Library staff member	73%	58%	67%	70%	84%	100%	95%	94%
Other campus library staff member	42%	34%	43%	32%	54%	69%	54%	77%
Professor/course instructor	98%	73%	78%	84%	65%	88%	83%	87%
TA	28%	23%	22%	15%	44%	50%	40%	57%
Lab instructor	25%	18%	14%	11%	32%	35%	62%	70%
Family member	42%	39%	36%	31%	57%	65%	73%	55%
Friend/classmate	73%	75%	71%	65%	67%	82%	80%	74%

Survey Results: People Consulted and Found Helpful by Age

	Used			Helpful		
	17-19	20-25	26 +	17-19	20-25	26+
Beryl Ivey Library staff member	65%	67%	70%	93%	93%	97%
Other campus library staff member	41%	37%	33%	59%	60%	86%
Professor/course instructor	84%	80%	77%	76%	84%	88%
TA	69%	24%	16%	18%	46%	29%
Lab instructor	16%	18%	14%	46%	42%	67%
Family member	43%	35%	35%	78%	58%	53%
Friend/classmate	76%	72%	56%	73%	79%	58%

Survey Results: People Consulted and Found Helpful by Program

	Used					Helpful				
	Arts	Family	Foods	MOS	SocSci	Arts	Family	Foods	MOS	SocSci
Beryl Ivey Library staff member	73%	74%	68%	67%	66%	95%	97%	89%	100%	96%
Other campus library staff member	49%	34%	26%	47%	43%	66%	65%	48%	71%	64%
Professor/course instructor	88%	86%	75%	83%	82%	83%	81%	85%	88%	81%
TA	17%	16%	22%	20%	24%	50%	50%	33%	67%	51%
Lab instructor	7%	14%	21%	17%	14%	25%	57%	42%	40%	54%
Family member	32%	36%	32%	47%	41%	79%	67%	55%	71%	61%
Friend/classmate	54%	70%	82%	63%	67%	66%	80%	80%	79%	71%

Summary: Resources, Services and People Consulted

The most popular resources, services and people that survey respondents used, as well as the most helpful resources are summarized in [Appendix B](#). What students used the most did not dictate what they found the most helpful: textbooks, Google and journals were used the most, but Beryl Ivey Library staff was the most helpful resource - regardless of age, program of study, or year. Google was never listed as the most helpful resource by any group (it did not even make the top ten). Textbooks also seem to be an “old reliable” for students, as most groups used it, regardless of the type of project, program or year of study. Again, though, they were rarely listed in the “most helpful” category, except among first year students and students completing case studies.

Along with Beryl Ivey staff, online or print journals were consistently helpful. When looking at different age groups, all students found the Western Libraries’ to be one of the most helpful resources as well. The more familiarity students had with library resources, the more helpful they seem to find them, as well: journals grew in helpfulness from first year to fourth year.

In general, the resources that students used most did not vary too widely, but the ones they found helpful were very dependent on their program, assignment type, and year of study. For more detailed information, please refer to [Appendix B](#) below.

The Research Process: Evaluation

Time Spent Researching

When asked how much time it takes to complete their research, students reported that they usually spent between four and six hours (39%). This average did not change based on assignment type, except that case studies took respondents the longest amount of time to research. Year of study did seem to

influence the amount of time spent on researching, as more third and fourth year students chose the nine or more hours option (see table below). Age also seemed to be a factor in how long students spent researching: 64 percent of respondents age 17 to 19 said they spent one to three hours researching, compared with 19 percent of students age 20 to 25, and 10 percent of those aged 26 and older. There was some variation in how students responded based on their program of study, although the average continued to be four to six hours. For details, see the tables below.

Survey Results: Length of Time Spent Researching by Assignment Type

	Total survey	Case Study	Essay	Group work	Presentation
Less than 1 hour	1%	0%	1%	1%	2%
1-3 hours	20%	12%	21%	22%	31%
4-6 hours	39%	26%	40%	38%	37%
7-9 hours	20%	23%	22%	18%	15%
More than 9 hours	20%	40%	17%	21%	15%

Survey Results: Length of Time Spent Researching by Year of Study

	First year	Second	Third	Fourth
Less than 1 hour	1%	1%	1%	0%
1-3 hours	19%	24%	19%	17%
4-6 hours	45%	40%	42%	30%
7-9 hours	17%	24%	15%	25%
More than 9 hours	17%	12%	24%	29%

Survey Results: Length of Time Spent Researching by Age

	17-19	20-25	26 and up
Less than 1 hour	0%	0%	2%
1-3 hours	64%	19%	10%
4-6 hours	35%	37%	32%
7-9 hours	1%	21%	24%
More than 9 hours	0%	22%	32%

Survey Results: Length of Time Spent Researching by Program of Study

	Arts	Foods	Family	MOS	Social Science
Less than 1 hour	0%	0%	0%	0%	2%
1-3 hours	17%	11%	22%	31%	26%
4-6 hours	42%	43%	42%	35%	34%
7-9 hours	20%	21%	20%	7%	19%
More than 9 hours	20%	26	16%	28%	17%

Evaluation Factors

Students were asked to indicate how they made their decision to include a resource in their final assignment. Overall, students reported that whether a resource supported their argument was the most important reason to include it in their final assignment (83%). Currency, meeting assignment requirements (i.e. including two journal articles), the presence of topic keywords, quality references, and how easy it was to find the resource were the other top choices.

There were a few differences in how respondents answered: first year students cared slightly more about meeting assignment requirements than did other students, for example, as did students aged 17 to 19 (see tables below); the author's expertise meant most to students aged 26 and older, as well. In terms of program of study, Foods and Nutrition students were much more concerned with currency than were other programs (although this may be explained by the standards of their discipline); Arts and Humanities students were the most concerned with whether a resource supported their argument or not. This could be related to the type of assignment that Arts and Humanities students are writing: respondents who completed essays were less concerned with currency and how quickly they found a resource, but more trusting of the library website than students completing other assignment types. Students who conducted case studies indicated they were more concerned with the quality of references, as well as the expertise of a resource's author, but did not consider the assignment requirements as much as for other assignment types. Few other differences were noticed for other groups, except that international students seemed to prefer resources that met assignment requirements (83% versus 68%). For more information, refer to the tables below.

Survey Results: Resource Evaluation by Year of Study and Age

	Year of Study				Age		
	First	Second	Third	Fourth	17-19	20-25	26 +
It supported your argument	77%	83%	86%	86%	84%	83%	84%
It was current and up to date	68%	66%	66%	81%	71%	70%	74%
It met the assignment requirements	75%	69%	66%	67%	77%	68%	63%
It contained keywords from your topic	59%	75%	76%	64%	72%	70%	53%
It had quality references	61%	68%	66%	67%	63%	66%	70%
It was easy to find	57%	64%	67%	69%	55%	68%	65%
You found it through the library website	60%	62%	60%	66%	60%	64%	58%
You found it quickly	51%	57%	51%	62%	57%	58%	58%
The author is an expert in the field	41%	45%	48%	60%	42%	47%	60%
Your professor suggested it	43%	33%	42%	55%	39%	44%	44%

Survey Results: Resource Evaluation by Program

	Arts	Family	Foods	MOS	Soc Sci
It supported your argument	90%	84%	83%	83%	82%
It was current and up to date	61%	58%	83%	77%	67%
It met the assignment requirements	73%	82%	66%	63%	70%
It contained keywords from your topic	69%	64%	73%	63%	67%
It had quality references	76%	54%	69%	63%	64%
It was easy to find	66%	64%	64%	60%	65%
You found it through the library website	58%	66%	59%	60%	70%
You found it quickly	58%	62%	63%	60%	54%
The author is an expert in the field	59%	46%	50%	43%	49%
Your professor suggested it	54%	40%	40%	33%	46%

What Mattered Most

Students were also asked what mattered the most to them while they were completing their assignment. The most popular response was overwhelmingly their grade, with finishing the assignment a distant second. This did not vary regardless of year of study, program, international status or age.

Survey Results: What Mattered Most

The grade you got from the professor	53.1%
Getting the assignment finished	20.6%
Learning something new	9.4%
Finding the best resources you could	8.3%
Being creative with the assignment	6.4%
Improving your research skills	2.2%

The only differences from this pattern worth noting are that no students in fourth year chose the improving your research skills option, and very few students age 17 to 19 said that learning something new was important (2%). Students completing case studies did not find creativity important (0%).

The Research Process: Problems

The final survey question on the research process focussed on the problems that students may experience while completing their research assignments. Students were asked to indicate how much they agreed with a number of statements that were generated from the focus group discussions (“using the library website”) and from frequently asked questions at the library references desk (“you had a hard time narrowing down your topic.”)

In general, the survey results varied greatly from the focus group discussions: procrastination was the most commonly identified problem in the survey (61%), while narrowing their topic was the next highest choice (52%). Interestingly, there was little difference between first year and upper year students regarding fear of starting a project - a contradictory result from the focus groups and from previous research completed on library anxiety. All problems covered by the survey seemed to decrease in frequency by year of study and by age, as students aged 26 and older agreed with most statements less than age groups (see tables below). 17 to 19 year olds had more difficulty with finding information on their topic than other age groups, and also had problems with narrowing down their topic (60%). These are interesting results, given the literature review above, where younger students have been found to be more confident in their research abilities than more experienced students (which was also the findings of this project’s focus groups) (Mellon, 1980; Kuhlthau C. C., 1991; Jiao, Onwuegbuzie, & Lichtenstein, 1996).

Interestingly, Family Studies students reported higher rates of difficulty with a number of issues over other programs of study, including: not having enough information from their professors to start their assignments, being afraid to start their assignments, using the library website, and narrowing down their topic. MOS students indicated that they felt overwhelmed by the amount of information available and found it hard to develop their own thesis.

There was little difference in responses based on the assignment type that students were working on, except that students completing essays were slightly more likely to procrastinate, and students completing case studies had fewer problems overall. In terms of grade averages, the results were as one would expect: the lower the grade average, the higher the rate of reported research problems. See [Appendix C](#) for more information.

Beryl Ivey Library Services and Marketing

The survey also included a section on the programs and services offered at the Beryl Ivey Library. As mentioned above, the purpose of this study was to determine which services are most preferred by our current patrons, whether any changes should be made, and what, if any, new programs we should develop. Since the library only renovated in 2006, little feedback was sought on the physical space of the library, with attention being directed toward library use instead (although survey respondents did provide considerable feedback on the library's physical space: see [Additional Comments](#) section below).

Use of the Library

Students were asked to report how often they frequent the library for a variety of purposes. Overall, the results indicate that respondents were regular library users, a typical finding of library surveys. 98 percent of this survey's respondents said they used the Beryl Ivey Library at least once during the 2009-2010 academic year, with 76 percent using the space once per week or more (to sit at desks; other reasons were somewhat less frequent at 78%). Nearly 20 percent of respondents reported that ask the library staff a question once per week or more.

Library use was higher among upper year students over first year students in many areas, potentially related to the number of research assignments required in upper year classes, over those in first year. Fourth year students in particular use the library to print and photocopy, to borrow books and course reserves, for in-library items such as journals and reference material, and for study rooms, more than students in years three and under. Students in third year, meanwhile, reported the highest use of the library for social purposes (54% over the 39% average).

Younger students seemed less likely to ask a library staff member a question than other students: 83 percent of students in this age group said they had asked a question at least once this year (although this number is still quite high) versus 88 percent of students age 20 to 25, and 98 percent of students 26 and older. 17 to 19 year old students also had the lowest percentage of regular use of library staff (once a week or more) at 12 percent, versus 20 and 33 percent of older age groups. In general, students in the youngest age bracket were less likely to use the Beryl Ivey Library for all reasons, compared with students age 20 and older.

By program, Arts students seem to use the library space much more than students in other programs: 92 percent of Arts students surveyed said they use the library once a week or more (compared with the 76% overall average), although they were the least likely to ask the library staff a question on a regular basis (10% compared with 19% overall average). For detailed information on the above results, please see [Appendix D](#) below.

Poor Attendance at Current Library Programming

Another question looked for student feedback on existing library programming. More specifically, survey participants were asked why they thought the Beryl Ivey Library's current services have such poor participation. Library drop-in workshops were given as an example of this programming. In this question, students were able to choose what they thought was the most likely reason, but could choose up to three reasons if they preferred.

Overall, it appears that library marketing efforts have not been adequate: over half of the respondents (55.2%) reported that they were unfamiliar with library programming. This mattered less to students age 26 and over, but was still a factor overall. Many students also found that library services conflict with their class schedule (56.5%), a common complaint received at the library circulation desk. Again, these results are similar to those of the focus groups.

Younger students seemed most concerned that the content of library services would not be useful, interesting or helpful: 33 percent of students age 17 to 19 chose this as a reason for poor attendance, compared with 9 percent of mature students. Time management seems to be a factor for younger students, as they were more likely to choose the option "students want to attend but find they have too much to do the day of." Interestingly, students in the 26 and older age group were the least likely to choose the response "services conflict with commitments outside of school (work, social life, etc)," at 37 percent (versus 57 and 48%).

Academic performance also seemed to influence why students do not attend library programming: students with lower grade averages were more likely to choose "services conflict with class schedule" and "students want to attend but find they have too much to do the day of." Procrastination and commitments outside of school were also much higher among students within the 60 and lower % grade average group. Interestingly, though, this group was also the least likely to indicate that library services are too time consuming, with 0 respondents choosing this option.

Survey Results : Reasons for Poor Attendance at Library Programming by Age

	17 to 19	20 to 25	26 +
Services conflict with class schedule	64%	52%	65%
Students don't know what the library offers	52%	57%	42%
Students want to attend, but find they have too much to do the day of	57%	48%	37%
Services conflict with commitments outside of school (work, social life, etc).	52%	44%	37%
Students delay coming into the library until it is too late	16%	29%	26%
Services are too time consuming	12%	21%	19%
The content of services is not interesting/useful/helpful	33%	20%	9%
Programming is too similar to other services at Brescia/UWO	2%	4%	5%

Survey Results : Reasons for Poor Attendance at Library Programming by Year of Study

	First	Second	Third	Fourth
Services conflict with class schedule				
Students don't know what the library offers	65%	57%	56%	49%
Students want to attend, but find they have too much to do the day of	65%	45%	58%	53%
Services conflict with commitments outside of school (work, social life, etc).	51%	52%	53%	38%
Students delay coming into the library until it is too late	47%	51%	43%	40%
Services are too time consuming	31%	31%	24%	32%
The content of services is not interesting/useful/helpful	13%	17%	25%	23%
Programming is too similar to other services at Brescia/UWO	10%	14%	22%	21%

Survey Results : Reasons for Poor Attendance at Library Programming by Grade Average

	60% and less	61-70%	71-80%	81-100%	
Services conflict with class schedule		73%	64%	59%	47%
Students don't know what the library offers		36%	51%	57%	56%
Students want to attend, but find they have too much to do the day of		64%	49%	51%	42%
Services conflict with commitments outside of school (work, social life, etc).		73%	43%	46%	42%
Students delay coming into the library until it is too late		64%	38%	27%	25%
Services are too time consuming		0%	10%	20%	26%
The content of services is not interesting/useful/helpful		0%	11%	15%	25%
Programming is too similar to other services at Brescia/UWO		0%	5%	2%	6%

Marketing

Anticipating a marketing problem, a question was included in the survey on how to improve communication between the library and Brescia's students. Again, students were asked to choose the most effective way they felt the library could market, but could choose up to three if they preferred. "Announcements from your professor" received the most votes, with 58% of students selecting it as (one of) the best ways for the library to market. Brief monthly emails (54%) and through the course syllabus (51%) followed closely behind, similar to the results of the focus groups. The other marketing

suggestions were less popular, with the Weekly Leader (13%) and the Brescia Buzz (4%) receiving the fewest votes.

The numbers only varied slightly when considering different variables such as year of study, age, and program, although there were some patterns to note. Students chose library advertising through the course syllabus in upper years more than in first year (see table below), while mature students chose professor advertisements and monthly emails slightly less than their Millennial classmates. By program, MOS students chose email as a means of marketing the least (37% versus 54% overall average); while international students selected this method more than the overall average (64%). See tables below for more information.

Survey Results: Marketing by Year of Study

	First	Second	Third	Fourth
Announcements from your professor	63%	55%	52%	65%
Brief monthly emails	55%	53%	54%	55%
Course syllabus (i.e. connected to your assignments)	44%	46%	53%	62%
In class announcements from library staff	36%	38%	37%	37%
Brescia Website: Main page, Upcoming Events Calendar	32%	36%	35%	30%
Large hallways displays in St. James building	25%	23%	27%	24%
Table triangles in library, cafeteria	20%	17%	27%	17%
Weekly Leader	18%	14%	11%	10%
Brescia Buzz	6%	3%	4%	2%

Survey Results: Marketing by Age

	17-19	20-25	26+
Announcements from your professor	60%	61%	42%
Brief monthly emails	53%	56%	44%
Course syllabus (i.e. connected to your assignments)	46%	52%	56%
In class announcements from library staff	41%	35%	40%
Brescia Website: Main page, Upcoming Events Calendar	30%	33%	40%
Large hallways displays in St. James building	29%	25%	19%
Table triangles in library, cafeteria	19%	20%	23%
Weekly Leader	14%	12%	14%
Brescia Buzz	4%	4%	5%

Survey Results: Marketing by Program

	Arts	Family	Foods	MOS	SocSci
Announcements from your professor	58%	66%	58%	53%	60%
Brief monthly emails	56%	62%	57%	37%	57%
Course syllabus (i.e. connected to your assignments)	59%	48%	46%	50%	53%
In class announcements from library staff	37%	36%	39%	23%	33%
Brescia Website: Main page, Upcoming Events Calendar	37%	34%	34%	40%	33%
Large hallways displays in St. James building	20%	24%	26%	17%	24%
Table triangles in library, cafeteria	19%	18%	26%	17%	17%
Weekly Leader	14%	16%	9%	13%	17%
Brescia Buzz	5%	6%	2%	7%	7%

New Library Services

Finally, students were asked whether they would use a variety of new programming and service ideas, generated by the focus groups and ideas featured in recent library literature. The majority of these ideas were technology based, catering to the online preference outlined in Millennial literature. In general, most of the ideas were moderately well received: at least one third of all respondents said they would be likely to use each new service suggested in the survey. The most popular choice was a Library WebCT presence, where students could access readings and handouts from their WebCT: 82 percent of respondents said they would be likely to use this service. Program-specific webpages were also included in this question (despite the Browse by Program pages already in existence on Western Libraries' website) and were the second most popular choice with 76 percent; 91 percent of mature students chose this response. Surprisingly, mandatory research workshops in first year came in third, with 55 percent of students saying they would be likely to use this resource, although this number is not overwhelming. Hands-on, drop-in workshops (which the library already offers, as discussed above) and online research tutorials both received 53 percent positive votes. These are similar results to the focus group discussions.

First year students preferred a few services more than other survey respondents: WebCT, drop-in workshops, online tutorials, a library listserv, and a library Facebook presence were all most popular with first year students than with those in other years, although the percentage of students who would use these services is, again, not significant (see details in [Appendix E](#)). When looking at the factor age played into responses, the responses were the following: younger students preferred Facebook and WebCT, while older students preferred online tutorials and program-specific webpages.

Foods and Nutrition was the discipline most interested in a program-specific webpage (83%); Arts students, meanwhile, were most keen on mandatory research workshops for first year students, more in class library presentations, and a library Facebook presence. MOS students were much less interested in a library listserv than students from other programs. In terms of international students they were, on

average, more interested in all of the programming suggestions made in this survey question than Canadian students. The differences that grade average made is of note, as well: students with a 60 percent or lower average said they were more likely to want a library blog, more in class library presentations, and mandatory research workshops than students with higher averages (see [Appendix E](#) below).

Additional Comments from Survey

Students were given the opportunity to provide additional comments or suggestions about the library in general at the end of the survey. Surprisingly, 115 respondents chose to make a comment. The majority of responses were positive comments about the Beryl Ivey Library Staff: this included approachability, helpfulness and friendliness. Of the 57 comments on the library staff, 15 also wanted to “thank” the library staff for all the work they do. Eighteen students, meanwhile, said that Brescia’s was the “best library on campus.”

There were more practical suggestions for improving the library: most revolved around the library’s physical building. Some survey respondents felt negatively about the noise level in the library (which does not have a quiet policy): “I love the library, but I stopped going to it because it is always noisy during the day.” (Some were not as diplomatic with their requests: “Noise level is kind of ridiculous, it is a library after all.”) Other students felt that more study space, including study rooms, was needed: “it is nearly impossible to get a table around mid-day.” A few also mentioned that longer hours – during the regular school year as well as during exams – were needed, every day of the week. Policy comments included keeping food policy (2 students), changing the food policy (2 students), and ensuring that students used the computers for academic work, rather than social purposes.

Additional comments built on the survey content, as well. A few students reinforced their marketing suggestions, for example:

“I would just like to know more of what the library offers, because sometimes I don’t even know what’s going on. More advertising is needed.”

“Get a Facebook group if you want to stay current with today and tomorrow’s students!”

“Having professors promote the programs would REALLY help the attendance.”

Other students felt comfortable to open up about their research anxieties and concerns:

“I think the library offers a lot of resources to the student body, but I believe there are three key factors keeping them from accessing them. The first being time, as most students have part-time and/or full-time jobs on the side, 4 or 5 courses to keep up with, as well as a desire to maintain a social life. The second is procrastination, which I am very guilty of, where students just keep saying to themselves “I will get to that later.” And thirdly it is nerves: I find it difficult to ask questions in general, mostly because I do not think my question is relevant, so it goes unanswered. I am positive that there are other students in the same boat. All three, of course, tie into one another, because if one is a problem, most likely so are the others.”

“The Brescia website is confusing since the rebranding – perhaps make it easier to find what you’re looking for or find the link to the BIL page in the first place? You should also get students right at the beginning of the year, and tell them what is available, include programs on WebCT or online that we can do at our own pace, and have an option for students to make an appointment with a library member (perhaps a la Bresciabooking¹) for help with assignments.”

“I would really like to see more programming for upper-year students that applies to the research we have to do for longer papers, psychology research studies, etc. The problem I have is that often the workshops do not fit into my class schedule. I also think it would be helpful to give students information about what the librarians are there for (posters, etc) because I am often unsure whether a question I have is one I should ask a librarian, or the writing centre, or my professor.”

The breakdown of all comments can be found in the table below:

Survey Results: Additional Comments

Staff – positive comments	57
Quiet policy needed	18
"Best library"	18
Thank you to library staff	15
Marketing suggestions	13
Improve study space	13
Research help needed/suggestions	9
Policy improvement suggestions	6
General positive comments (“I love the library”)	6
Hours – need to improve	4
More washrooms needed	3
Staff – negative comments	1

Summary of User Survey Results

The user survey built on the objectives of the focus groups, looking at the research process of Brescia’s students, the library services they are currently using, and the new programming they would like developed. Limited information was gathered on the actual research processes of students, given the nature of user surveys; but it was a helpful method for collecting a large amount of data on the resources that students use and what assignment types they associate with research. These assignment types included the traditional essay, although it remains unclear whether students consider essays a thesis-driven exercise, or just a written document of a certain length. The resources that students rely on included reliable library resources, such as journal articles and databases, books and the library

¹ Online booking software used for study room and AV equipment bookings at Brescia

catalogue. Course textbooks are heavily relied on, as is Google. Students seem able to evaluate resources for applicability and usefulness in some ways, as Google and Wikipedia were found to be less helpful than traditional library resources. First year students, however, found almost all resources less helpful than did upper year students, indicating a potential need for instruction in the future. A surprisingly high number of students (in all years of study) consulted the Beryl Ivey Library staff for research assistance, more than most other library surveys. This possibly indicates a self-selection bias among survey participants, or a very popular library. Many students also consulted their professors, especially in first year, and the collaborative nature of Millennials may have been seen in the number of students consulting friends and classmates.

Many survey respondents reported high levels of library use for a variety of purposes. First year students reported the lowest amount of library use, regardless of purpose. While any participation in library drop-in workshops was not achieved in the 2009-2010 year, students did provide some insight into why the service was so unpopular: for the most part, students were either unfamiliar with the service, indicating poor marketing techniques, or they found that the workshop dates conflicted with their class schedule. Anticipating this response, marketing suggestions were also requested, and students thought that professors could make announcements, that library staff should send brief monthly emails, and that library services should be listed in course syllabi. Similar to the results of the focus groups, suggestions for new library programming were only moderately well received. WebCT was the most popular choice, although a surprisingly high 55 percent of students said that a mandatory research workshop should be given to first year students. Again, technology seemed to play a less significant role for Brescia students than some of the literature on Millennials students would suggest. In general, then, the user survey was informative, especially in conjunction with the focus groups. Age was not a consistent factor across the survey, making a standard set of "Millennial" characteristics across the Brescia undergraduate population seem unlikely. A discussion on the implications of the results can be found in the [Discussion Analysis of Study](#) section below.

Course Syllabi and Assignment Document Analysis

Participation and Methodology

As was mentioned above, permission to use course syllabi and supporting documentation was collected for 38 of the 44 first year Brescia courses offered in the 2009-2010 academic year. These were used to evaluate the research requirements of first year students by identifying: the library resources faculty required for assignment completion; the different assignment types that students completed, and; the tasks or skills students were expected to complete and develop. These results were also weighed against the ACRL's Information Literacy Competency Standards (2000). Some of the 38 courses included multiple sections of the same curriculum content, but this was overlooked since most sections had different professors and/or different course expectations. All disciplines were represented in the final sample, with only one department completely excluded. The sample included the following breakdown of half and full credit, and essay designated courses:

- Half credit, non-essay courses: 7 (out of a total 9)
- Half credit, essay designated courses: 6 (out of a total 7)
- Full credit, non-essay courses: 13 (out of a total 14)
- Full credit, essay designated courses: 12 (out of a total 13)

Results

A note on results

With only one or two courses available in each program, the results of the content analysis will be displayed by discipline in order to protect the anonymity of participating faculty members (see breakdown below). This decision was also reached since most first year students are encouraged to take a wide variety of courses in order to keep their options open: therefore, students will frequently take a Science or Math, a Social Science, and an Arts and Humanities course during their first year. Since one of the objectives of the Millennials Project is to determine the research expectations of first year students, looking at Brescia's first year courses as a whole is more meaningful.

For the purposes of this study, the categories outlined in the table below will be used, based on the first year courses offered at Brescia during the 2009-2010 academic year, and the academic structure of the college's programs. (Note: not all subject areas are represented in the sample data):

Assignment Analysis Results: Breakdown of Disciplines by Subject

Arts and Humanities	Social Sciences	Business, Math and MOS	Human Ecology
English	Anthropology	Business	Family Studies
French	History	Economics	Foods and Nutrition
Philosophy	Interdisciplinary (Leadership)	Mathematics	Human Ecology
Religious Studies	Political Science	MOS	

Spanish	Psychology
Writing	Sociology
	Women's Studies

It is also important to note the limitation of this part of the study: Brescia students are only required to take three full credits on Brescia's campus during their first year. This means that many students (including those who were surveyed) may have taken up to two full-year or four half-year courses outside of the 38 courses analyzed for this project. An overall understanding of first year research requirements, then, will not be captured here. The Beryl Ivey Library, however, tends to have few questions about non-Brescia courses and primarily serves Brescia undergraduate students. The services the library offers, including its instruction program, are therefore geared to Brescia courses only – making the focus of this study still appropriate.

Finally, syllabi and course documents were analyzed both by course and by individual assignment to reflect overall patterns, as well as the differences between each type of assignment. There were very few similarities between the course syllabi, though, especially when it came to professor's research expectations. The results discussed below are a summary of all of these factors.

The Research Process: Assignments

Number, Length and Type

During the analysis process, assignments were defined as the course work consisting of at least 2 percent of the overall grade, which were to be completed outside class time. On average, students were asked to complete 2-3 assignments per course. The higher numbers usually reflected tutorial or lab assignments that were worth very little of the overall grade (usually 3 to 5%) but were beyond the scope of normal course work (i.e. special tutorial assignments). There were also six courses that did not require assignments outside of midterms and exams. A total of 117 assignments in the 38 courses were assigned. These results did not exactly match those of the survey, where first year students reported an average of 8 to 9 assignments between September and March, 2010.

Assignment Analysis Results: Total Assignments

Number of Assignments Required	Number of Courses
0	6
1	3
2	10
3	12
4	4
5	1
6	2
<i>Average: 2.447</i>	

When analyzing the course documents, Arts and Humanities and Social Sciences students were given more assignments on average than Business and Math students or Human Ecology students, similar to the results of the survey. While Social Science students were asked to complete a wide range of

assignment types (essays, reading and writing assignments, and papers were assigned equally, for the most part), Arts students were assigned far more essays and presentations than were other students. Business and Math students were given the majority of case studies assigned for all first year students. Only one Human Ecology course was asked to complete a formal essay with a thesis.

Instructions for assignments only mentioned research about 53 percent of the time (20 courses out of the total 38), usually in essay designated courses. There were, however, five full-credit, non essay designate courses that asked for research of some kind, and one half-credit course. The most common type of assignment requiring research was, understandably, essays; 14 of the total 18 assigned essays requiring some type of research. This fits with the survey results, where students reported that they completed an average of three to four research assignments between September and March, or roughly half of their total assignments they said they completed. Further details can be found in the tables below.

Assignment Analysis Results: Total Assignments Requiring Research by Discipline

Assignments Requiring Research (Per Course)	Arts and Humanities	Business, Math and MOS	Human Ecology	Social Sciences
0	3	6	3	7
1	5	0	3	2
2	2	3	0	3
3	2	0	0	0
4	0	0	0	0
5	1	0	0	0

Assignment Analysis Results: Courses Requiring Research

Half credit – non essay	1 (14%)
Half credit – essay	5 (71%)
Full credit – non essay	5 (36%)
Full credit - essay	9 (82%)

The most commonly assigned project was the traditional argumentative or thesis-based essay, with other papers or written reports without theses close behind. Group work was required in 19 of the total 117 assignments. Presentations were also very popular, with five courses requiring individual presentations and seven for presentations in a group. Reading and writing assignments were frequently required, as well. Some courses (37%) asked for multiple assignments of the same type (especially those courses requiring essays and papers) but most professors asked for a range of assignment types (55%).

As expected, essays were also the most common assignment type requiring research. Reading and writing assignments did not require any research; few of the presentations and group presentation instructions did. These results fit the survey findings, as well, although survey participants may not have

been clear about the definition of an essay versus a report: first year students overwhelmingly associated research assignments with essays in the survey, disproportionate to the percentage that was assigned. See the chart below for further information.

Assignment Analysis Results: Average Assignment Type (Number and Percent of Total)

Assignment Type	Total	Requiring Research	Chosen in Survey
Essay (paper with thesis)	18 (15%)	14 (78%)	50 (57%)
Report (paper without thesis)	16 (14%)	5 (31%)	3 (3%)
Reading assignment	16 (14%)	-	-
Writing assignment	14 (12%)	-	-
Case Study	10 (9%)	2 (20%)	4 (5%)
Group presentation	7 (6%)	6 (88%)	2 (2%)
Group report	7 (6%)	-	3 (3%)
Lab report/Tutorial	6 (5%)	1 (17%)	1 (1%)
Presentation	5 (4%)	2 (40%)	14 (16%)
Group essay	5 (4%)	2 (40%)	6 (7%)
Research proposal	3 (3%)	3 (100%)	-
Book Review	2 (2%)	-	-
Other	8 (7%)	-	2 (2%)
Total	Out of 117	Out of 117	Out of 88

Assignment Analysis Results: Average Assignment Type by Discipline

Assignment Type	Arts and Humanities	Business, Math and MOS	Human Ecology	Social Sciences
Essay (paper with thesis)	11	0	0	7
Report (paper without thesis)	5	1	3	6
Reading assignment	9	0	0	7
Writing assignment	9	0	0	5
Group presentation	3	1	1	2
Case study	0	7	3	0
Lab report/Tutorial	0	4	0	2
Presentation	5	0	0	0
Group essay	0	1	1	3
Group report	1	3	1	1
Research proposal	0	0	0	3
Book Review	1	0	0	1
Other	0	0	4	4

Not all professors specified assignment length in their syllabi or supplementary documents, although every thesis-based essay had page requirements. In total, 51 assignments in 21 courses specified page length. The overall average for required length was 1258 words, or between 5 and 6 pages. This varied little between disciplines, except that all seven Business, Math and MOS assignments that included page length were 2000 words (or 8 pages) – much higher than the other disciplines' average. Further details

can be found in the table below.

Assignment Analysis Results: Average Assignment Length

Assignment Type	
Essay (paper with thesis)	1625 words
Report or paper (without thesis)	888 words
Group essay	1200 words
Case study	2000 words
Reading assignment	750 words
Group report or paper (without thesis)	2000 words
Book review	938 words
Research proposal	875 words

Other Assignment Requirements

There were a number of other assignment requirements that students were sometimes asked to consider, including the layout or structure of the assignment, minimum number of references, and topic. Seven courses included a minimum number of secondary sources in their documentation, for example, usually for essays and group essays. Only two courses specified a minimum number of secondary sources for presentations. Nineteen of the 38 courses analyzed also listed the specific organizational requirements of assignments, such as structure and layout, while five assignments specifically mentioned the importance of organizing one's research. Other professors required a reflection component to assignments, usually for papers and reports (31 of 117 assignments; 9 courses overall), although two required this in formal argumentative essays. Personal reflection was more common in Arts and Humanities and Social Sciences assignments. Similarly, 35 assignments (in 22 courses) required some sort of personal critique or evaluation – whether of a student's own work or the work of others (including the work of scholars), which occurred most frequently in Social Sciences instructions, but was present in all disciplines to a small degree.

Topic Choice

Some professors specifically listed information about the topic students should use for their assignments: 56 of the 117 assignments assessed in this study included some information about the topic. About half of these asked students to develop their own topic (27 of 56 assignments) and the other half provided the topic for the students (29 of 56 assignments). For argumentative essays, 61 percent (11 of 18) instructed students to develop an original research topic: six stated that topics should be related to course themes and another six offered a list of ideas that students could choose from, if desired. Very little direction was given on making a topic manageable: this is an interesting result given the survey results, where 49 percent of first year students agreed that they have trouble narrowing their topic.

Only three essays required that students have their topics approved by the course instructor. Case studies, book reviews, and reading and writing assignments had students choose between a list of possible topics provided by the professor, or simply using an assigned topic – understandable, given the

nature of each assignment type. When instructions were provided, presentations (whether group or individual) always had students developing their own topics, although sometimes they could also choose from a provided list. Non-thesis papers had varying instructions: some topics were assigned (7 of 12) and some were to be developed by the student (4 of 12). Finally, most disciplines assigned students their topics rather than providing them with a choice; Arts and Humanities students were the exception to this, as they were asked to create an original topic twice as often as use a provided topic. For more information, see the tables below.

Assignment Analysis Results: Topic Requirements for Assignments

	Choose from List	Assigned Topic	Original – non research	Original – research	Must relate to course	Must be approved
Essay	6		1	11	6	3
Case study		6				
Reading assignment		3				
Writing assignment	1	5				
Paper	1	7	4		4	
Presentation	1			3	3	1
Tutorial		4				
Group essay	1	3		1	1	1
Group report		1		1	2	
Group presentation	1			4	7	2
Book review	2				1	

Assignment Analysis Results: Topic Requirements by Discipline

Discipline	Number of Assigned Topics	Number of Original Topics
Arts and Humanities	5	14
Business and Mathematics	9	2
Human Ecology	8	2
Social Sciences	12	9

Thesis Development

Twenty-six of the total 117 assignments required students to develop an original thesis or argument. While the majority of the theses were for argumentative essays (17), some case studies, papers and reading assignments also required some element of original argument development. Arguing both sides of a thesis in a final assignment was also required in 18 of the 117 assignments. There was little difference when comparing the disciplines, except that Human Ecology students were never explicitly instructed to argue their own opinion or thesis in an assignment. Social Science students had the highest number of references to developing a thesis in their course documentation. Again, directions on arguing one's thesis effectively and understand the structure of a good thesis were rarely included in the course documentation. This is interesting, since the survey data shows that 37 percent of first year students agreed that they have difficulty developing their own thesis.

The Research Process: Resources

In only a few cases, professors suggested different resources students could use to complete their course assignments. Credible, scholarly and academic sources were the most frequently mentioned, but only 18 of the 117 assignments requiring this type of resource. Journals, web resources, databases, multimedia resources, and books were also mentioned in some assignment instructions (see table below). Very few specific library resources were named in the documents, though: only two assignments mentioned names of appropriate databases that students could use to search and just five provided a list of subject-specific journals. Assignment instructions tended to cover broad categories of resources, such as “primary sources” or “company information” rather than providing resource lists or specific titles.

Assignment Analysis Results: Frequency of Resources

Resource	Number of Assignments	Number of Syllabi/Per Course
Scholarly/academic/credible resources	18	12
Print or online journal	17	13
Internet/web resources	10	8
Database	9	7
Multimedia resources	9	7
Books/monographs	8	7
Catalogue	8	8
Company information	6	3
Variety of resources (mono, per, web, etc)	5	5
Secondary sources	4	3
Primary resources	3	2
Personal correspondence (lecture, person)	3	1
Peer reviewed essays/journals	2	2
Published resources only	1	1
	Out of total: 117	Out of total: 38

Instructions for formal essays, research proposals, and group essays (all with theses) were the most likely to mention the importance of scholarly resources, journal articles, online databases, using a variety of sources, books, internet and web resources, and the library catalogue (see table below) – although not all of the 18 essays analyzed mentioned these resources. On occasion, instructions for presentations and group presentations also contained information on using internet or web resources, multimedia resources, and secondary resources.

Arts and Humanities and Social Sciences students were asked to use a variety of scholarly resources most often (including journal articles, databases, books, or the library catalogue); Arts and Humanities instructions included web and internet resources more frequently (7 of all 10 references to web resources were in Arts courses). Only one Human Ecology assignments made reference to scholarly resources and the various types of them. Business and Mathematics course documents rarely referred to academic resources, although three assignments required students to use the library catalogue.

Assignment Analysis Results: Suggested/Required Resources by Assignment Type

Resource	Essay; Group Essay; Research Proposal	Paper without thesis; Group paper	Presentation; Group presentation	Case Study
Scholarly/academic/credible resources	14	2	0	0
Print or online journal	12	5	0	0
Internet/web resources	5	0	2	1
Database	9	0	0	0
Multimedia resources	1	5	2	0
Books/monographs	8	0	0	0
Catalogue	5	0	0	3
Company information	0	0	0	6
Variety of resources (mono, per, web, etc)	5	0	0	0
Secondary sources	2	0	2	0
Primary resources	2	0	1	0
Peer reviewed essays/journals	1	1	0	0
	<i>Out of total: 26</i>	<i>Out of total: 20</i>	<i>Out of total: 12</i>	<i>Out of total: 6</i>

A small number of professors gave further instructions on whether the resources above were required or suggested. In 30 assignments, course documents stated the students were only to use the resources listed when finishing course assignments – understandable, when considering the number of assignments that do not require research. Thirty-two assignments also required the course readings or resource lists be included; another nine said that their course readings *could* be included, but were not required. Two course documents also stated that professors must approve resource choices before final assignments were submitted.

A few course documents listed resources students should *not* use in their final assignments. For the most part, these instructions were for assignments not requiring research: four assignments said that students were not to use secondary resources and another five prohibited the use of course readings. Internet and web resources were the most commonly excluded resource, but only for six course assignments: one outline said that using “the internet” was not permitted. Almost all of these restrictions were found in Social Sciences outlines, except that four Arts assignments prohibited the use of any secondary sources, and one Business and Math assignment did not want students using course resources. For further information, see the table below.

Assignment Analysis Results: Resources Not Permitted in Final Assignments

Resource	Assignments
Websites	6
Course readings	5
Secondary resources	4
Magazines/newspapers/popular resources	3
Fiction/fictional media	2
Articles from textbooks (even not course)	2
Book Reviews/Commentaries	2

These results are interesting when compared with the survey responses. As outlined above, first year students reported almost universal use of: their course textbooks, Google, Wikipedia, online databases, scholarly journals, the library catalogue and books. While no course outline mentioned Google, this was the most commonly used resource outside of their course textbooks, along with online databases and scholarly journals (which were both mentioned in fewer than 25 percent of the course outlines analyzed). Considering the concern of many faculty regarding students' use of Google, it is surprising that instructions for using and evaluating Google are not included in more course outlines. Explanations for this difference are explored in the [Discussion](#) section below.

The Research Process: People Consulted

Some of the course outlines mentioned different individuals who would be available to help students complete their projects. The professors themselves were, understandably, the most frequently named individuals, for 34 assignments in 20 of the course syllabi. Five professors actually required that students consult with them about the assignments, usually in regards to topic or thesis selection, or approval of resources. Only two of the referrals to professors were in Human Ecology outlines, while 21 were in Arts and Humanities documentation. Eleven of the 17 assignments named the writing instructor as an additional resource, usually for formal essay or report assignments (in Social Sciences and Arts and Humanities instructions). Academic advisors were also named as resources in three course outlines. One outline suggested the Student Development Centre's writing instructor on UWO's main campus as a resource, as well.

In terms of library staff, ten assignments specifically named the library staff as a resource, in seven course outlines. Five of these seven courses were ones in which a library staff person conducted an in-class session. All seven sessions were conducted to help students prepare for formal, thesis-based essays. Interestingly, only one of the seven in-class library instruction sessions was listed as a course resource in the outline; this course considered the session's content additional instruction on how to complete course assignments. The other times that library staff was mentioned were for two reading and writing reports, one presentation, and one paper without a thesis. Seven of the ten references to the library were in Arts and Humanities outlines.

Considering this against survey results, first year students consulted wider range of individuals for assistance than those listed in course outlines. As discussed above, many more students are seeking help from their professors than assignment instructions mention, along with library staff members, teaching assistants and lab instructors, family members and friends. Considering the few mentions that librarians received in the course documentation, it is interesting that 53 percent of first year students who were surveyed agreed that more in-class library instruction is needed.

The Research Process: Strategies and Methods

Very few assignments mentioned the research process itself or strategies that the students can implement. Two course outlines referred to narrowing a research topic to make it manageable (both were formal essays), while five syllabi discussed the need for background research; this background research was required for three case study assignments and two essays. Five essays also required students to consider prior research on their topic, or to conduct a literature search. More professors required that students summarize information from a resource (30 assignments, in 13 course outlines) as well as synthesize information from a variety of resources (15 assignments in 9 course outlines). Taking the research problems from the survey into account, more instructions may be needed in this area, since 61 percent of first years said they have trouble narrowing their topic, and 40 percent said they found the amount of information available on their topic overwhelming.

The Research Process: Evaluation of Resources

Evaluation was by far the most frequently mentioned research skill in all assignment instructions. Approximately 40 percent of the assignments asked students to tie their assignment to the overall themes of the course, while 25 percent recommended that students evaluate resources in support of their own thesis. Other evaluation requirements included: evaluating for author's bias, for the author's thesis, for the resource's contribution to the overall field of study/topic, and for audience (see details below). Evaluation was a factor for all types of assignments, although it was mentioned more for traditional written assignments like thesis-based essays and papers or reports, and in Social Sciences assignments more than the other disciplines combined. A full twenty-six courses (out of the total 38) mentioned that evaluation of some kind was needed for successful completion of course assignments. See the tables below for more information. There was little instruction on how students should evaluate resources, though.

Assignment Analysis Results: Frequency of Evaluation

Requirement	No. Assignments
Evaluate for themes from course	48
Evaluate for own thesis	25
Evaluate for author's thesis	18
Evaluate for contribution to field of study	14
Evaluate for key issues	13
Evaluate for author bias	6
Evaluate for authorship/authority of author	5
Evaluate resource's references	5
Evaluate for unique contribution to field	4

Evaluate for currency	3
Evaluate for relevancy	3
Evaluate for reliability	3
Evaluate for intended audience	3
Evaluate primary resources for significance	3
Evaluate to determine type of resource	3
Evaluate for accuracy	2
Evaluate for usefulness	1
Evaluate for quality	1

Assignment Analysis Results: Frequency of Evaluation by Assignment Type

Essay (Group or Individual)	21
Paper	13
Case Study (Group or Individual)	9
Tutorial Assignment	6
Reading Assignment	5
Writing Assignment	5
Presentation (Group or Individual)	3
Book Review	2
Other	1

First year survey respondents reported a higher rate of evaluating sources than originally anticipated; this may be related to the number of faculty members requiring evaluation of some kind. The survey responses are still surprising, though, even after considering assignment instructions: over half of first year students said they evaluate references their resources before including them in their final assignment (61%) and 68 percent of survey respondents said they evaluate for currency. Since these two factors are infrequently mentioned in the 38 course syllabi and corresponding documents, this rate is somewhat perplexing. The reasons for this are explored in the [Discussion](#) section below.

The Research Process: Citation and Avoiding Plagiarism

All course documents contained references to proper citation practices thanks to Brescia's Academic Policies and Regulations document that is attached to every syllabus. This document discusses the importance for students to avoid plagiarism by writing assignments in their own words, referring to external sources when using an idea that is not their own, and citing documents using a proper referencing format and bibliography or works cited page (Brescia University College, 2010). The document also refers to the Scholastic Offence Policy in the University of Western Ontario Academic Calendar, which outlines the consequences students may face if they plagiarize. The Scholastic Offence Policy also refers students to the citation style guides located on Western Libraries' website (The University of Western Ontario, 2010). As a result, while it is doubtful that many first year students refer to the Policies and Regulations document in their course outlines (and then follow it to the Scholastic Offence Policy), it can safely be said that every Brescia first year course both refers to plagiarism and the need for proper citation.

Twelve course outlines required a specific citation style for 24 assignments. No specific pattern emerges from the styles chosen, as there was a wide range: Chicago, MLA, APA, Journal of Applied Physiology, an adapted APA style specific for the professor, and AMA (American Management Association) were all used. As expected, these specific styles were assigned for more traditional writing assignments, although a few smaller assignments also had this instruction (see table below for more details). In addition, some professors outlined their preference for in-text citations over foot or endnotes – understandable, given the citation styles that were chosen. Fourteen of the 38 courses analyzed referred students to a citation style guide or citation resource guide, as well; one professor even warned students against secondary citations.

Comparing these results to the survey data, 33 percent of first year students said they still had trouble knowing whether they were plagiarizing or not. This likely relates to the writing process over whether they were including properly formatted citations, which is an area usually covered by Brescia's writing instructor's services to avoid an overlap with the library. That said, one student's comment from the end of the survey cannot be ignored:

"Most of the Brescia teachers do not penalize for incorrect citing, thus students become lazy because citing correctly hardly matters. I was a student at Main campus – when I was there, I used more services to make sure I did citation styles (mla/apa, etc) correctly. Teachers tell you to use a format but don't even know the format themselves. They ONLY care if you have a bibliography, and do not even notice if it is in alphabetical order. Students do not care or even know they aren't citing correctly!! More academic writing services would be utilized if the professors actually cared."

Implications of this and further discussion are included in the [Summary](#) and [Discussion](#) sections below.

Syllabi Analysis and the ACRL Information Literacy Competency Standards

In order to determine the basic level of research skills that first year students at Brescia are expected to acquire, the Association of College and Research Libraries' (ACRL) Information Literacy Competency Standards (2000) were briefly compared to the results of the course syllabi analysis. These standards can be found in [Appendix G](#). In general, there are very few information literacy or research skills that are standard across all first year courses. This is largely explained by the number of courses that do not require additional assignments beyond exams, or, when they do, they do not require outside research. There are a few statements that can be made, however:

- The course outlines and assignment documents, outside of the plagiarism policy, placed the greatest emphasis on Standard 3: "The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system." This emphasis, though, was only required for 40 percent of the assignments analyzed. Standard 1 was also mentioned in a few of the assignment instructions, and Standard 5 was partly covered by the Academic Policies and Regulations document which was found in all course outlines. No standards, therefore, can be considered a basic research requirement of first year courses at Brescia.

- Beryl Ivey Library staff places the greatest emphasis on Standard 2 when conducting first year library instruction, especially at the reference desk: “the information literate student accesses needed information effectively and efficiently.” The library and faculty are consequently not supporting each other as well as they could be.
- Essays, or papers requiring an original thesis, were the assignment type that covered the broadest range of information literacy competencies. But it is unlikely that all first year students completed this type of assignment during the 2009-2010 academic year, and not all had detailed research requirements.
- There are a wide range of performance indicators and outcomes outlined in the ACRL Standards that are not mentioned in any first year course or in library programming aimed at first year students. While this is expected, given that first year students are only being introduced to the majority of these skills for the first time, there are considerable differences between one course and another.

It is impossible to learn every performance indicator and outcome in the ACRL Information Literacy Competency Standards during a person’s undergraduate degree, let alone in their first year. Nor is it necessarily desirable to use these Standards as a measure of someone’s research abilities: they are already over ten years old and perhaps no more applicable to the Millennial generation than some of the theories recently published about these young people. But the standards do provide an interesting gauge of both the skills faculty emphasize in their assignment expectations and where the library’s instruction program fails to fill the void, or provide back-up to faculty. Given the student’s comment above about faculty attitudes toward plagiarism, and the disjointed research requirements of Brescia’s first year courses, the library instruction program may need to consider creating a basic standard of research skills that students should aim to develop over their first year. This is a common practice at many university libraries and its success could be explored further to determine its potential applicability at Brescia.

Summary of Course Syllabi Analysis

The course syllabi and assignment documentation analysis was conducted to determine the research requirements of first year courses. A discrepancy was expected between the research expectations of first year faculty and what the students reported in both the focus groups and the survey. Interestingly, a different type of inconsistency was found, which may be the cause for research difficulties among upper year students, and the problems expressed during the focus group discussions: very few disciplines, let alone subject areas, required a specific level of research requirements in their assignments. The type of projects assigned, the resources that students were required to use, the skills or strategies they were to employ were so varied and inconsistent that a summary or generalization of skills is impossible to produce here.

In some ways, this is positive: students at Brescia will receive a wide range of instruction and experience in their first year; from a research perspective, and from the library in particular, for example, this could be resulting in a void between the research experiences of individual students. Some may have been assigned one or multiple research essays, learning about complexity of the research process, while

others could feasibly complete their first year of university without ever having to do an assignment beyond their midterms and final exams. The nature of a discipline must be considered in this argument, of course: Chemistry or Mathematics courses will be hard pressed to incorporate research skills into their curriculum in a meaningful way. But this lack of consistency, this absence of a basic research standard, could explain the second year student in the focus groups who said:

“[So far I have had] just had one really major project and it was a group project. I did not know how to do journal articles so my group members did that, but I only left the journal articles to others. I knew I was weak there and it was my first time. But it now puts me at a disadvantage because now I have to do it, and I’m expected to know it way better this time, and I don’t know how to do it.”

Further analysis on this subject can be found in the [Discussion](#) section below.

Since the completion of the Millennials Project, Alison Head and Michael Eisenberg’s Project Information Literacy has published its latest progress report, on their analysis of course syllabus and assignments documents. Many of their results are similar to the ones seen here: very few of the course assignments they assessed referred to the library as a place for students to seek research assistance, and handouts tended not to direct students to appropriate databases for their discipline (Head & Eisenberg, 2010). As the authors explain, “the majority of handouts in our sample placed more attention on the mechanics of preparing a research assignment than on conveying substantive information that students also needed, such as how to define and focus a research strategy within the complex information landscape that most college students inhabit today” (2010, p. 2). The similarities that course documents have are not in what they contain but in what they are missing, the authors discovered, with the majority of attention going to assignment layout and page numbers, rather than instructions for researching in a specific discipline. In many cases, Brescia’s course documents fit the same pattern.

Summary of Millennial Project Findings

For the most part, Brescia students are relying on library resources to complete their research assignments, particularly online and print journals; they are using databases, books, and the library catalogue for most research purposes, as well. Brescia students seem to learn what resources are appropriate for academic research throughout their four years at the college: while they continue to rely on Google for most assignments, students in the focus groups identified that they only use search engines to get them started in the research process, and do not find it a helpful resource in the long run. This is in contrast to how students consider library resources, which they found to be consistently helpful, regardless of year or program of study.

Few students in the focus groups or in the survey, though, mentioned using reference material for general and background research, although it was not studied specifically here. Alison Head and Michael Eisenberg, however, found that encyclopedias and other reference material are one of the least utilized resources among undergraduate Humanities students (Lessons Learned, 2009). It seems that Google, course textbooks, and Wikipedia (for focus group participants, at least) are filling in the gap for

many students. More focus on reference services may be needed in the Beryl Ivey Library instruction program: particular attention should be paid to first year students, who seem to be dabbling in every type of resource without much success. Educating students on the purposes and benefits of different resources early on in their undergraduate degrees may help save them a lot of time. Discipline specific instruction would also be beneficial.

In terms of people consulted, survey and focus group participants seem quite happy with the service they receive at the Beryl Ivey Library. Again, while it is hard to gauge the representativeness of the survey sample or the focus groups, students in both studies identified their satisfaction with library service and reported high usage of the library's physical space. That said, Brescia students are limited in where they can go to study across the campus: using a space does not necessarily equate satisfaction with all levels of service. They do seem to rely on library staff more than other studies have found, though: even when one considers the self selection of participants, there was still a 33 percent participation rate in the survey. A quarter of these respondents reported that they consulted the Beryl Ivey Library staff at some point during the research process, and that they were helpful – a *much* higher rate than other recent studies (Head & Eisenberg, 2009).

Students not only rely on the library staff, but on their professors – at least according to the survey. This is welcomed by faculty members, as some course outlines showed. This relationship should be considered when developing new services and trying out new marketing techniques for the library, just as students suggested in both the focus groups and in the survey: educating faculty on the services available for students, particularly those targeted at first year, would like be an effective advertising method. The role that collaboration and teamwork play could affect future marketing techniques, as well: few assignments in first year required group work, as we saw, yet many students consulted their friends and classmates while conducting their research assignments. This lends weight to the description of Millennials in so many popular sources, but should be explored further in the future.

The extent to which students evaluate their resources remains unclear. While only a few professors asked students to evaluate their resources for a wide range of factors (in first year courses), there seemed to be little difference between the evaluation techniques of first year and upper year students among survey respondents. Many students seemed confident when evaluating resources in support of a personal thesis, but only somewhat familiar with the rest of the process (as seen by the high proportion of students, particularly first and second years, indicating they assess resources' references before include them in their final assignments. This is an admirable claim, but one that seems somewhat unlikely and more about pleasing the researcher). Evaluation is not a frequent topic in the instructional services at the Beryl Ivey Library, usually because faculty do not request it. Perhaps this gap – between what the library offers, what faculty want, and what skills the students should possess – should be addressed going forward.

Analyzing the problems that students experience while conducting research produced similar issues. Survey results varied greatly from the focus group discussions and from the behaviour observed at the library desk over the past few years: far fewer students in this survey admitted to experiencing problems in the areas that plagued the focus group participants. There are a variety of explanations for this: one

is that students' information literacy skills improve as they progress through university. Fourth year students reported a lower rate of problems in a number of areas during the survey, including narrowing a topic, evaluating resources for credibility, remembering how to research between projects, and developing an original thesis. Another theory may be that students 'don't know what they don't know.' So often, the world of academic research is completely foreign to undergraduate students: they can only identify their problems so far as they understand what is being asked of them. There may also be a lack of data from library nonusers, who would theoretically be less likely to use and understand proper research techniques than students who regularly use in library services. These regular users may have already received the help from they need, either from library staff, their professors, or classmates. There is a segment of the Brescia population that had questions answered while they were still completing their research – the point of need theory – would they still think they had problems with research, months later? Regardless of the explanation, at least 25 percent of survey respondents identified that they are having research difficulties, and with many issues it was often more. This means that at least 100 Brescia students (about 10% of the student population) self identified as experiencing problems in some way. When you factor in library nonusers who likely did not complete the survey and those who do not recognize the problems they are experiencing, a considerable population of students exist who would benefit from library or faculty intervention.

Overall, Brescia's students seemed engaged and interested in the library – or, at least its staff. A future study measuring customer service quality at the Beryl Ivey Library will be needed to confirm this observation. But the questions included in the survey that address student engagement came back quite positive: students tend not to see the library's services as time consuming or unhelpful (nor are they duplicating UWO's services), but rather just poorly timed. There is little need, then, to completely overhaul the library's programming at this point. Instead, attention should be paid first year students, both in the development of any new (minor) library programming and in marketing. Given the range of assignment expectations, the research experience that students gain in their first year is extremely varied. Solutions to this problem are suggested in the [Discussion](#) section below.

Other Library Developments: 2009-2010

During the 2009 fall term, Brescia University College developed the "University Student Toolkit," a cross-campus initiative led by library staff member Kate Norton. Aimed at first year students (although open to every Brescia student), the toolkit offered four modules in: research skills, classroom skills (note taking, test taking), writing skills, and university survival skills (working in groups, cultural awareness). Using the marketing suggestions from the Millennials Project focus groups, students were emailed and visited in class, advertisements were placed around the college, and professors encouraged their students to participate. The pilot project of the toolkit launched in January 2010 to unexpectedly large enrolment: registration had to be capped on January 30 with 78 students, well above the expected 30 to 35. As a result, the toolkit is being offered again in the fall of 2010, with an expanded number of workshop options and a specific focus on incoming first-year students. The ultimate goal of the Toolkit's research component is to establish a basic standard of research skills in all first-year students, so that more advanced skills can be the focus of in-class presentations and other library programming. This objective was largely influenced by the results of the Millennials Project as they were unfolding. The

future of the Toolkit largely depends on Brescia's administrative support: at present, there is interest among staff and faculty in making the Toolkit mandatory for all incoming Brescia students, especially targeted to at-risk, probationary students, mature students, and international students. How administration responds has yet to be seen, but they are interested in offering the Toolkit to area high school students as a way to prepare them for the demands of university.

Discussion

The Beryl Ivey Library and the Millennial Generation

The Millennials Project had a number of far-reaching objectives which were all considered within the context of the "Millennial Generation." Many of the characteristics assigned to this group of young people have not been explicitly studied here – the subject is simply too complex. There are a number of issues that should be considered going forward, though, before any changes are made to the Beryl Ivey Library instruction program:

The sense that Millennials have a fear of failure was indirectly observed during the data collection process of this project. Students in the focus groups admitted that they were afraid of asking questions or doing research "wrong," and 24 percent of students in the survey agreed that they were "afraid of even starting" their research assignments. A few unsolicited comments about failure surfaced at the end of the survey as well:

"I find it difficult to ask questions in general, mostly because I do not think my question is relevant, so it goes unanswered. I am positive that there are other students in the same boat."

Adjusting for this library anxiety would not require much effort for the staff in the Beryl Ivey Library. For the most part, it appears that students already feel that the library is doing a good job. Consideration, then, of how students are feeling at the beginning of the year and that they may be embarrassed about the research problems they experience (especially as they approach their third and fourth years) is more important than an actual change in library services. This awareness should be carried into the classroom in particular: as we have seen, not all students have had the same experience when it comes to first year, so a wide range of skills should be expected and prepared for when it comes to third and fourth year students. The library staff is already doing this, of course, but more proactive planning may be necessary.

The very existence of this study also demonstrates the library's awareness of academic capitalism within Brescia's culture: while the staff at the Beryl Ivey Library sees the need to educate students on what (they think) students "should" know about research, they also remain sensitive to students' likes and interests when developing library programming. A commitment been made to providing excellent customer service, with the Millennials Project being an attempt for the library to understand its customers. This is an important venture for the success of the library instruction program, but also for the satisfaction of Brescia's students. As Sander et al explain: "If teachers in higher education are

becoming framed as service providers, then one way to ensure the provision of a quality service is to know the expectations of customers as they enter into the service transaction” (Sander et al, 2000, p. 309).

Even after the completion of this study, it is not entirely clear what help these students may want or need. But the survey and focus groups do provide a number of specific focal points where library staff can direct their energy over the coming years: firstly, focussing on so-called “basic” research skills in the first and second years, when students are first learning how to research. These skills could include: identifying appropriate resources to suit their information need (i.e. reference material for background information), narrowing their topic more effectively, and finding full text resources efficiently. Specific first-year programming could be developed and marketed for this exact purpose, since the research requirements of first year course assignments are so varied. Secondly, more “advanced” research skills could be delegated to the in-class and upper year presentations that the library conducts. There was some evidence that Brescia’s Millennials students need to feel more engaged with library instruction (“When they show us slides in class, they don’t interact with us so that we understand it . . . They show us how to ‘do research,’ but we don’t really *know* how to research after that”): a way to do this would be to cater each instruction session to the stage of the research process their assignment is helping them learn, while emphasizing how the skills they are refining are applicable to their future courses and assignments.

The consideration of the Millennial generation’s supposed characteristics did not seem to help with understand the Brescia student population any better. It seems that the theories surrounding this generation are often sensationalized myth – at least in how it applies to the Brescia. While in some ways Brescia students act like traditional “Millennials” – collaborating with friends and family while completing course assignments, for example – not every characteristic assigned to the generation was evident in this study’s results, nor even most. For one thing, Brescia’s students are far less reliant on emerging technology than some of the literature may suggest. Facebook, as a library venture for example, had far less support than some of the other new programming suggestions in the survey, and this support declined the closer students got to graduation. Facebook could be considered, then, as a means to educate first year students on the happenings in the library, but is questionable after that. The other online services suggested in the survey, such as a library blog, online research tutorials, or the library listservs, received only a mediocre reception at best. None of the feedback was overwhelmingly negative, but neither was it celebrating the librarians for coming up with the perfect idea.

The age of Brescia students was not a predictor of behaviour, either, also indicating that Brescia students are not consistently acting like Millennials: for many survey questions, all three age groups (17 to 19, 20 to 25, and 26 and older) had very comparable responses. The only real differences worth noting were that 17 to 19 year old students spend less time researching on average and preferred a Facebook page over the other two age groups. Evidence for a difference in information literacy skills was lacking, too: there was little difference noted in how students evaluated resources across the three age groups, nor in the type of resources they used while researching, unlike year of study.

This is in sharp contrast from the anecdotes received from faculty and from the extensive research already completed in this area, however. The expertise and wisdom of faculty must not be ignored, especially in light of the following email, received after requests for course assignment documentation were sent out:

“We used to have much higher research standards in first-year, including an extensive research project in second term, but a combination of internal and external pressures have made such demands unsustainable.”

Given the past body of research on information literacy skills, the frustrated experiences of Brescia’s faculty, and the inspiration for this study, further consideration must be given to the topic of incoming first-year skills. One area worth considering is the influence of the double cohort phenomenon among Ontario high school graduates: studies by Patrick Brady and Philip Allingham of Lakehead University, of example, examine how the new four-year high school curriculum has affected university graduates. In their 2005 study, the authors found that, while achievement was not affected, Grade 12 graduates felt less prepared for the demands of university over their OAC colleagues, especially in the area of independent research skills (Brady & Allingham, 2005). In a subsequent study, Brady and Allingham argued that the pedagogy of the Ontario curriculum had changed when the province eliminated the OAC year: “implemented in its place was a far more restrictive regimen that emphasized specific learning expectations and imposed a prescriptive evaluation format” (Brady & Allingham, 2007, p. 427). Winter and McEachern (2001) also found that the new Ontario curriculum focussed much more on collaboration, emphasized transparency in standardized report cards, and heavily encouraged teachers to provide extra support when students were not achieving the curriculum’s learning objectives. Teachers were also expected to move away from the traditional lecture toward more problem based learning techniques, even in senior classes (Brady & Allingham, 2005). In an unpublished paper, Harry Krashinsky of the University of Toronto’s Economics department found that over a four year university program, students who had only four years of high school would perform one half to one full letter grade *lower* than students who had the five year program (Krashinsky, 2006). Krashinsky also found that four-year students were less likely to achieve an A grade during their university.

Similarly, study led by A.J.C. King of Queen’s University for the Ontario Ministry of Education examined the influence the new curriculum had on student high school graduation and progression to post-secondary institutions: Phase 4 of the study found that approximately one-third of students were returning for a fifth year of high school as of 2004, even though they qualified to graduate (King, Warren, Boyer, & Chin, 2005). Brady and Allingham, meanwhile, argue that first year students at universities have misconceptions about what is expected of them when they arrive, are overconfident about how well high school prepared them for post-secondary education, and often experience culture shock when reality finally hits them (2007). How do these factors affect Brescia students? Could the double cohort partly explain the sense of entitlement that some students display? Has the new Ontario curriculum affected how well students do in university? Whatever the answer, the new curriculum and its focus on collaboration, on accommodation, and on problem-based learning may be one cause of faculty member’s frustrations with Millennials. Students’ requests for openness about grading schemes and demands for a more interactive, engaging type of learning environment may be simply a product of

the only education system they have ever known: students who entered university in 2009 were in Grade 3 when the new curriculum was introduced, after all. Perhaps the biggest lesson to come out of this project, then, is the need for faculty and students to get to know one another better. Maybe neither group truly understands where the other is coming from? The influence that high school plays on a students' experience in university, and at Brescia in particular, are a potential area of future study.

Library Instruction and Marketing Programs

What the future holds for the Beryl Ivey Library's instructional services remains somewhat unclear. On the one hand, a variety of programming ideas stand out as interesting and useful to Brescia students: they are already using reference and circulation services and the Western Libraries' website quite regularly, and seem very interested in a library WebCT presence. The college has also shown a commitment to the University Student Toolkit, with a wide range of staff, faculty and administration helping out on a voluntary basis; the future of this program is still unknown. But on the other hand, the Millennials Project's survey participants seem to view the library primarily as a place of study, not always where they would seek assistance with assignments. The best interests of the students (i.e. the skills they need to develop in order to succeed in their courses, and later during grad school or in the work place) need to be weighed against their preferences, as well: is there any use in developing services that students may need, if they are not interested in attending or feel they do not have time? A large fear of library staff is the investment of considerable amounts of staff time and finances – both limited resources in the current economic climate – with no attendance increase.

This study has potentially revealed the source of many faculty members' frustrations: a real gap exists between the research expectations of first year courses, which may be compounding the different skill sets that students already possess: the research skills that are required for some assignments are absolutely not universal across all courses or disciplines. A future goal of the college, then, could be to ensure that this pattern does not continue. The question remains: how much of this task is the library's responsibility? And how much can the library staff actually handle?

If the Beryl Ivey Library's goal is to enlighten students and faculty to the educative function of the library, and establish its staff as the primary research assistants of the college, then a host of changes need to take place. The hiring of an instruction librarian, or a faculty liaison library, would be a start. But until that is possible, there are a number of interim solutions the Millennials Project has revealed which will help make library services more relevant to Brescia students (without overburdening the staff or requiring a complete overhaul to the existing program). These include:

1. Improving library service marketing

Both the focus groups and the user survey showed that Brescia students are unfamiliar with the services the library provides, beyond basic reference and circulation services. The fact that students requested services that the library is already providing (in drop-in workshops and program-specific web pages) speaks to the need for better marketing. Luckily, the students suggested ways that have not been previously considered by the library staff. Working with faculty is a must going forward, by: educating faculty on existing library services, asking them to make referrals or brief announcements where applicable, changing the purpose or design of

library instruction sessions, or integrating library services with course outlines. Tapping into the powerful relationship between students and faculty, may be the key to bridging their miscommunication and helping students be better prepared for their course assignments.

It will be important to focus marketing attention on first year students, as well. As participants mentioned in the focus groups, timing is everything: marketing should begin in the third or fourth week of school, as first year students settle into the routine of university and start to look around for services to make things easier. It should focus in on where first year students live, whether in residence or off campus, too. Brief monthly emails that are short and to the point will help reach off campus students (as will liaising with faculty), and going into Brescia's residences can be achieved by posting on their lounge boards, having residence assistants make announcements during floor meetings, or putting documentation in their orientation kits.

2. Improve existing library services by:
 - a. Revamping the drop-in workshop series.

Again, the future of drop-in workshops at the Beryl Ivey Library is muddy. While they may be a victim of poor marketing techniques, the large number of students who said they could not find the time to attend workshops should not be ignored (whether because of class schedules, outside commitments like work, or that they feel they have too much going on). The existing format, then, may need to be adjusted in order to solve these problems and appeal to the students' preferred service model: perhaps workshops can be briefer, focussing on the research process as a whole, rather than a range of individual, disconnected skills; discipline-specific resources or advanced techniques could be marketed to upper year students. Reference statistics from the desk could be used to determine the topics of these brief workshops, as well. Another change to the workshops could be to bring them to the students, in line with point-of-need service and providing the product that they want: short, ten to fifteen minute workshops could be held in the hallway outside the library in between classes, or in the library study room located right beside the circulation desk and the study rooms.

- b. Integrating existing library services with faculty's WebCT pages.

In the past, the library staff has been prohibited from establishing a WebCT presence as they are not considered course instructors (Brescia librarians do not have faculty status). Perhaps this project's data will help sway the UWO ITS department. Alternatively, library staff could forward appropriate links and documents to faculty, so that students can have course-specific resources right where they access their homework. Again, linking into students' WebCT accounts is establishing a point-of-need service. Linking into WebCT or Blackboard also opens up the possibilities for whatever programming the library decides to develop in the future: at present, Brescia's students are not overly

enthusiastic about a library blog or about online research tutorials, but perhaps more appropriate services will evolve over time.

- c. Updating the Beryl Ivey Library website (again) to better suit Brescia students' research needs.

The Beryl Ivey Library has struggled with its website for a number of years. While Brescia is a separate entity from the University of Western Ontario (and, therefore, the library is not a direct part of the Western Libraries system), the students do not necessarily recognize or understand that division. The Shared Library Catalogue accesses the resources at every campus library, including Brescia's, and students can use any library on campus to suit their needs. The Beryl Ivey Library website, therefore, has always struggled between offering unique resources to Brescia's students and acting as a conduit to the Western Libraries' main website. Since Brescia rebranded and updated its website in December, 2009, this problem has been even more evident. The website was not the focus of any survey or focus group questions, but a few comments were made that point to a need to study the website in the future ("Make the library website more prominent . . . Make it known that there is a library website that does have things on it, as opposed to being redundant and just feeding to Western Libraries' website.")

In the meantime, library staff can advertise the existence of the Browse by Program pages, the subject specific web pages developed by Western Libraries. Since many students in the survey and focus groups requested the development of these types of pages, better marketing is needed here. A number of Brescia-only programs have their own Browse by Program pages as well (Leadership, Family Studies, Foods and Nutritional Sciences, and Religious Studies), which should be better advertised and updated regularly. Course-specific pages are being encouraged by Western Libraries, as well, where resources are compiled to help students complete their specific research-based assignments. These have been most popular in disciplines like history, but are starting to expand. The Beryl Ivey Library could explore this option, or link pages like this into students' WebCT accounts again, as an interim solution to the website problem.

3. Investigate the potential for a mandatory research workshop for first year students, through the development of the University Student Toolkit

The reaction to this option among students was surprisingly positive. While just over half of survey respondents said they were either likely or very likely to use this option, the response was still much higher than anticipated. The development of this type of program would help to address many of the issues outlined above, such as eliminating the research skills gap that is seemingly created in the first few years of undergrad. Of course, this type of initiative would need to be a college-wide effort, and would likely create a whole host of other issues that are

too complex to discuss here. Further study of the success of this type of program, particularly at smaller institutions like Brescia, is needed.

Conclusion

The Millennials Project has demonstrated that a two-tier program is needed in the long term future of the Beryl Ivey Library's instruction program. Rather than teaching students that academic research is a process, both faculty and the library staff has been focussed on individual resources and skills. The result is a disjointed, incomplete university experience where many students are not learning essential research skills. In creating a minimum standard of required research in first year, it is important to note that restrictions on faculty should be limited. Not only is it inappropriate to require that certain skills or assignments be mandatory in every discipline at Brescia, but it is disrespectful of faculty member's professional judgment about what is best for their subject and their students. But as a whole, as a cohesive unit working toward a shared goal, Brescia's staff and faculty should ask themselves whether their alumnae are truly "information literate" at the time of their graduation. Are they even ready for graduate school?

A solution, then, that may help to address the issues with the so-called Millennial generation would be to create a basic standard of research skills that Brescia students should achieve during their first year of university. This may seem like encouraging the problem rather than solving it, but the effects of this type of system could be larger than one might assume. First, it would create an even playing field for all incoming students, regardless of their past experience, their program of study, or the year they were born in. It would help to identify the students who *are* struggling in some way, and the potential for growth in the upper year research requirements would also expand. Rather than requiring an entire institution-wide transformation, this would also help to bridge the communication gap between the Millennial generation and academia: universities, on the one hand, would communicate the minimum standard of excellence that is already in place; Millennials, on the other hand, would then understand these expectations and boundaries of the institution that, so far, has been foreign to them until third or fourth year.

Appendix A: Survey Questions and Overall Results

1. What year of study are you currently registered in?

Answer Options	Response Percent	Response Count
Preliminary Year	0.0%	0
First Year Undergraduate	23.9%	88
Second Year Undergraduate	25.8%	95
Third Year Undergraduate	24.7%	91
Fourth Year (or above) Undergraduate	25.5%	94

2. How many Brescia campus courses are you currently registered in?

Answer Options	Response Percent	Response Count
1	5.5%	20
2	16.3%	59
3	26.4%	96
4	24.0%	87
5	27.8%	101
Other (please specify)	1.4%	5

3. What Brescia program are you currently registered in? (If applicable, you may choose more than one)

Answer Options	Response Percent	Response Count
Community Development	5.2%	19
English	8.5%	31
Family Studies	13.7%	50
Foods and Nutritional Sciences	34.2%	125
French	7.1%	26
Health Sciences	2.7%	10
History	3.8%	14
Human Ecology	1.4%	5
Kinesiology	1.4%	5
Management and Organizational Studies	8.2%	30
Philosophy and Religious Studies	2.2%	8
Political Science	3.8%	14
Psychology	19.1%	70
Scholar's Electives	0.5%	2

Sociology	10.4%	38
Undeclared	3.8%	14
Other (please specify)		8

4. What is your current age?

Answer Options	Response Percent	Response Count
17 or under	0.5%	2
18-19	22.1%	81
20-21	36.2%	133
22-23	22.6%	83
24-25	6.8%	25
26 or over	12.0%	44

5. What do you expect your overall grade average to be for this year?

Answer Options	Response Percent	Response Count
50% or lower	0.3%	1
51-60%	2.7%	10
61-70%	16.6%	61
71-80%	50.7%	187
81-90%	28.1%	103
Above 90%	1.6%	6

6. Where did you complete your high school education?

Answer Options	Response Percent	Response Count
Ontario	89.1%	328
Another Canadian province	1.1%	4
Outside Canada	9.8%	36
(please specify)		27

7. Think about all of the courses you have taken this year. Since September, approximately how many assignments have you completed in total?

For the purposes of this survey, an "assignment" means work completed outside of class time, worth 5% or more of your final grade.

Answer Options	Response Percent	Response Count
None	0.3%	1
1-3	6.0%	22
4-6	17.4%	64
7-9	19.3%	71

10-12	24.5%	90
13-15	21.2%	78
16 or more	11.4%	42

8. From your completed assignments, approximately how many required research of any kind? (i.e. searching for information, finding sources to support your argument, comparing resources, etc).

Answer Options	Response Percent	Response Count
None	1.4%	5
1-3	28.8%	106
4-6	27.7%	102
7-9	20.9%	77
10 or more	21.2%	78

9. Think about an assignment you recently completed that required research. (If you can, choose one that is typical of the assignments you usually complete).

What type of assignment was it?

Answer Options	Response Percent	Response Count
Case study	12.0%	44
Essay	48.0%	176
Group essay	5.7%	21
Presentation	6.1%	22
Group presentation	8.15%	31
Report	6.6%	24
Group report	9.0%	33
Lab report/tutorial	2.5%	9
Other (please specify)	3.8%	14

10. Thinking about the same assignment: How helpful did you find the following resources while you conducted your research?

Answer Options	Very unhelpful	Unhelpful	Neutral	Helpful	Very helpful	I didn't use this resource	I don't know what this is
Textbooks or other readings from class	8	15	55	129	139	22	0
Search engines (e.g. Google, Yahoo)	12	23	67	124	112	30	0
Online community encyclopedias (e.g. Wikipedia)	14	36	86	90	45	91	4
Online databases	4	15	38	112	156	31	10
Online or print scholarly journals	2	14	25	83	213	27	2
Library catalogue	4	12	41	113	141	52	3

Books found in Brescia or other campus library	1	16	49	91	132	76	3
Other	1	1	27	3	13	91	9

11. Thinking about the same assignment: How helpful did you find the following library services while you conducted your research?

Answer Options	Very unhelpful	Unhelpful	Neutral	Helpful	Very helpful	I didn't use this service	I don't know what this is
University Student Toolkit	3	11	42	24	12	152	124
Library handout (print or online)	3	11	35	89	60	130	40
Western Libraries Website	5	8	34	130	148	42	1
- Browse by Program Page	3	17	44	83	114	82	25
Beryl Ivey Library Website	3	16	58	110	70	106	5
- Online Reference Shelf	3	9	50	50	52	135	69
Other	1	1	21	8	8	96	7

12. Thinking about the same assignment: How helpful did you find the following people while you conducted your research?

Answer Options	Very unhelpful	Unhelpful	Neutral	Helpful	Very helpful	I didn't ask this person for help	N/A
Beryl Ivey Library staff member	3	1	13	77	152	117	5
Other campus library staff member	5	7	40	60	26	214	16
Professor/course instructor	5	10	37	145	100	71	0
Teaching assistant (TA)	6	4	33	27	11	181	106
Lab instructor	2	4	28	24	4	189	117
Family member	6	7	38	51	34	199	33
Friend or classmate	4	5	54	128	70	97	10
Other	0	0	12	4	2	71	53

13. Thinking about the same assignment: Approximately how many hours did you spend researching in total?

Answer Options	Response Percent	Response Count
Under 1 hour	1.0%	4
1-3 hours	19.6%	72
4-6 hours	38.8%	143

7-9 hours	20.1%	74
More than 9 hours	20.4%	75

14. Thinking about the same assignment: In general, how much did the following factors influence your decision to use a resource in the final assignment?

Answer Options	Did not influence	Influenced a little	Neutral	Mostly influenced	Influenced very much	N/A
It supported your argument	6	9	32	149	159	13
It contained keywords from your topic	10	24	64	150	108	12
It had quality references	22	26	65	138	109	8
It was easy to find	11	25	83	126	116	7
You found it through the library website	19	24	60	129	105	31
Your professor suggested it	33	20	58	79	82	96
You found it quickly	22	36	85	116	99	10
The author is an expert in the field	36	34	90	96	82	30
It met the assignment requirements (i.e. you needed two scholarly articles)	24	25	40	121	138	20
It was current and up-do-date	19	17	55	133	129	15
Other	0	0	18	5	5	101

15. Thinking about the same assignment: How much do you agree or disagree with the following statements about research problems relating to this assignment?

Answer Options	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
You didn't have enough information from the professor to begin the assignment	50	138	60	75	31	14
You found it difficult to avoid procrastinating	15	54	67	143	83	6
You had a hard time narrowing down your topic	22	68	62	145	51	19
You had trouble knowing whether your resources were credible	38	137	80	79	23	11
You found the amount of information available overwhelming	22	134	60	112	35	5
You had difficulty using the library website	42	145	75	56	28	22
You were afraid of even starting	58	138	69	73	19	11
You couldn't find anything on your topic	69	151	64	55	18	11
You found it difficult to remember how to research from the last time	71	139	45	73	26	14
You had a hard time developing your own argument or thesis	38	110	52	97	40	31
You had trouble knowing whether you were	63	124	62	79	35	5

plagiarizing

16. Thinking about the same assignment: What mattered to you the most while you were completing the assignment?

Answer Options	Response Percent	Response Count
The grade you got from the professor	53.1%	191
Getting the assignment finished	20.6%	74
Learning something new	9.4%	34
Being creative with the assignment	6.4%	23
Finding the best resources you could	8.3%	30
Improving your research skills	2.2%	8
Other (please specify)	2.2%	8

17. Since September, approximately how often have you visited the Beryl Ivey Library to do the following?

Answer Options	Never	Once a term or less	Once a month	Once a week	More than once a week
Sit at desks (study, group work, etc)	9	22	56	101	180
Use a study room	96	116	100	39	17
Borrow equipment (computer, projector, etc)	200	95	40	18	13
Socialize with friends	104	50	69	63	82
Print or photocopy	41	45	94	89	99
Use the computers (not for printing)	55	44	83	86	100
Borrow books or course reserves	49	85	142	56	36
Use in-library items (journals, reference books, etc)	107	108	96	34	23
Ask the staff a question	43	108	146	44	27
Other	74	1	2	3	4

18. Many of the Beryl Ivey Library's current services are not used by Brescia students (i.e. library drop-in workshops). Why do you think this is? Please choose three reasons or less.

Answer Options	Response Percent	Response Count
Services conflict with class schedule	56.5%	208
Services conflict with commitments outside of school (work, social life, etc).	45.1%	166
Students don't know what the library offers	55.2%	203
Programming is too similar to other services at Brescia/UWO	3.5%	13
Services are too time consuming	19.6%	72
The content of services is not interesting/useful/helpful	16.8%	62
Students delay coming into the library until it is too late	29.3%	108
Students want to attend, but find they have too much to do the day of	48.4%	178

19. The following is a list of library programming ideas designed to help you complete your research assignments. Please indicate how likely you would be to use each service or program for your next assignment.

Answer Options	Not likely at all	Not likely	Neutral	Likely	Very likely
Library WebCT page: access readings, handouts from your WebCT	20	18	27	135	168
Online research tutorials: short, self guided workshops	20	71	82	129	66
Mandatory research workshops in first year	38	63	63	109	95
Program-specific webpages with resource links, etc.	4	20	61	173	110
Library listserv: sign up to receive emails about upcoming events, etc	30	94	106	98	40
Library blog: answers to common questions, etc.	29	74	96	126	43
Hands-on, drop-in workshops on whatever topic you need help with	13	70	88	143	54
More in-class library presentations on advanced research tips	23	71	92	123	59
Facebook group: be notified of events, tips, ask questions	45	99	89	98	37

20. What do you think is the best way for the library to promote its programs and services? Please choose no more than three ways.

Answer Options	Response Percent	Response Count
Brescia Buzz	3.8%	14
Weekly Leader	13.2%	48
Table triangles in library, cafeteria	20.6%	75
In class announcements from library staff	37.6%	137
Announcements from your professor	59.1%	215
Brief monthly emails	54.7%	199
Brescia Website: Main page, Upcoming Events Calendar	33.5%	122
Large hallways displays in St. James building	25.3%	92
Course syllabus (i.e. connected to your assignments)	51.9%	189

Appendix B: Survey Results - Most Used and Helpful Resources

Most Used Resources Overall

Resource/Service/Person	Percent of total
Textbook or readings from class	93%
Google	90%
Online or print scholarly journals	90%
Online databases	87%
Western Libraries website	87%
Library catalogue	83%
Professor/instructor	81%
Books	76%
Wikipedia	72%
Browse by Program pages	70%
Beryl Ivey Library staff	67%

Most Helpful Resources Overall

Resource/Service/Person	Percent of total
Beryl Ivey Library staff	93%
Western Libraries website	86%
Online databases	83%
Professor/course instructor	82%
Library catalogue	82%
Textbook or readings from class	78%
Online or print scholarly journal	76%
Books in Brescia or other campus library	76%
Library handout	76%
Browse by Program pages	76%
Friend or classmate	76%
Beryl Ivey Library website	71%

Top 3 Most Used Resources by Year of Study

First Year	Second Year	Third Year	Fourth Year
Professor (98%)	Textbooks (89%)	Western Libraries' website (92%)	Journals (96%)
Google (98%)	Google (89%)	Textbooks (91%)	Textbooks (96%)
Databases (98%)	Journals (86%)	Google (91%)	Google (91%)
Catalogue (98%)			Catalogue (91%)
Journals (97%)			
Books (97%)			

Top 3 Most Helpful Resources by Year of Study

First Year	Second Year	Third Year	Fourth Year
Beryl Ivey staff (84%)	Beryl Ivey staff (100%)	Beryl Ivey staff (95%)	Beryl Ivey Staff (94%)
Textbooks (83%)	Professors (88%)	Western Libraries' website (93%)	Journals (93%)
Journals 76%)	Journals (87%)	Journals (90%)	Western Libraries' website (88%)
			Library handouts (88%)

Top 3 Most Used Resources by Age

17-19	20-25	26+
Textbooks (93%)	Textbooks (95%)	Journals (91%)
Google (89%)	Google (91%)	Google (88%)
Journals (89%)	Journals (90%)	Textbooks (84%)
	Western Libraries' website (90%)	Databases (84%)

Top 3 Most Helpful Resources by Age

17-19	20-25	26+
Beryl Ivey staff (93%)	Books (94%)	Beryl Ivey staff (97%)
Journals (84%)	Beryl Ivey staff (93%)	Western Libraries' website (89%)
Western Libraries' website (81%)	Western Libraries' website (88%)	Professor (88%)

Top 3 Most Used Resources by Program of Study

Arts	Family	Foods	MOS	Soc Sci
Textbooks (100%)	Textbooks (98%)	Textbooks (94%)	Databases (93%)	Textbooks (91%)
Google (100%)	Western Libraries website (90%)	Journals (94%)	Google (90%)	Google (89%)
Books (98%)	Google (90%)	Google (93%)	Textbooks (87%)	Journals (89%)

Top 3 Most Helpful Resources by Program of Study

Arts	Family	Foods	MOS	Soc Sci
Beryl Ivey staff (95%)	Beryl Ivey staff (97%)	Journals (90%)	Beryl Ivey staff (100%)	Beryl Ivey staff (96%)
Journals (89%)	Journals (91%)	Beryl Ivey staff (89%)	Professors (88%)	Journals (90%)
Catalogue (89%)	Textbooks (88%)	Western Libraries' website (89%)	Journals (88%)	Western Libraries' website (89%)

Top 3 Most Used Resources by Assignment Type

Case Study	Essay	Group Work	Presentation
Textbook (100%)	Textbooks (93%)	Textbook (95%)	Google (100%)
Journals (98%)	Western Libraries' website (91%)	Google (94%)	Textbook (96%)
Google (93%)	Online databases (90%)	Friend or classmate (88%)	Friend or classmate (88%)
Databases (93%)			

Top 3 Most Helpful Resources by Assignment Type

Case Study	Essay	Group Work	Presentation
Textbook (93%)	Beryl Ivey Staff (92%)	Beryl Ivey staff (98%)	Beryl Ivey staff (97%)
Journals (93%)	Journals (91%)	Western Libraries' website (85%)	Journals (93%)
Databases (93%)	Library catalogue (89%)	Professor/course instructor (84%)	Databases (91%)
Western Libraries website (92%)			
Library catalogue (92%)			

Appendix C: Research Problems

Research Problems Overall and by Year of Study

	Overall	First	Second	Third	Fourth
You found it difficult to avoid procrastinating	61%	67%	59%	60%	57%
You had a hard time narrowing down your topic	52%	61%	53%	47%	49%
You found the amount of information available overwhelming	39%	40%	35%	43%	40%
You had a hard time developing your own argument or thesis	37%	49%	41%	30%	28%
You had trouble knowing whether you were plagiarizing	30%	33%	35%	27%	24%
You didn't have enough information from the professor to begin the assignment	28%	35%	21%	33%	24%
You had trouble knowing whether your resources were credible	27%	44%	23%	26%	16%
You found it difficult to remember how to research from the last time	26%	30%	38%	24%	14%
You were afraid of even starting	24%	27%	27%	22%	21%
You had difficulty using the library website	22%	27%	21%	27%	14%
You couldn't find anything on your topic	19%	24%	19%	16%	18%

Research Problems by Age

	17-19	20-25	26+
You found it difficult to avoid procrastinating	72%	60%	44%
You had a hard time narrowing down your topic	60%	52%	40%
You found the amount of information available overwhelming	40%	40%	37%
You had a hard time developing your own argument or thesis	43%	36%	28%
You had trouble knowing if you were plagiarizing	36%	30%	19%
You didn't have enough information from the professor to begin the assignment	31%	28%	26%
You had trouble knowing whether your resources were credible	31%	30%	2%
You found it difficult to remember how to research from the last time	39%	24%	14%
You were afraid of even starting	29%	25%	12%

You had difficulty using the library website	25%	22%	16%
You couldn't find anything on your topic	30%	17%	14%

Research Problems by Program

	Arts	Family	Foods	MOS	Soc Sci
You found it difficult to avoid procrastinating	83%	74%	51%	67%	62%
You had a hard time narrowing down your topic	64%	58%	43%	67%	56%
You found the amount of information available overwhelming	36%	38%	35%	50%	38%
You had a hard time developing your own argument or thesis	42%	38%	30%	57%	38%
You had trouble knowing whether you were plagiarizing	22%	34%	30%	33%	34%
You didn't have enough information from the professor to begin the assignment	36%	42%	26%	23%	28%
You had trouble knowing whether your resources were credible	31%	26%	21%	30%	32%
You found it difficult to remember how to research from the last time	27%	32%	26%	33%	24%
You were afraid of even starting	31%	42%	19%	27%	23%
You had difficulty using the library website	24%	36%	24%	17%	16%
You couldn't find anything on your topic	27%	26%	14%	20%	25%

Research Problems by Grade Average

	60% and below	61-70%	71-80%	81% and above
You found it difficult to avoid procrastinating	55%	61%	66%	53%
You had a hard time narrowing down your topic	73%	62%	51%	49%
You found the amount of information available overwhelming	73%	44%	36%	39%
You had a hard time developing your own argument or thesis	55%	43%	39%	28%
You had trouble knowing whether you were plagiarizing	55%	41%	29%	23%
You didn't have enough information from the professor to begin the assignment	36%	23%	31%	26%
You had trouble knowing whether your resources were credible	55%	39%	27%	17%
You found it difficult to remember how to research from the last time	45%	34%	26%	20%
You were afraid of even starting	36%	36%	20%	25%

You had difficulty using the library website	27%	16%	23%	24%
You couldn't find anything on your topic	18%	11%	23%	18%

Appendix D: Library Use

Library Use

	Never	Once a term or less	Once a month	Once a week	More than once a week
Sit at desks (study, group work, etc)	9 (2%)	21 (6%)	55 (15%)	100 (27%)	179 (49%)
Use a study room	95 (26%)	114 (31%)	99 (27%)	38 (10%)	16 (4%)
Borrow equipment (computer, projector, etc)	200 (54%)	95 (26%)	40 (11%)	18 (5%)	13 (4%)
Socialize with friends	103 (28%)	50 (14%)	69 (19%)	63 (17%)	81 (22%)
Print or photocopy	41 (11%)	45 (12%)	93 (25%)	89 (24%)	98 (27%)
Use the computers (not for printing)	54 (15%)	44 (12%)	82 (22%)	85 (23%)	99 (27%)
Borrow books or course reserves	49 (13%)	84 (23%)	141 (38%)	56 (15%)	36 (10%)
Use in-library items (journals, reference books, etc)	106 (29%)	107 (29%)	95 (26%)	34 (9%)	23 (6%)
Ask the staff a question	43 (12%)	107 (29%)	144 (39%)	44 (12%)	27 (7%)
Total Participations: 368					

Regular Library Use (Once Per Week or More) by Year of Study

Reason for Using the Library	First	Second	Third	Fourth
Sit at desks (study, group work, etc)	67%	77%	80%	79%
Use a study room	9%	11%	15%	23%
Borrow equipment (computer, projector, etc)	8%	9%	10%	6%
Socialize with friends	33%	39%	54%	36%
Print or photocopy	33%	45%	48%	70%
Use the computers (not for printing)	34%	55%	51%	60%
Borrow books or course reserves	13%	20%	25%	41%

Use in-library items (journals, reference books, etc)	10%	9%	13%	29%
Ask the staff a question	16%	15%	25%	21%

Regular Library Use (Once Per Week or More) by Age

Reason for Using the Library	17-19	20-25	26 +
Sit at desks (study, group work, etc)	65%	78%	88%
Use a study room	13%	15%	14%
Borrow equipment (computer, projector, etc)	6%	9%	9%
Socialize with friends	31%	42%	40%
Print or photocopy	33%	56%	60%
Use the computers (not for printing)	33%	55%	58%
Borrow books or course reserves	13%	29%	26%
Use in-library items (journals, reference books, etc)	8%	15%	30%
Ask the staff a question	65%	20%	33%

Regular Library Use (Once Per Week or More) by Program

Reason for Using the Library	Arts	Family	Foods	MOS	SocSci
Sit at desks (study, group work, etc)	92%	76%	79%	73%	81%
Use a study room	5%	16%	24%	33%	9%
Borrow equipment (computer, projector, etc)	3%	4%	6%	17%	10%
Socialize with friends	47%	22%	38%	53%	47%
Print or photocopy	66%	54%	41%	50%	60%
Use the computers (not for printing)	59%	42%	48%	57%	57%
Borrow books or course reserves	36%	28%	22%	17%	28%
Use in-library items (journals, reference books, etc)	20%	8%	16%	10%	16%
Ask the staff a question	10%	20%	19%	17%	24%

Regular Library Use (Once Per Week or More) by International Students

Reason for Using the Library	Overall	International
Sit at desks (study, group work, etc)	76%	81%
Use a study room	15%	22%
Borrow equipment (computer, projector, etc)	8%	17%
Socialize with friends	39%	53%
Print or photocopy	51%	67%
Use the computers (not for printing)	50%	75%
Borrow books or course reserves	25%	47%
Use in-library items (journals, reference books, etc)	15%	17%
Ask the staff a question	19%	22%

Appendix E: Survey Results - New Library Services

Students likely to use suggested library programming

Library WebCT page: access readings, handouts from your WebCT	82%
Program-specific webpages with resource links, etc.	76%
Mandatory research workshops in first year	55%
Hands-on, drop-in workshops on whatever topic you need help with	53%
Online research tutorials: short, self guided workshops	53%
More in-class library presentations on advanced research tips	49%
Library blog: answers to common questions, etc.	46%
Library listserv: sign up to receive emails about upcoming events, etc	37%
Facebook group: be notified of events, tips, ask questions	36%

Students likely to use suggested library programming by year

	First	Second	Third	Fourth
Library WebCT page: access readings, handouts from your WebCT	88%	86%	80%	74%
Program-specific webpages with resource links, etc.	66%	79%	75%	85%
Mandatory research workshops in first year	51%	58%	45%	66%
Hands-on, drop-in workshops on whatever topic you need help with	61%	54%	53%	46%
Online research tutorials: short, self guided workshops	59%	56%	47%	50%
More in-class library presentations on advanced research tips	53%	41%	52%	51%
Library blog: answers to common questions, etc.	51%	52%	44%	37%
Library listserv: sign up to receive emails about upcoming events, etc	45%	34%	37%	33%

Facebook group: be notified of events, tips, ask questions	50%	31%	40%	27%
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Students likely to use suggested library programming by age

	17-19	20-25	26 and over
Library WebCT page: access readings, handouts from your WebCT	88%	81%	74%
Program-specific webpages with resource links, etc.	69%	76%	91%
Mandatory research workshops in first year	45%	59%	56%
Hands-on, drop-in workshops on whatever topic you need help with	54%	55%	42%
Online research tutorials: short, self guided workshops	49%	53%	63%
More in-class library presentations on advanced research tips	47%	52%	37%
Library blog: answers to common questions, etc.	48%	45%	49%
Library listserv: sign up to receive emails about upcoming events, etc	37%	36%	47%
Facebook group: be notified of events, tips, ask questions	46%	36%	21%

Students likely to use suggested library programming by program of study

	Arts	Family	Foods	MOS	SocSci
Library WebCT page: access readings, handouts from your WebCT	83%	88%	78%	90%	87%
Program-specific webpages with resource links, etc.	75%	74%	83%	70%	76%
Mandatory research workshops in first year	68%	48%	55%	40%	54%
Hands-on, drop-in workshops on whatever topic you need help with	54%	54%	55%	53%	52%
Online research tutorials: short, self guided workshops	49%	48%	58%	43%	50%
More in-class library presentations on advanced research tips	58%	42%	47%	47%	48%
Library blog: answers to common questions, etc.	53%	42%	41%	40%	51%
Library listserv: sign up to receive emails about upcoming events, etc	37%	38%	36%	20%	41%

Facebook group: be notified of events, tips, ask questions	46%	34%	36%	30%	38%
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Students likely to use suggested library programming by grade average

	60 and below	61-70	71-80	81 and above
Library WebCT page: access readings, handouts from your WebCT	100%	90%	82%	75%
Program-specific webpages with resource links, etc.	55%	70%	78%	79%
Mandatory research workshops in first year	73%	51%	60%	47%
Hands-on, drop-in workshops on whatever topic you need help with	55%	56%	55%	49%
Online research tutorials: short, self guided workshops	55%	59%	54%	47%
More in-class library presentations on advanced research tips	82%	46%	51%	45%
Library blog: answers to common questions, etc.	64%	44%	49%	37%
Library listserv: sign up to receive emails about upcoming events, etc	36%	44%	37%	38%
Facebook group: be notified of events, tips, ask questions	45%	48%	35%	32%

Appendix F: Course Document Analysis Form

		Asst 1	Asst 2	Asst 3	Asst 4	Asst 5	Asst 6	Notes
Ass't	Essay (paper with thesis)							
Type	Case study							
	Theoretical paper (apply theory from class)							
	Reading assignment							
	Literature review							
	Writing assignment							
	Paper without thesis							
	Presentation							
	Lab report							
	Tutorial							
	Group essay							
	Group report							
	Group presentation							
	Other							
Topic	Choose from list provided by professor							
	Assigned by professor							
	Original topic (non research)							
	Original research topic							
	Topic must be related to theme of course							
Ass't	Number of pages required							
Require	Specific structure required (i.e. intro, layout)							
	Grading criteria/rubric included							
	Personal reflection must be included							
	Personal critique/evaluation must be incl							
Resources	Professor approved resources							
Use	Provided resource(s) only							
	Suggested resource(s) can be included							
	Course reading(s) must be included							
	Course reading(s) can be included							
	Variety of resources (mono, per, web, etc)							
	Published resources only							
	Scholarly/academic/credible resources							
	Print or online journal							
	Database							
	Books/monographs							
	Catalogue							
	Primary resources							
	Multimedia resources							
	Internet/web resources							
Do not	Secondary resources							

use	Course readings							
	Websites							
	Magazines/newspapers/popular resources							
		Asst 1	Asst 2	Asst 3	Asst 4	Asst 5	Asst 6	Notes
Where to go for help?	Professor can be consulted							
	Professor must be consulted							
	Lab instructor/TA							
	Librarian/Library staff person							
	Writing instructor							
Research	Narrow topic							
Process	Background information							
	Prior research/literature search							
	New research							
Organize	Organize research effectively							
	Synthesize info from variety of sources							
	Summarize info from source(s)							
Evaluation of resources	Evaluate for currency							
	Evaluate for relevancy							
	Evaluate for author bias							
	Evaluate for reliability							
	Evaluate for intended audience							
	Evaluate for author's thesis							
	Evaluate for authorship/authority of author							
	Evaluate for own thesis							
	Evaluate for key issues							
	Evaluate for themes from course							
	Evaluate primary resources for significance							
	Evaluate for contribution to field of study							
	Evaluate for unique contribution to field							
	Evaluate for usefulness							
	Evaluate for quality							
	Evaluate for trustworthiness							
	Evaluate resource's references							
Thesis	Choose from list of provided theses							
	Develop an original thesis							
	Develop a researchable question							
	Identify both sides of thesis/question							
Citation	Understand parts of a citation							
	Determine citation style for assignment							
	Use specific citation style							
	Cite where appropriate to avoid plagiarism							
	Include bibliography in assignment							
	Include footnotes/endnotes							
	Include in text citations							

	Cite consistently							
	Use citation guide/resource							
	Include annotated bibliography							

Appendix G: The ACRL Information Literacy Competency Standards Standards, Performance Indicators, and Outcomes

Standard One

The information literate student determines the nature and extent of the information needed.

Performance Indicators:

1. The information literate student defines and articulates the need for information.

Outcomes Include:

- a. Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
 - b. Develops a thesis statement and formulates questions based on the information need
 - c. Explores general information sources to increase familiarity with the topic
 - d. Defines or modifies the information need to achieve a manageable focus
 - e. Identifies key concepts and terms that describe the information need
 - f. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information
2. The information literate student identifies a variety of types and formats of potential sources for information.

Outcomes Include:

- a. Knows how information is formally and informally produced, organized, and disseminated
- b. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed
- c. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book)
- d. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)

- e. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline
 - f. Realizes that information may need to be constructed with raw data from primary sources
3. The information literate student considers the costs and benefits of acquiring the needed information.

Outcomes Include:

- a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)
 - b. Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context
 - c. Defines a realistic overall plan and timeline to acquire the needed information
4. The information literate student reevaluates the nature and extent of the information need.

Outcomes Include:

- a. Reviews the initial information need to clarify, revise, or refine the question
- b. Describes criteria used to make information decisions and choices

Standard Two

The information literate student accesses needed information effectively and efficiently.

Performance Indicators:

1. The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

Outcomes Include:

- a. Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork)
- b. Investigates benefits and applicability of various investigative methods
- c. Investigates the scope, content, and organization of information retrieval systems

- d. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system
2. The information literate student constructs and implements effectively-designed search strategies.

Outcomes Include:

- a. Develops a research plan appropriate to the investigative method
 - b. Identifies keywords, synonyms and related terms for the information needed
 - c. Selects controlled vocabulary specific to the discipline or information retrieval source
 - d. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
 - e. Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters
 - f. Implements the search using investigative protocols appropriate to the discipline
3. The information literate student retrieves information online or in person using a variety of methods.

Outcomes Include:

- a. Uses various search systems to retrieve information in a variety of formats
 - b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration
 - c. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners)
 - d. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information
4. The information literate student refines the search strategy if necessary.

Outcomes Include:

- a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized
 - b. Identifies gaps in the information retrieved and determines if the search strategy should be revised
 - c. Repeats the search using the revised strategy as necessary
5. The information literate student extracts, records, and manages the information and its sources.

Outcomes Include:

- a. Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment, or exploratory instruments)
- b. Creates a system for organizing the information
- c. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources
- d. Records all pertinent citation information for future reference
- e. Uses various technologies to manage the information selected and organized

Standard Three

The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

Performance Indicators:

1. The information literate student summarizes the main ideas to be extracted from the information gathered.

Outcomes Include:

- a. Reads the text and selects main ideas
 - b. Restates textual concepts in his/her own words and selects data accurately
 - c. Identifies verbatim material that can be then appropriately quoted
2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

Outcomes Include:

- a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias
 - b. Analyzes the structure and logic of supporting arguments or methods
 - c. Recognizes prejudice, deception, or manipulation
 - d. Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information
3. The information literate student synthesizes main ideas to construct new concepts.

Outcomes Include:

- a. Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence
 - b. Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information
 - c. Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena
4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

Outcomes Include:

- a. Determines whether information satisfies the research or other information need
 - b. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources
 - c. Draws conclusions based upon information gathered
 - d. Tests theories with discipline-appropriate techniques (e.g., simulators, experiments)
 - e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions
 - f. Integrates new information with previous information or knowledge
 - g. Selects information that provides evidence for the topic
5. The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.

Outcomes Include:

- a. Investigates differing viewpoints encountered in the literature
 - b. Determines whether to incorporate or reject viewpoints encountered
6. The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or practitioners.

Outcomes Include:

- a. Participates in classroom and other discussions
 - b. Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms)
 - c. Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs)
7. The information literate student determines whether the initial query should be revised.

Outcomes Include:

- a. Determines if original information need has been satisfied or if additional information is needed
- b. Reviews search strategy and incorporates additional concepts as necessary
- c. Reviews information retrieval sources used and expands to include others as needed

Standard Four

The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Performance Indicators:

1. The information literate student applies new and prior information to the planning and creation of a particular product or performance.

Outcomes Include:

- a. Organizes the content in a manner that supports the purposes and format of the product or performance (e.g. outlines, drafts, storyboards)
- b. Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance

- c. Integrates the new and prior information, including quotations and paraphrasing, in a manner that supports the purposes of the product or performance
 - d. Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context
2. The information literate student revises the development process for the product or performance.

Outcomes Include:

- a. Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process
 - b. Reflects on past successes, failures, and alternative strategies
3. The information literate student communicates the product or performance effectively to others.

Outcomes Include:

- a. Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience
- b. Uses a range of information technology applications in creating the product or performance
- c. Incorporates principles of design and communication
- d. Communicates clearly and with a style that supports the purposes of the intended audience

Standard Five

The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Performance Indicators:

1. The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology.

Outcomes Include:

- a. Identifies and discusses issues related to privacy and security in both the print and electronic environments

- b. Identifies and discusses issues related to free vs. fee-based access to information
 - c. Identifies and discusses issues related to censorship and freedom of speech
 - d. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material
2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

Outcomes Include:

- a. Participates in electronic discussions following accepted practices (e.g. "Netiquette")
 - b. Uses approved passwords and other forms of ID for access to information resources
 - c. Complies with institutional policies on access to information resources
 - d. Preserves the integrity of information resources, equipment, systems and facilities
 - e. Legally obtains, stores, and disseminates text, data, images, or sounds
 - f. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own
 - g. Demonstrates an understanding of institutional policies related to human subjects research
3. The information literate student acknowledges the use of information sources in communicating the product or performance.

Outcomes Include:

- a. Selects an appropriate documentation style and uses it consistently to cite sources
- b. Posts permission granted notices, as needed, for copyrighted material

Source: Association for College and Research Libraries (2000, January 18). *Information Literacy Competency Standards for Higher Education*. Retrieved March 11, 2009, from <http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm>

References

- Achacoso, M. V. (2002). *"What Do You Mean My Grade is Not an A?" An Investigation of Academic Entitlement, Causal Attributions, and Self-Regulation in College Students*. Dissertation, University of Texas at Austin.
- Alreck, P. L., & Settle, R. B. (1995). *The Survey Research Handbook: Guidelines and Strategies for Conducting a Survey*. New York: Irwin Professional Publishing.
- Alsop, R. (2008). *The Trophy Kids Grow Up: How the Millennial Generation is Shaking Up the Workplace*. San Francisco, CA: Jossey-Bass.
- Appelgate, R. (2008). Whose Decline? Which Academic Libraries are "Deserted" in Terms of Reference Transactions. *Reference & User Services Quarterly*, 48 (2), 176-189.
- Applegate, R. (2009). The Library is for Studying: Student Preferences for Study Space. *The Journal of Academic Librarianship*, 35 (4), 341-346.
- Association of College and Research Libraries. (2000). *Information Literacy Competency Standards for Higher Education*. Chicago, Illinois: Association of College and Research Libraries, a Division of the American Library Association.
- Association of Research Libraries Statistics and Assessment Program. (2010). Retrieved August 8, 2010, from LibQual+: <http://www.libqual.org/home>
- Attebury, R., Sprague, N., & Young, N. J. (2009). A Decade of Personalized Research Assistance. *Reference Services Review*, 37 (2), pp. 207-220.
- Avery, S., Hahn, J., & Zilic, M. (2008). Beyond Consultation: A New Model for Librarian's Office Hours. *Public Services Quarterly*, 4 (3), pp. 187-206.
- Babbie, E. (2004). *The Practice of Social Research* (10th ed.). Belmont, California: Thomson/Wadsworth.
- Bauerlein, M. (2009). *The Dumbest Generation; How the Digital Age Stupifies Young Americans and Jeopardizes Our Future (Or, Don't Trust Anyone Under 30)*. New York: Jeremy P. Tarcher/Penguin.
- Bell, L., & Trueman, R. B. (Eds.). (2008). *Virtual Worlds, Real Libraries: Librarians and Educators in Second Life and Other Multi-User Virtual Environments*. Medford, New Jersey: Information Today.
- Bennet, S., Maton, K., & Kervin, L. (2008). The 'Digital Natives' Debate: A Critical Review of the Evidence. *British Journal of Educational Technology*, 39 (5), pp. 775-786.

Beryl Ivey Library. (2007). *Education Policy: Purpose, Mission and Goals*. (B. U. College, Producer)

Retrieved August 6, 2010, from Brescia University College:

http://www.brescia.uwo.ca/academics/library/policies/education_policy.html

Black, A. (2010, Winter). Gen Y: Who They Are and How They Learn. *Educational Horizons* , pp. 92-101.

Booth, C., & Guder, C. S. (2009). If You Build It, Will They Care? Tracking Student Receptivity to Emerging Library Technologies. *ACRL Fourteenth National Conference*, (pp. 247-257). Seattle, Washington.

Bowman, L. L., Levine, L. E., Waite, B. M., & Gendron, M. (2010). Can Students Really Multitask? An experimental Study of Instant Messaging While Reading. *Computers & Education* , 54, 927-931.

Brady, P., & Allingham, P. (2005). High School to University in Ontario: Did an Extra Year Make a Difference? *The Canadian Journal of Higher Education* , 35 (2), 99-119.

Brady, P., & Allingham, P. (2007). High School to University in Ontario: How Effective is the New Grade 12 Curriculum. *The Alberta Journal of Educational Research* , 53 (4), 414-429.

Brendle-Moczuk, D. (2006). Encouraging Students' Lifelong Learning Through Graded Information Literacy Assignments. *Reference Services Review* , 34 (4), 498-508.

Brescia University College. (2010). *Academic Policies and Regulations*. Retrieved August 6, 2010, from Brescia University College: <http://www.brescia.uwo.ca/academics/CourseOutlines/index.html>

Bridges, L. M. (2008). Who is Not Using the Library? A Comparison of Undergraduate Academic Disciplines and Library Use. *portal: Libraries and the Academy* , 8 (2), pp. 187-196.

Carpan, C. (2010). Library Services in the Age of Google: Introducing Information Literacy 2.0. *College & Undergraduate Libraries* , 17, pp. 106-113.

Carrier, L. M., Cheever, N. A., Rosen, L. D., Benitez, S., & Chang, J. (2009). Multitasking Across Generations: Multitasking Choices and Difficulty Ratings in Three Generations of Americans. *Computers in Human Behavior* , 25 (2), 483-489.

Chu, M., & Meulemans, Y. N. (2008). The Problems and Potential of MySpace and Facebook Usage in Academic Libraries. *Internet Reference Services Quarterly* , 13 (1), pp. 69-85.

Connell, R. S. (2009). Academic Libraries, Facebook and MySpace, and Student Outreach: A Survey of Student Opinion. *portal: Libraries and the Academy* , 9 (1), 25-36.

Coté, J. E., & Allahar, A. L. (2007). *Ivory Tower Blues: A University System in Crisis*. Toronto: University of Toronto Press.

Creaser, C. (2006). One Size Does Not Fit All: User Surveys in Academic Libraries. *Performance Measurement and Metrics* , 7 (3), pp. 153-162.

Creaser, C. (2006). User Surveys in Academic Libraries. *New Review of Academic Librarianship* , 12 (1), pp. 1-15.

Cvetkovic, V. B., & Lackie, R. J. (Eds.). (2009). *Teaching Generation M: A Handbook for Librarians and Educators*. New York, New York: Neal-Schuman Publishers, Inc.

Davidson, J. R., McMillen, P. S., & Maughan, L. S. (2002). Using the ACRL Information Literacy Competency Standards for Higher Education to Assess a University Library Instruction Program. *Journal of Library Administration* , 36 (1/2), 97-121.

Deal, J. J., Altman, D. G., & Rogelberg, S. G. (2010). Millennials at Work: What We Know and What We Need to Do (if Anything). *Journal of Business Psychology* , 25, pp. 191-199.

Desai, C. M., & Graves, S. J. (2008). Cyberspace or Face-to-Face: The Teachable Moment and Changing Reference Mediums. *Reference & User Services Quarterly* , 47 (3), pp. 242-254.

Eisenberg, M. B. (2008). Information Literacy: Essential Skills for the Information Age. *DESIDOC Journal of Library & Information Technology* , 28 (2), pp. 39-47.

Finney, T. G., & Finney, R. Z. (2010). Are Students Their Universities' Customers? An Exploratory Study. *Education + Training* , 52 (4), pp. 276-291.

Foster, N. F., & Gibbons, S. (Eds.). (2007). *Studying Students: The Undergraduate Research Project at the University of Rochester*. Chicago: Association of College and Research Libraries, A Division of the American Library Association.

Gale, C. D., & Evans, B. S. (2007). Face-to-Face: The Implementation and Analysis of a Research Consultation Service. *College & Undergraduate Libraries* , 14 (3), pp. 85-101.

Gardner, S., & Eng, S. (2005). What Students Want: Generation Y and the Changing Function of the Academic Library. *portal: Libraries and the Academy* , 5 (3), pp. 405-420.

Geck, C. (2006). The Generation Z Connection: Teaching Information Literacy to the Newest Net Generation. *Teacher Librarian* , 33 (3), 19-23.

Grafton, A. (2009). Apocalypse in the Stacks? The Research Library in the Age of Google. *Daedalus* , 138 (1), 87-98.

Grassian, E., Trueman, R. B., & Clemson, P. (2007). Stumbling, Bumblin, Teleporting and Flying . . . Librarian Avatars in Second Life: Selected Bibliography. *Reference Services Review* , 35 (1), pp. 90-97.

Greenberger, E., Lessard, J., Chen, C., & Farragguia, S. P. (2008). Self-Entitled College Students: Contributions of Personality, Parenting, and Motivational Factors. *Journal of Youth and Adolescence* , 37, 1193-1204.

Greenwood, B. (2009). Facebook: The Next Great Vetting Tool? *Information Today* , 26 (8), pp. 1-4.

Gross, M., & Latham, D. (2007). Attaining Information Literacy: An Investigation of the Relationship Between Skill Level, Self-Estimates of Skill, and Library Anxiety. *Library & Information Science Research* , 29, pp. 332-353.

Gross, M., & Latham, D. (2009). Undergraduate Perceptions of Information Literacy: Defining, Attaining, and Self-Assessing Skills. *College & Research Libraries* , 70 (4), pp. 337-350.

Guise, J. L., Goosney, J., Gordon, S., & Pretty, H. (2008). Evolution of a Summer Research/Writing Workshop for First-year University Students. *New Library World* , 109 (5/6), pp. 235-250.

Hardesty, L. (Ed.). (2007). *The Role of the Library in the First College Year*. Columbia, SC: National Resource Center for The First-Year Experience & Students in Transition, University of South Carolina.

Harrison, J., & Rourke, L. (2006). The Benefits of Buy-in: Integrating Information Literacy into Each Year of an Academic Program. *Reference Services Review* , 34 (4), 599-606.

Head, A. J. (2008). Information Literacy from the Trenches: How do Humanities and Social Science Majors Conduct Academic Research? *College & Research Libraries* , 69 (5), pp. 427-444.

Head, A. J., & Eisenberg, M. (2010, July 28). *About*. Retrieved August 4, 2010, from Project Information Literacy: <http://projectinfolit.org/about/>

Head, A. J., & Eisenberg, M. B. (2010, July 12). *Assigning Inquiry: How Handouts for Research Assignments Guide Today's College Students*. Retrieved July 14, 2010, from Project Information Literacy Progress Report: http://projectinfolit.org/pdfs/PIL_Handout_Study_finalvJuly_2010.pdf

Head, A. J., & Eisenberg, M. B. (2009, December 1). *Lessons Learned: How College Students Seek Information in the Digital Age*. Retrieved July 10, 2010, from Project Information Literacy Progress Report: http://projectinfolit.org/pdfs/PIL_Fall2009_Year1Report_12_2009.pdf

Hernon, P., & Altman, E. (2010). *Assessing Service Quality: Satisfying the Expectations of Library Customers* (2nd ed.). Chicago: American Library Association.

Hinchliffe, L. J., Kubiak, C., Hunt, S. K., & Simonds, C. J. (2003). What Students Really Cite: Findings from a Content Analysis of First-Year Student Bibliographies. In N. L. Conference, J. K. Nims, R. Baier, R. Bullard, & E. Owen (Eds.), *Integrating Information Literacy into the College Experience: Papers Presented at the Thirtieth National LOEX Library Instruction Conference, Held in Ypsilanti Michigan 10 to 11 May, 2002*. Ann Arbor, Michigan: Pierian Press.

Howe, N., & Strauss, W. (2003). *Millennials go to College: Strategies for a New Generation on Campus: Recruiting, Admissions, Campus Life, and the Classroom*. Washington: American Association of Collegiate Registrars and Admissions Officers.

Howe, N., & Strauss, W. (2000). *Millennials Rising: The Next Great Generation*. New York: Vintage Books.

- Ismail, L. (2010). What Net Generation Students Really Want. *Reference Services Review* , 38 (1), pp. 10-27.
- Jackson, C. (2010). Fear in Education. *Educational Review* , 62 (1), pp. 39-52.
- Jackson, W., & Verberg, N. (2007). *Methods: Doing Social Research* (4th ed.). Toronto, Ont: Pearson Prentice Hall.
- Jiao, Q. G., Onwuegbuzie, A. J., & Lichtenstein, A. A. (1996). Library Anxiety: Characteristics of 'At-Risk' College Students. *Library and Information Science Research* , 18 (2), 151-163.
- Jones, C., & Ramanau, R. (2009). Collaboration and the Net Generation: The Changing Characteristics of First year University Students. *Computer Supported Collaborative Learning Practices* , 8 (13).
- Kennedy, J. R., Vardaman, L., & McCabe, G. B. (Eds.). (2008). *Our Public, A Changing Clientele: Bewildering Issues or New Challenges for Managing Libraries?* Westport, CT: Libraries, Unlimited.
- King, A., Warren, W., Boyer, J., & Chin, P. (2005). Double Cohort Study: Phase 4 Report. Toronto, ON: Ontario Ministry of Education. Retrieved from Ontario Ministry of Education and Training.
- Kope, M., & Lupien, P. (2008). *If You Build It, Will They Come? Reality-Based Emerging Services Planning for Millennial Students*. University of Guelph, Randy Oldham Library, Information Technology Services.
- Krashinsky, H. (2006, July). *How Would One Extra Year of High School Affect Academic Performance in University? Evidence from a Unique Policy Change*. Retrieved August 8, 2010, from University of Toronto: <http://homes.chass.utoronto.ca/~hkrash/>
- Kuhlthau, C. C. (1991). Inside the Search Process: Information Seeking from the User's Perspective. *Journal of the American Society for Information Science* , 42 (5), 361-371.
- Lammers, H. B., Kiesler, T., Curren, M. T., Cours, D., & Connet, B. (2005, March/April). How Hard Do I Have to Work? Student and Faculty Expectations Regarding University Work. *Journal of Education for Business* , 80 (4), pp. 210-213.
- Leckie, G. (1996). Desperately Seeking Citations: Uncovering Faculty Assumptions About the Undergraduate Research Process. *Journal of Academic Librarianship* , 22, 201-228.
- Lindstrom, J., & Shonrock, D. D. (2006). Faculty-Librarian Collaboration to Achieve Integration of Information Literacy. *Reference & User Services Quarterly* , 46 (1), 18-23.
- Liu, S. (2008). Engaging Users: The Future of Academic Library Web Sites. *College & Research Libraries* , 69 (1), pp. 6-27.
- Luo, L. (2007). Chat Reference Competencies: Identification From a Literature Review and Librarian Interviews. *Reference Services Review* , 35 (2), pp. 195-209.

Malone, D., & Videon, C. (Eds.). (2003). *First Year Student Library Instruction Programs*. Chicago: College Library Information Packet Committee, College Libraries Section, Association of College and Research Libraries.

Maness, J. M. (2006). Library 2.0 Theory: Web 2.0 and its Implications for Libraries. *Webology* , 3 (2).

Manuel, K. (2002). Teaching Information Literacy to Generation Y. *Journal of Library Administration* , 36 (1), pp. 195-217.

McGuinness, C. (2007). Exploring Strategies for Integrated Information Literacy. *Communications in Information Literacy* , 1 (1), 26-38.

Mellon, C. A. (1980). Library Anxiety: A Grounded Theory and its Development. *College & Research Libraries* , 47, 160-65.

Mittermeyer, D. (2005). Incoming FirstYear Undergraduate Students: How Information Literate Are They? *Education for Information* , 23, pp. 203-232.

Myers, C. B. (2008, Winter). Divergence in Learning Goal Priorities Between College Students and Their Faculty: Implications for Teaching and Learning. *College Teaching* , 56 (1), pp. 53-58.

National Survey for Student Engagement. (2008). *Promoting Engagement for All Students: The Imperative to Look Within: 2008 Results*. Retrieved August 6, 2010, from National Survey of Student Engagement: http://nsse.iub.edu/NSSE_2008_Results/docs/withhold/NSSE2008_Results_revised_11-14-2008.pdf

Naylor, S., Stoffel, B., & Van Der Laan, S. (2008). Why Isn't Our Chat Reference Used More? Finding of Focus Group Discussions with Undergraduate Students. *Reference & User Services Quarterly* , 47 (4), pp. 342-354.

Oblinger, D. G., & Oblinger, J. L. (Eds.). (2005). *Educating the Net Generation*:. Retrieved June 11, 2010, from <http://net.educause.edu/ir/library/pdf.pub7101.pdf>

Palfrey, J., & Gasser, U. (2008). *Born Digital: Understanding the First Generation of Digital Natives*. New York: Basic Books.

Palys, T. (2003). *Research Decisions: Quantitative and Qualitative Perspectives* (3rd ed.). Scarborough, Ont: Thomson Nelson.

Pletka, B. (2007). *Educating the Net Generation: How to Engage Students in the 21st Century*. Santa Monica, CA: Santa Monica Press.

Ramos, M., & Piper, P. S. (2006). Letting the Grass Grow: Information on Blogs and Wikis. *Reference Services Review* , 34 (4), pp. 570-574.

Rowlands, I., Nicholas, D., Williams, P., Huntington, P., & Fieldhouse, M. (2008). The Google Generation: The Information Behaviour of the Researcher of the Future. *Perspectives* , 60 (4), 290-310.

Ruppell, M., & Fagan, J. C. (2002). Instant Messaging Reference: Users' Evaluation of Library Chat. *Reference Services Review*, 30 (3), 183-197.

Sander, P., Stevenson, K., King, M., & Coates, D. (2000). University Students' Expectations of Teaching. *Studies in Higher Education*, 25 (3), pp. 309-323.

Shih, W., & Allen, M. (2007). Working With Generation D: Adopting and Adapting to Cultural Learning and Change. *Library Management*, 28 (1/2), 89-100.

Singleton-Jackson, J. A., Jackson, D. L., & Reinhardt, J. (2010, June). Students as Consumers of Knowledge: Are They Buying What We're Selling? *Innovative Higher Education*, DOI 10.1007/s10755-010-9151-y.

Slaughter, S., & Rhoades, G. (2004). *Academic Capitalism and the New Economy: Markets, State, and Higher Education*. Baltimore, Maryland: The John Hopkins University Press.

Tapscott, D. (1998). *Growing Up Digital: The Rise of the Net Generation*. New York: McGraw-Hill.

Tapscott, D. (2009). *Grown Up Digital: How the Net Generation is Changing the World*. New York: McGraw-Hill.

The University of Western Ontario. (2010). *Scholastic Discipline for Undergraduate Students*. Retrieved August 8, 2010, from The University of Western Ontario Academic Calendar 2010: <http://www.westerncalendar.uwo.ca/2010/pg113.html>

Thompson, B., Cook, C., & Kyrillidou, M. (2006). Using Localized Survey Items to Augment Standardized Benchmarking Measures: A LibQUAL+TM Study. *portal: Libraries and the Academy*, 6 (2), pp. 219-230.

Thompson, B., Kyrillidou, M., & Cook, C. (2007). On-Premises Library versus Google-like Information Gateway Usage Patterns: A LibQUAL+R Study. *portal: Libraries and the Academy*, 7 (4), pp. 263-480.

Toner, L. (2008). Non-use of Library Services by Students in a UK Academic Library. *Evidence Based Library and Information Practice*, 3 (2), pp. 18-29.

Twenge, J. M. (2006). *Generation Me: Why Today's Young Americans Are More Confident, Assertive, Entitled - and More Miserable Than Ever Before*. New York: Free Press.

VanScoy, A., & Oakleaf, M. J. (2008). Evidence vs. Anecdote: Using Syllabi to Plan Curriculum-Integrated Information Literacy Instruction. *Journal of Academic Librarianship*, 69 (6), 566-575.

Weiler, A. (2005). Information-Seeking Behavior in Generation Y Students: Motivation, Critical Thinking, and Learning Theory. *The Journal of Academic Librarianship*, 31 (1), 46-53.

Winter, E. C., & McEachern, W. R. (2001). Dealing with Educational Change: the Ontario Experience. *Education*, 121 (4), 682-688.