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Mapping Assets: High-Impact Practices and the First-Year Experience

ABSTRACT

Retention of students in university or other postsecondary education programs is a common problem for many institutions, with retention from first year to second year of study being particularly problematic in Canada and the United States. A number of factors are known to affect retention, and a number of measures have been identified which can help improve retention. Kuh (2008) has developed a list of high-impact educational practices that increase student satisfaction, success, and retention. One key method that helps students adjust to the transition from high school to university is a first-year experience course. This article describes a course called "The First-Year Experience: Mapping our Communities," designed on a theme of asset mapping. The metaphor of mapping allowed us to carefully and intentionally integrate a variety of layered pedagogical goals with a number of Kuh's high-impact strategies. The mapping metaphor extended from physical mapping of the university campus as a space to the mapping of academic and social resources, including mapping of the students' sense of self and goals, their new environment, and all the assets available to help them succeed. To provide students with a critical analysis of their own knowledge and skills and their limits, the theme of asset mapping also encompassed different world views and perspectives. Our research assesses the success of this course at meeting its many intertwined goals, based on both quantitative and qualitative data collected from students in two recent course offerings.

KEYWORDS

first-year experience, transition to university, retention from first to second year, high-impact educational practices

RETENTION, HIGH IMPACT PRACTICES, AND FIRST-YEAR EXPERIENCE

This article describes a Scholarship of Teaching and Learning (SoTL) project based on the creation and assessment of success of a first-year experience course. The design of the course was based on the wide array of existing literature on retention of students through the transition from high school to university, as well as the use of high-impact educational practices to enhance student success. In terms of Nelson's (n.d.) categorization of SoTL projects, we discuss a course explicitly based on scholarship of teaching, report on both qualitative and quantitative before and after data from students, and compare the data and retention rates over time and with other courses. In Hutchings's (2000) Taxonomy of SoTL questions, we have considered both "what works" questions and "visions of the possible" in our design and data analysis. We also describe the success of the guiding metaphor for the course, which has allowed us to meet many interwoven goals for student learning.

The retention of students in postsecondary education is an institutional challenge in many countries. Estimates of the percentage of students who do not complete their programs vary widely, but Grayson and Grayson (2003) found that the rates in Canada and the United States are similar, and that about 40 percent of starting students will not graduate. Parkin and Baldwin's (2009) report on persistence in postsecondary education in Canada, based on data from Statistics Canada's Youth in Transition Survey, found an overall postsecondary (both college and university) attrition rate of about 16 percent in Canada. It should be noted that there are problems inherent in these figures: most are based on data within individual institutions, or even programs, and fail to take into account students who switch programs, switch to another institution, or drop out but return after an absence.

Most striking is the evidence from Parkin and Baldwin (2009) that about 14 percent of first-year students in Canada drop out, and from Pascarella and Terenzini (2005) that as many as 20 to 25 percent of first-year students in the United States leave their studies. In general there is strong evidence that the weakest point for student retention is the first year of studies (Uperaft, Gardner, & Barefoot, 2005; Habley & McClanahan, 2004; Pascarella & Terenzini, 2005; Reason, 2003; Braxton, Hirschy, & McClendon, 2004), in part due to transition issues such as increases in academic demands (Tinto, 1993; Noel, Levitz, & Saluri, 1985).

A number of factors have been identified in the retention literature as affecting student persistence (Bean, 1980; Spady 1970; Tinto, 1975, 1988, 1993, 1999; Bean, 2005; Roberts & Styron, 2010; Habley, Bloom, & Robbins, 2012). These include financial factors (Parkin & Baldwin, 2009; Schuh, 2005), career and program fit (Habley et al., 2012) and various pre-university characteristics, such as high school rank, high school size, high school grade point average, SAT scores, socioeconomic influence, parental expectations, level of parental education, gender and personality (Astin, 1993, 2006; Caison, 2005; Soldner, Lee, & Duby, 1999; Pascarella & Terenzini, 1991, 2005; Schuh, 2000). Burns (1985) notes, however, that such factors as age, gender, socioeconomic status, the proximity of the college to home, and high school size seem to have little effect on persistence.

Spady (1970) and later Tinto (1975) developed models of persistence that emphasized the importance of characteristics of the institutional and campus environment for students, with Spady arguing that persisting students are those who integrate into the academic and social systems of the institution. Tinto's theory of student departure (1975, 1993) also argues that students need both social and academic integration. McNeil (1991) identified, in addition to pre-entry characteristics, the need for both formal and informal experiences to enhance engagement in the social structure of the campus, including things like interaction with faculty and staff, extra-curricular activities and peer group interactions. Liu and Liu (2000) found however that academic integration contributes much more strongly to student persistence, but social integration seemed to have little impact. Bean and Eaton (2001) argue that institutions should help students develop skills and a positive self-image as part of enhancing social and academic integration.

Habley et al. (2012) advocate for a shift in focus from retention and looking at factors that cause students to leave their studies, to student success and study of the factors that help students succeed. Of particular interest is the transition from high school to the more challenging academic environment of university or college. One method frequently used to help students succeed is a first-year experience or first-year seminar course (Keup & Barefoot, 2005; Barefoot, 2000; Uperaft et al., 2005). Such courses that "assist the first year student in adjustments from high school to [college/university] are effective

tools for improving retention rates" (Roberts & Styron, 2010). Uperaft et al. (2005) argue for courses that integrate students into the campus culture, build academic engagement and provide for social interaction, while Walters (2003) recommends innovative and active learning opportunities that foster interaction with peers and the wider community. One important feature of such courses that has been shown to be useful in improving retention is interaction of students with faculty members (Tobolowsky, Cox, & Wagner, 2005; Barefoot et al., 2005; Umbach & Wawrzynski, n.d.; Johnson, 1997; Starke, Harth, & Sirianni, 2001). Both Tinto (1987) and Bean (1981) found a strong correlation between faculty-to-student contact outside of the classroom and student retention.

Kuh (2000, 2008) describes a number of high-impact practices known to help students succeed in university, including first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service- or community-based learning, internships, and capstone courses and projects. Indeed, Kuh argues that it is desirable "for every student to participate in at least two high-impact activities during [their] undergraduate program, one in the first year, and one taken later in relation to the major field" (Kuh, 2008, p. 21). Kuh (2008) also advocates for "a strong emphasis on critical inquiry, frequent writing, information literacy, collaborative learning, and other skills that develop students' intellectual and practical competencies." The practical competencies can be seen as knowing how to navigate the particular campus and institutional system, while the academic competencies include skills such note-taking, exam-writing, and writing skills. Gifford, Briceno-Perriott, and Mianzo (2006, p. 20) report that a number of studies show that "students with good study skills tend to have higher academic achievement than students with poor study skills."

It is also worth noting that adding one or more high-impact practices to an already existing course can feel contrived and artificial, rather than an integral part of the teaching practice, whereas building such practices organically into a new course plan can support both pedagogical goals and the needs of first year students. And Habley et al. (2012) point out that a first-year experience should not use a cookie-cutter design, but rather should flow from the values and priorities of an institution and reflect its individual characteristics.

THE MAPPING METAPHOR

The University of Lethbridge is a small (about 8,500 students) primarily undergraduate and liberal education-based university in a small city in western Canada. The university's one-semester "course, "The First Year Experience: Mapping our Communities," grew out of a recruitment and retention initiative, and as advocated by Habley et al. (2012) began with a focus on student success in the transitional year. Designing a new course specifically aimed at enhancing learning and success for first-year students allowed us to organically incorporate a large number of Kuh's high-impact practices, interwoven around a theme that tied together various layered goals. The course was built around the theme of mapping as an extended metaphor for the organization of knowledge in different disciplines and for the students' navigation of their own career paths, their transition to university, and their university education. These academic goals were combined with the goal of helping students to map all the campus resources available to help them succeed, build their study skills, and build a strong sense of community among a group of students. The various aspects of mapping then provided a framework for incorporating a number of Kuh's high-impact practices: active learning, common intellectual

experiences, collaborative assignments and projects, writing-intensive course work, information literacy, and broadening of perspectives from local to global levels were all built in to the course activities.

Several aspects of the mapping metaphor were used in framing the course content. At its broadest, mapping incorporates the organization of information, the selecting, organizing, and displaying of information relevant to a particular purpose or use, and can thus be approached from a variety of disciplinary perspectives. Another important aspect was the concept of asset mapping, an approach developed to help local communities account for and draw upon resources for their own success (Kretzmann, McKnight, & Puntenney, 2005). This approach to mapping community resources draws on the work of Amartya Sen (1993) who emphasized positive freedom based on capabilities possessed. Rather than approaching the development of a community (or an individual) from a deficit model, asset mapping is meant to build inventories of existing strengths in order to produce empowerment. This approach likewise draws from bioregional approaches (Smith, 2011) to common environmental resources and the recognition that we do not often acknowledge or understand what our own communities offer to us. Organizing the course around exploring, discovering and then mapping resources available to them allowed students to conduct an active audit of their own university and what it offered them. During the course, students were asked to consider actual maps, physical, historical, digital, local, and global, and how mapping itself is a way of knowing, that is, an epistemology. They were then asked to create a set of maps: of their lives, their skills, their social and academic networks, and their university campus. This work also encompassed metacognitive tasks such as students' mapping their own learning style and possible pathways through their degree, and this approach was an important tool in building teams and membership in a cohort.

The theoretical context was linked to our institutional priorities as well. Kuh, Kinzie, Schuh, and Whitt (2005) discuss the importance of institutional conditions such as a clear, focused institutional mission as an encompassing environment for the use of high impact practices. For our institution, this encompassing environment is provided by liberal education, which is our founding philosophy and the core of our undergraduate teaching and learning. Our model of liberal education emphasizes breadth of knowledge, connections across disciplines, critical thinking and civic and community engagement. Since our course was designed to be cross-disciplinary and to develop thinking and learning skills as well as engagement, it was a natural choice to house it in the university's liberal education program and to connect its goals to those of liberal education in general.

Following the "understanding by design" approach of Wiggins and McTighe (2005), we started with an explicit list of goals to be met and practices to be used. The following specific and intertwined goals and subgoals were identified as learning outcomes for students in the course:

1. Academic content:
   - exploring the process, uses, and implications of mapping, in any form involving mapping or organization of knowledge from a variety of disciplinary viewpoints;
   - being introduced to a variety of academic disciplines through guest speakers;
   - meeting outstanding professors and learning about their teaching and research;
   - understanding the university's philosophy of liberal education.

2. Learning about the university and its resources:
   - exploring the university campus as a physical and social space;
   - learning the history and stories of the campus and the local community;
   - mapping the kinds of support (assets) available to students on campus to help them succeed at university and beyond, including programs, offices, staff, and faculty.

3. Team and community building:
   - building a cohort or community of students in the course;
   - building teams through group activities and assignments;
   - working in teams on a collaborative final project;
   - developing a sense of belonging to the university community, socially and academically.

4. Building academic success skills:
   - developing a sense of belonging to the university community, socially and academically.
   - developing note-taking, writing, analysis, and study skills.
   - developing metacognitive skills, based on each student's own strengths and weaknesses;
   - building awareness of what is needed to succeed in university, and what help is available.

COURSE STRUCTURE AND EVOLUTION

An initial offering of this course was piloted by Newberry in spring 2013 with 18 students. The course has been offered in the three subsequent years by Wismath with an enrolment of 50 students each time. With increasing student numbers, the course has evolved in some practical aspects, while remaining true to the original goals and vision. For example, a tour of the campus physical plant that was offered in the first year is no longer possible for 50 students.

Class time for the course consisted of three 50-minute classes per week, over a 13-week semester. Typically one class per week was devoted to a guest speaker, one to lecture or discussion with the instructor, and one to an active learning exercise, usually in teams. The four overarching goals described in the previous section were addressed through an organic blend of lectures, activities, team work and assignments, and through a combination of high-impact educational practices.

The academic content of the course revolved around an analysis of how information is mapped in different disciplines, across the sciences, social sciences, and humanities. Each week, academic guest lecturers were invited to discuss the concept of mapping as it applied to their disciplines. These lectures included topics such as the early history of our university campus and stories of its founding (University Archives), local area maps (geography), mapping across cultures (anthropology), Indigenous mapping of the local geographical area (Native American studies), first colonizer maps of the local area (history), mapping of the human in science (psychology), classification of at-risk or disappearing languages (modern languages), historical development of 3-dimensional perspective in maps and art (fine arts), logical thought-mappings (mathematics), visualization of data in new media (new media), and asset mapping in development work in the Global South (anthropology).

The academic lectures were balanced with activities designed to promote active and team-based learning and to introduce students to the resources available to support their success. For example, there were in-class presentations by the Applied Studies and Co-operative Education office, by Career and Employment Services, and Counselling Services and a scavenger hunt to find resources in the library.

Another scavenger hunt event called "The Amazing Race," sent teams of students to more than 30 resource offices on campus; besides helping students discover the locations of all these services, and meet friendly and helpful staff, this activity had the added benefit of allowing many service offices on campus to participate in an academic event, strengthening our general community ties on campus. Another activity done in teams in class is the "What Do I Do If . . ." exercise. This featured a list of about 25 common scenarios encountered by first year students, among them, "I'm too sick to go to class," "I don't know anyone to get notes from," "I have a friend who seems suicidal," "I have a medical appointment the day of my final exam," "I need an academic reference," and "I need advice on how to choose next semester's courses." With help from tutors and instructors, students compiled advice on these in a document posted for students to share, a document that is now posted on the university's website for all students to access. A research visit activity that sent small groups of students to interview individual professors about their research networks also helps build community.

The goal of community building involved not only meeting professors and other resource office staff throughout the campus, but also developing a strong cohort experience for the students. Collaborative learning was thus a key factor throughout the course. At the start of the semester students were assigned randomly to teams, with six teams of about eight students each. These teams participated in activities together each week throughout the semester and collaborated on a final team project. In keeping with the mapping theme, one of the first activities asked students to prepare a self-map, which they then shared with their teams to produce a team map. The culmination of the course was a team-based final project in which students produce a multimedia map of the university campus, the map they would have liked to have when they arrived at the university. They were required to build in all the information about the university they have been exposed to during the course and to reflect what they needed to know or wished that they had known sooner to share with incoming students. These maps were shared in a class presentation and were then shared with various administrative offices on campus.

The goals of academic integration (Spady, 1970; Tinto, 1993) and skills enhancement (Gifford et al., 2006) were approached through an emphasis on metacognitive learning (Flavell, 1979, 1987), which encompasses knowledge about strategies for learning and problem solving, reflection on one's own strengths and weaknesses, and overseeing one's own thinking and activity. Such metacognitive work has been shown to be correlated with academic success in a number of ways (Brown, 1987; Pintrich, 2002; Sternberg, 1998). Skills discussed and worked on include thinking and learning styles and study habits (Fleming & Mills, 1992; Gregorc, 1979). Writing skills are particularly stressed, with a class workshop devoted to fixing common writing errors, and regular writing assignments along with three essays. The first essays were graded with abundant feedback and returned to the students before a writing-errors workshop, with the opportunity to revise and resubmit their essays for a higher grade. For the second essay, one class was devoted to editing each other's essays in their teams, with additional feedback from tutors and instructors.

Assessment in the course covered a wide range of components to encourage students to do consistent steady work on the course each week and to develop disciplined work habits. During the two semester offerings used in this study, students had nine weekly assignments worth 4 percent each; three essays worth 12 percent each; and a final team project worth 28 percent. Despite there being copious research support for the advantages of collaborative learning (Bruffee, 1993; Slavin, 1990; Vaughan, 2010), students frequently reported disliking team assignments and projects. They generally gave two

main arguments for this dislike: the difficulty of arranging a common meeting time outside of class given the conflicting schedules of teammates, and a worry that their grade would be dependent on someone else's work or lack thereof. Every effort was made in the course structure to avoid these two situations, while maintaining the strong benefits of teamwork. Most assignments involved teamwork (e.g., to produce a team map), but all required some individual write-up, as well. The joint product of the final project, the campus map, was also accompanied by individual and group write-ups. Also, students were allowed three in-class periods to work on and plan their team maps so that out-of-class work could mostly be done individually as well.

RESEARCH PROJECT AND METHODOLOGY

Anonymous student course evaluations and anecdotal commentary from students from the first two offerings suggested that students found the course helpful and enjoyable. To provide rigorous evidence, a research study was conducted for the 2015 and 2016 offerings, to more formally assess the success of the course at meeting its various interwoven goals. Research ethics approval was obtained for a research study to provide a more robust assessment of the course, by collecting both quantitative and qualitative data from students. Students completed an engagement survey designed by the second author. This survey, using a 5-point Likert scale, was administered at the start of the course and again at the end, constituting parts of the first and last assignments in the course. Students were asked separately for permission to use these survey results, as well as excerpts from their writing assignments in the course, as data in the research project, following standard guidelines for confidentiality and lack of interference with grading.

In spring 2015 we received consent to use their data from 34 students out of 47 who completed the course (72.3 percent); for spring 2016 we obtained consent from 36 of 49 (73.5 percent). Unfortunately, not all those who consented submitted complete data for both pre- and post-course surveys. We collected full data on the two surveys from a total of 48 students out of the 98 who enrolled in the two semesters. For these 48 we completed one-tailed paired T-tests to compare the pre- and post-test averages on each question. These tests were conducted separately for spring 2015 ($n = 20$) and spring 2016, ($n = 28$) and then on the merged data ($n = 48$).

Qualitative data included the written work of the total 70 students who consented to participate in the study, as well as anonymous course evaluation comments. This data was analyzed thematically to assess the positive impacts on students in four domains related to the four overarching goals listed above. In the following sections, the quantitative and qualitative data and analysis are presented separately, before a final summary of evidence for the course's effectiveness as a first-year experience.

As a comparison with another somewhat similar course, students in the spring 2015 Liberal Education 1000 course were also given the same engagement survey, pre- and post-course. This course was taught by the same instructor that semester, and the class size of 41 was similar to that of the first-year experience course. The sample size (those who gave consent and completed both surveys) obtained was $n = 20$. This is a small sample size, and based on one semester only, but nevertheless the results provided a useful control group for comparison.

QUANTITATIVE DATA

The engagement survey was designed to measure any change in students' attitudes with respect to various goals of the course. Some items were adapted from the National Survey for Student Engagement (2012). Statistical analysis as described above was performed, using paired T-tests with significance level of P = 0.05 (see the appendix for the complete list of survey items, along with T-test scores for all items, for each semester separately and for the merged data). The P-value scores given indicate the probability that the difference obtained could have occurred by chance alone, meaning that the smaller the p-value, the more significant the change from pre- to post-course is.

Of the 24 survey items, the 12 items in Table 1 showed a statistically significant positive change at a P-value of 0.05 for the merged data. These items strongly support the success of the course in meeting a number of its goals. Significant positive changes in responses to items 3 and 14 highlight participants' increasing awareness of supports and services available to students, while changes in responses to items 1, 2 and 18 reflect increased comfort with professors, classes and academic life in general. Responses to items 4 and 5 demonstrate an enhanced understanding and value of liberal education. Responses to items 11 and 13 support connections made between this course and others, and the development of writing skills, both of which were strong aspects of the course. Responses to items 8 and 16 suggest that participants began to feel more a part of the campus community.

An additional four survey items, items 7, 17, 20 and 21, resulted in P-values of between 0.05 and 0.10 in the merged data. Items 7 ("Critical thinking is important in my major") and 21 ("It is important to me to be able to take a variety of courses outside my major") particularly relate to our university's model of liberal education, which emphasizes breadth and critical thinking.

It should be noted that the sample size of n = 48 here is quite small, at 48.98 percent of the total course enrolment. Our survey results suggest that while those students who participated in the study were indeed fully engaged with the course, a segment of students was perhaps not particularly well engaged.

A strong contrast was seen between these survey results and those for the comparison course, Liberal Education 1000. For that sample group, only two of the survey items showed a significant change on the engagement survey, the two items 4 and 5 dealing with liberal education (P-values of .0003 and .008 respectively). A change in these items is certainly to be expected from the introductory-level Liberal Education course, but the fact that these items were the only ones with significant change highlights the success of the first-year experience course in meeting its various goals, using high-impact practices interwoven around a mapping theme. The introductory Liberal Education class, for example, did not use teamwork, a final project, or active learning techniques.

Table 1. Results from engagement survey, merged data

	ITEM	P-VALUE
1	I am comfortable participating in classes.	0.0153
2	I am comfortable interacting with my professors.	0.0441
3	I am aware of all the services available to students at the U of L.	0.0001

	ITEM	P-VALUE
4	I understand the definition of Liberal Education.	0.0000
5	I chose to attend the U of L because of its Liberal Education Philosophy.	0.0049
8	I am happy so far with my decision to come to U of L.	0.0448
11	I am able to see connections between different courses I am taking.	0.0009
13	I have strong writing skills.	0.0064
14	I am comfortable going to see an academic advisor.	0.0131
16	It is important to me to attend campus activities and events.	0.0164
18	I am comfortable going to my professors' office hours when I have questions.	0.0083

Additional data obtained from our university's office of Institutional Analysis shows that the retention rate of students in this course over the first four offerings (2013-2016) was 88.41 percent. This is 4.43 percent higher than the university's average retention rate from May 15 of year 1 to December 1 of year 2. This is especially significant since the course also has on average a much higher rate of at-risk students registered in the class; students on academic probation after their first semester are encouraged by the faculty academic advisors to take this course to improve their academic skills.

QUALITATIVE DATA

Qualitative data collected in this study included copies of participants' written assignments from the course, as well as anonymous course evaluation comments collected at the end of the course. Thematic analysis of this data suggested four main areas where students reported a positive impact of the course, areas that relate to the four course goals: their awareness of the services and supports available to help them succeed; their appreciation for the teamwork and tutors which built a cohort for them; the development of their thinking, writing and study skills; and their increased sense of belonging to the university community.

Mapping of assets and resources

While a number of support services are available to students on campus, as they are at most universities, first-year students are not always aware of them, or confident enough to access them if they have been inundated with information in an orientation day. Having guest speakers from different service areas provided information to students throughout the semester. A follow-up class activity, in which teams of students did a scavenger hunt requiring visits to many support offices, such as Financial Aid, Advising offices, Security Office, Campus Women's Centre, elicited very positive responses from students about the help available to them. Students commented that the university is "awesome at

providing many different helpful services to students that are easily accessible and useful"; that the course "expanded the information I knew about the services provided to us as students"; and that "the many resources I have learned and taken advantage of is incredible."

A number of students commented on their appreciation for active learning, for getting out of the classroom to investigate the campus and resources rather than sitting in lectures every class, and for the variety of academic and practical content. This appreciation for some high-impact practices was coupled with an increase in social and institutional comfort and fit (Spady, 1970; Tinto, 1993). One student wrote "I ABSOLUTELY ADORED [emphasis in original] all the visiting speakers from all the services offered on campus, such as co-op services, IT tech help, as well as the tours we went on, and even the tutors giving us advice and solutions for our university endeavours." The following comments, about student services and activities, indicate the extent of the student learning:

> *The "what do I do if" exercise was actually the most informative assignment we had. Even having spent one semester in the university, I have been faced with at least five of those situations listed. It was good to know what to do when faced with that kind of situation; who to report to, where to go and what not to do.*
>
> *Without the [scavenger hunt] activity, I would not have learned about the location of the scholarship office and have seen the information about scholarships. I began applying for scholarships a few days later.*
>
> *When people from the different student services came to lecture us it was weird to think that I probably didn't know half of what was located right on campus.*

These results confirm the importance of social integration into the campus community (Spady, 1970; Tinto, 1975, 1988, 1993), and of developing the practical competencies identified by Kuh (2008). We noted that on the "What Do I Do If . .." exercise, students frequently felt that they already knew the answers, and were surprised to realize in the class discussion with instructors and tutors that they did not in fact know the best ways to handle most scenarios.

One assignment required students to conduct a research visit with a professor in teams and write up an account of their visit. This activity not only enhanced the academic content of the course, but equally importantly allowed students to see that the university's faculty members are resources available for them to call on. There were frequent comments about how friendly and approachable the professors were: "very easy to talk to and to listen to"; "friendly and outgoing"; "obvious that she was passionate about her field of study"; "a very interesting and easy conversation. . . . very inspiring and uplifting"; "made me want to take a class with her or in her department even more." Comments such as "greatly enjoyed our meeting/chat, which worked to further establish my comfort with talking to professors" and "[i]t helped boost my confidence with speaking to professors" showed that students realized that professors are accessible resources for their academic lives:

> *Being able to talk to a professor on a personal level was eye-opening. It is not every day that we get a chance to just sit down for an hour with a prof and talk. I believe many of us coming into*

> *university saw our Profs as emotionless geniuses and had a hard time approaching and talking to them…I think this interview helped us realize the opportunities and connections that open up when we talk to your professors. And after all they are not emotionless geniuses!*

These student comments support the argument by Tinto (1993), Bean (1981), Tobolowsky et al. (2005) and Barefoot et al. (2005), for the importance of faculty-student contact outside the formal classroom setting.

Team building and team-based learning

Students in the course were randomly assigned into teams of six to eight students each at the start of the course. Despite early trepidation on the part of students about intensive group work in the course, most ended up being very positive about their team work. One student summed up this transition thus:

> *When I had learned that this class would be a lot of group based stuff I was not too excited about it, just because I have never had a good experience with group work, but because of this classes* [sic] *types of assignments it ended up being a great experience that help me make some friends along the way.*

Other comments about team work included "my favourite part of the class"; "an amazing idea"; "the best part of this class"; "an awesome idea"; "helped build a more friendly and conducive place to learn." One student remarked that his/her team succeeded in "actually creating a beautiful project in a short period of time":

> *The fact that we had the same group throughout the whole semester was a good change from other classes, and actually gives time to get to know people better before you seriously start working with them. I enjoyed the fact that the group work we did before the final group project wasn't really graded, since it gave us time to get to know each other and how everyone works before we did something worth a good chunk of our grade. I think it led to a better outcome at the end of the class then [sic] ifyou put us in those groups near the end of the class. It also built a big sense of community with our group as you saw when we didn't want to leave the class after the presentation.*

These and other similar comments indicate that students seemed to bond in a true team or cohort experience, which not only benefitted them socially but led to a sense of academic support and a useful final product from their team project. In the early stages of the course, they liked having a core group they could sit with and relate to in the hallways or in other classes; by the end, there was a strong sense of group bonding and accomplishment. This contributed to social engagement and to a developing sense of self-efficacy, which is known to contribute to academic success (Bandura, 1997; Nelson & Cooper, 2014; Lindley & Borgen, 2002).

Another aspect of the team work that students commented favourably on was the assignment to each team of a student tutor. These were senior undergraduate students who were hired to attend all

lectures for the course, oversee and help with team activities, provide mentoring to their team members, and attend a weekly tutors planning meeting. Students in the course were very positive about the role of the tutors: " a brilliant idea and I benefited from their wealth of experience as they guided the teams"; "I particularly liked the fact that our team leaders were student tutors because they understand what it is

like to be a student"; "They also provided advice that was very beneficial to me"; "having tutors was more beneficial than I would have imagined," for advice, editing help, and help in other courses as well; the tutors "showed that it does get easier, and that even though it is difficult now it is possible to survive." The following longer student comment sums up most responses regarding tutors:

Personally, I found the tutors in this class extremely important and effective. With such big teams it is easy to get off track, and my tutor definitely helped keep us on schedule and helped guide us to an end result of an activity. I am grateful that the tutors are older than us so they were able to sympathize and give guidance to any of our first year questions. I think that the class

where the tutors talked about who they were etc. was a great way to get to know all of them, but I wish it would have been one of the first classes so that I would be more comfortable talking to any of them or asking any of them questions throughout the semester in addition to my own tutor. My tutor was extremely helpful and even offered to edit our essays outside of class time. I am very happy I got to make this connection and I think that they made excellent group leaders. This was one of my favourite aspects of the course.

Skills development

Skills development increasingly became a focus of the course in each offering, as the course moved from a small-size mainly experiential learning model to one designed to support larger and sometimes academically weaker groups of students. Although actual data was not available to us for confidentiality reasons, we know anecdotally that a number of students in the two offerings of the course under discussion here were on academic probation, and were recommended to the course by their academic advisors as an opportunity to enhance their academic skills. Another issue as the course grew was that as students felt a bit more anonymous in a larger group there was lower attendance for some talks, so rather than having only group discussions of each guest lecture we began asking students to hand in some written analysis as well. But this pragmatic reason also resulted in a benefit to the students' development of writing skills, an aspect of undergraduate education that has been identified as needing intensive high-impact practice (Kuh et. al, 2005; Gifford et al., 2006). The assignment structure that evolved for the course provided for instructor feedback on weekly written assignments as well as three essays, along with in-class editing of papers. As noted in our discussion of quantitative data, our participants showed a strong increase in their self-evaluated writing skills (p-value of .006 for positive change on the item "I have strong writing skills"). This was also reflected in the qualitative data collected, as students used phrases like "certainly have improved my writing with the help of this class"; "less afraid of writing academic papers and reports"; and "[feedback was] very beneficial to me as a student." The following comment was typical:

> *As a first year student who had never written a university essay prior to taking [it], this course was extremely beneficial to the development of my writing skills. This course required me to*

> *think deeply about and explain my point of view on a variety of topics, especially through the three essays. As someone who generally tries to avoid this type of work and thinking, expressing my understanding in this course was extremely helpful for developing my critical thinking skills.*

Many participants particularly liked the class sessions devoted to editing each other's essays in teams:

> *I specifically liked having our whole group edit each other's essays as well as having our tutors there to help and guide us with further editing assistance. I feel I certainly have improved my writing with the help of this class and I found having the professor's] as well as the tutor's detailed comments on previous papers helped teach me what makes a paper good or bad, and how to improve sentence structure and wording.*

It is worth noting that students benefitted not only from having others edit their papers, but from doing such editing for others. One student remarked that "after I had the chance to edit others' papers, I found that I was more capable of editing my own and became more careful about what I was saying in my writing."

As part of skills development, students were encouraged not only to access resources available to help them succeed but also to reflect metacognitively on their own thinking and learning and how they might improve their academic work. This metacognitive focus began at the start of the course, with an assignment requiring students to complete the VARK Learning Style survey (Fleming & Mills, 1992) and the Gregorc Thinking Style Survey (Gregorc, 1979). Students generally found these surveys useful, not for the labels they assigned to various styles but for the subsequent class discussion about various techniques for note-taking, studying, and test and essay writing. The following two student comments reflect appreciation of the usefulness of the assignment and an increasing awareness of the higher level of study skills students need to develop to make a successful transition to college:

> My *transition from high school to university was a major learning curve. I have learned that my high school style of doing things like homework, studying for tests, and just my way ofgrasping concepts need to change in order to do well in university. . . . In high school I maintained high grades without putting much effort into my work; my first semester in university I have learned that you need to maintain constant study and readying.*

> *Assignment number 2 challenged us to set goals for ourselves for the semester. Thanks to this course I set goals for myself that I normally would not have, and to my own surprise, I have completed almost all of them!*

This setting of goals and handling the transition to new academic standards again speaks to academic integration (Spady, 1970; Tinto, 1993) and to enhanced self-efficacy (Bandura, 1997; Nelson & Cooper, 2014; Lindley & Borgen, 2002).

Community building

In addition to the sense of a cohort built among team-members, student writing showed an increasing sense of the university as a whole as a welcoming community, and of social and academic engagement (Spady, 1970; Tinto, 1975, 1988, 1993) with that community. Students commented frequently on their awareness of the support of the university community for all students; from being viewed as an uncaring place, the university became a community focused on student success and "less of a daunting place than when I first came here." Students wrote that the course "has made me feel more a part of the university community and more confident in myself as a student" and that "The support offered . . . provided that connection people need to feel like they're part of the community around them." The following student comment is typical of the situation many of our students are in, coming from small towns in the area:

> *Many students fear university because of the large intimidating campus and classrooms, and I was one of those students…Above all else, the sense of community is what makes the experience of attending the U of L so incredible.*

A key part of increasing institutional fit involved an enhanced appreciation for the liberal education philosophy which underlies this university's teaching and learning, already noted in our discussion on quantitative data and supported by student comments as well. As one student said, "Not only do I have a better understanding of what liberal education is, I appreciate it much more and agree with what it tries to accomplish." A number of students commented on the exposure to a broad range of speakers and disciplines, and many decided to take future courses from the professors who were guest lecturers in this course; for instance, about an art lecture on perspective in painting and mapping, a student wrote, "I decided to take the art class because I know now how it looks like and how they teach it." Students also commented frequently on the breadth of lectures and topics in the course and on their expanded perspectives:

> *A university education isn't simply about getting a job, it's about finding oneself as an individual and as a professional. It allows you to go beyond basic learning and ask "why?" University is about questioning ideas and creating opinions. It is about preparing you to look at the world with an open mind, and react to your experiences and challenges critically.*

> *Taking the mapping class changed the way I view a liberal education. Before this class, I did not understand what a liberal education was and thought that every university had a liberal education curriculum. Throughout this course, I learned that a liberal education is unique and provides students with the opportunity to explore disciplines other than their major. Having a liberal education is a valuable asset that I did not realize I was gaining.*

Such comments also, we think, show students becoming increasingly at home in the university as an academic community, a place of curiosity and inquiry and wide-ranging study of issues from multiple viewpoints; that is, they feel welcomed into what Bruffee calls "the community of liberally educated people" (Bruffee, 1995 p. 18.)

SUMMARY, LIMITATIONS, DISCUSSION, AND CONCLUSIONS

In the final assignment for the course, and in the anonymous course evaluations, several students suggested that "the course be made mandatory for all first-year students." Comments included "The amount of new and important knowledge I leave this class with is unbelievable" and "I would strongly recommend that any first or even second year student take this class." Other comments show that the course is effective in creating a sense of community, and an enhanced view of educational opportunities and benefits:

> *This class has been extremely helpful in getting to know the campus, the professors, the various faculties, and how the university functions as a whole. Without a doubt I will use several of the resources I will be taking away from this course, not only during my stay at the U ofL but in my everyday life beyond university. This is a wonderful, informative and fun course, and I would suggest it to anyone considering taking it.*
>
> *This course has allowed me the opportunity to view university less as a competition to be won and more as a journey to be had, with bumps in the road and changes ofplans, all leading to some final destination, even if sometimes you have to walk the same path twice or take a detour.*
>
> *[This course is] one of the best assets provided to new university students. . . . I really appreciated that, from day one, we were provided with all the necessary tools to succeed .. . because every part of it was helping me and my classmates to do better.*

As noted earlier, our study size of n = 48 (total over two semesters, from total enrolment of 98) is a significant limitation of this study. While our quantitative data indicates strong engagement and skills improvement for students in the course, it is arguably drawn only from a more engaged segment of the students, who cared enough to consent to participate in the project and to fill in both pre- and post-surveys. Our qualitative data is drawn from a slightly larger pool, the 70 total who consented to participate over the two semesters of the study. A larger study, with a higher response rate, would give more robust data on the course's success. For future course offerings a focus group discussion, carried out by a person not involved with the course and after the course has ended, might also provide better data. Another limitation is that the data is all self-reported, other than the institutional retention data discussed above.

Habley et al. emphasize that a successful first-year transition "does not reside in a cookie-cutter orientation program, a prefabricated learning community, or a textbook first year seminar [but rather] derives from the integration of student needs with institutional culture" (2012, p. 331). Nevertheless, the research described here shows strong evidence that the mapping metaphor provides a successful framework for a first-year experience course, one that is flexible enough to fit an institution's particular culture and needs.

The mapping framework works well with respect to mapping campus connections and resources, and exercises such as professor visits, a scavenger hunt at campus resource offices, and the "What Do I Do If . . ." list can be easily modified by instructors to suit their students' needs. The

framework also allows for mapping academic content as well as students' unique skills and assets. It also facilitates the incorporation of a number of high-impact practices and the interweaving of multiple goals into a cohesive whole, making the course what Gardner, Jewler, and Robb describe as a "dynamic, holistic, and challenging" experience (1995, p. viii). Our research suggests significant changes in a number of factors related to retention and student success: student engagement in the university community, the development of a strong cohort experience, student understanding of the resources for success and growth at the university, and the development of their writing and critical thinking skills. Students have also reported an enhanced understanding of the definition and value of liberal education, the core educational philosophy of our university. While the primary pedagogical objective was to help students learn how to succeed in their academic careers, a beneficial side effect, from a recruitment and retention point of view, has been increased student identification with the university. One student's response that "I feel as though I have become part of the University" is typical of this enhanced sense of belonging. Student pride in their university is shown by comments such as "It has made me extremely proud to be a University of Lethbridge student" and "the most beneficial to me was learning more about the university I am proud to call home." This commitment to the university has been shown by Tinto (1975) to lead to a higher probability of retention and academic success.

Robert Barr and John Tagg (1995) challenged the current paradigm of scholarship on teaching by asking faculty members to change the basic question from "How should we teach students?" to "How should we help students learn?" This shift of focus, from teaching in traditional ways in lecture theatres to student learning through active engagement with the campus as a physical and social community prompted a re-evaluation of many aspects of university education and a move to student-centred and learning-centred curriculum and approaches. We believe that our first-year experience course brings together an institutional philosophy and commitment to learning with a campus-wide learning environment and support network. The mapping metaphor used as a framework for this course allowed us to combine these goals with various high-impact practices, in a way that allows for student growth and learning. Working collaboratively, the students mapped the assets of their community. Not only did they learn more about the community, they discovered assets to enable their academic success.

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APPENDIX: SIGNIFICANCE LEVELS, PRE-VERSUS POST-COURSE SURVEY

Scale: 1 = Strongly disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly agree.

ITEM		SPRING 2015	SPRING 2016	MERGED
		n = 20	n = 28	n = 48
1	I am comfortable participating in classes.	0.0595	0.0737	0.0153
2	I am comfortable interacting with my professors.	0.1483	0.0805	0.0441
3	I am aware of all the services available to students at the university.	0.0008	0.0181	0.0001
4	I understand the definition of liberal education.	0.0007	0.0126	0.0000
5	I chose to attend Lethbridge University because of its liberal education philosophy.	0.0001	0.3389	0.0049
6	Being an engaged citizen is important to me.	0.1649	0.3229	0.1706

ITEM		SPRING 2015	SPRING 2016	MERGED
7	Critical thinking is important in my major.	0.0246	0.4067	0.0729
8	I am happy so far with my decision to come to Lethbridge University.	0.0518	0.1876	0.0448
9	It is important to attend all lectures in my classes.	0.5000	0.1059	0.1883
10	I find it useful to work or study with other students.	0.1309	0.2575	0.4472
11	I am able to see connections between different courses I am taking.	0.0018	0.0550	0.0009
12	I have good critical thinking skills.	0.1337	0.3389	0.1793
13	I have strong writing skills.	0.0083	0.1277	0.0064
14	I am comfortable going to see an academic advisor.	0.0675	0.0550	0.0131
15	I have found it easy to meet people at Lethbridge University.	0.3578	0.2866	0.4107
16	It is important to me to attend campus activities and events.	0.0038	0.2384	0.0164
17	The transition from high school to university has been easy for me.	0.1483	0.1322	0.0620
18	I am comfortable going to my professors' office hours when I have questions.	0.0857	0.0269	0.0083
19	My main purpose in attending university is to train for a career.	0.4539	0.2902	0.5000
20	Most people go to university for job training.	0.0414	0.3315	0.0797
21	It is important for me to be able to take a variety of courses outside my major.	0.0282	0.2612	0.0660
22	I like to see the "big picture" in my courses.	0.5000	0.1528	0.1793
23	Being part of the university community is important to me.	0.0282	0.0193	0.1874

ITEM		SPRING 2015	SPRING 2016	MERGED
24	I am part of the university community.	0.0291	0.2867	0.2009