Guiding a diverse mix of first-year business students:

Implications for teaching and learning

Paper presented in track 5 at the

EAIR 36th Annual Forum in Essen, Germany

27-30 August 2014

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Key words

Curriculum design and development, Diversity, Student experience, Teaching methods

Abstract

Guiding a Diverse Mix of First-Year Business Students: Implications for Teaching and Learning

In 2012 a team of Business faculty devised and undertook a three-year project in cooperation with the University's institutional research unit to gain a better understanding of Business students' first year experiences and to monitor their ongoing success through their degree program. The study was motivated by the introduction of a new mandatory business course aimed at first-year students and expected challenges of a more diverse student body, particularly in levels of academic preparedness. The study is informed by a close examination of student demographic, academic and other diversity characteristics, including learner autonomy and personality type, and students assessments of the value of their class experience in contributing to their learning. Data is collected through surveys, assessment tools, in-depth interviews and focus groups. Key findings from the first two years of the study are presented, along with their implications for improving teaching and learning.

Presentation

Guiding a Diverse Mix of First-Year Business Students: Implications for Teaching and Learning

Introduction

In 2009-10, the Faculty of Business at the University of Regina (UofR) introduced a new elective course, Introduction to Business (BUS100). The decision was based on a review of practices at other Canadian universities and recognition that the value of an introductory class of this nature is greatest when taken early in the business program. In 2012, the course became part of the mandatory requirement for first year business students, and remains an elective course for other UofR students.

Motivated by expected challenges of a more diverse BUS100 student body and a strong desire to enhance student success, a team of Business faculty devised and undertook a three-year project in cooperation with the University's institutional research unit to gain a better understanding of Business students' first year experiences and to monitor their ongoing success through their degree program. Other key factors prompting this research was the faculty members' desire to better understand differences and how these might enhance or detract from students' learning experiences, and ultimately to identify opportunities and best practices for improving students' learning outcomes. To this end, the team undertook an examination of three general dimensions of student diversity which form the focus of this study; they include: demographic, academic preparedness and personal learning characteristics.

Review of the Literature

A Shifting Demographic
Across the globe universities are faced with shifting demographics that present both challenges and opportunities in meeting the learning needs of a new and diverse student body. The conventional 18 to 21 year-old student, who recently completed high school and is enrolled in full-time studies, is no longer representative of the majority of students in the United States (Bell, 2012). Student demographic changes are also well underway in Canada; however, growth in older age cohorts has not kept pace with the US. In fact, younger, full-time students accounted for much of the undergraduate enrolment growth in Canada in the decade leading up to 2010. This trend, however, is expected to reverse in the next couple of decades (AUCC, 2011: 24). Key drivers of change in the Canadian student landscape are attributed to declining birth rates, increased immigration, and targeted efforts to increase participation of traditionally underrepresented groups and untapped market segments, particularly through international recruitment (Steele, 2010).

By 2050, newcomers to the country and first-generation citizens will constitute the majority of Canadian youth and the impact of these changes will be manifested in post-secondary classrooms across the country (Steele, 2010). These students have very specific enrolment tendencies as compared to their Canada-born and multi-generational counterparts. They are much more inclined to attend university over a technical college and to enrol in a business administration program or one of the STEM disciplines (science, technology, engineering and math) (UCAS, 2005; cited in Steele 2010). The tendencies are similar among the burgeoning international student cohorts at Canadian universities. By 2010, international students accounted for about 8% of full-time undergraduate students and 23% of graduate students (AUCC, 2011: 15) and they too are more likely to enrol in a business or STEM program. Business, management and public administration saw the biggest ten-year growth from 2000 to 2010, and accounted for 23% of international student enrolment compared to 14% of domestic student enrolment (AUCC, 2011, p.16).

How Students Learn: Demographic Differences
Growth in new and non-traditional student populations has prompted research aimed at understanding differences among these cohorts in terms of motivations, backgrounds, as well as in learning needs, processes and outcomes. Because of the trends in Business school enrolments, cohorts that are of particular interest to this study are non-traditional age and international students.

Research suggests that older students experience learning differently than younger students (Justice and Dornan, 2001). Older students tend to employ different learning strategies than younger cohorts. They are more likely to use deeper, comprehension-focused strategies, whereas younger students are more likely to adopt surface-level strategies, such as rote learning (Justice and Dornan, 2001) and have better time-management skills (Trueman and Hartley, 1996). Although clear differences emerged in learning processes and strategies, there is no compelling evidence, at least in Trueman and Hartley's 1996 study, nor in Justice and Dornan's 2001 study, that these differences translate in any substantial way to differences in learning outcomes.

Research also shows that international students experience learning differently. Li et al.'s (2010) review of the literature suggests that in general international students' academic achievement is influenced by English language proficiency, learning preferences, learning strategies, the learning environment and a range of psychosocial factors. With this particular cohort, however, some of these differences do in fact translate into differential learning outcomes. In a study of international students in a School of Management in the UK, Li et al. (2010) found the most significant determinants of success to be: importance of learning success to family, English writing ability and positive social interaction with their compatriots. Moreover, in comparing Chinese international students to other international students, they found Chinese students to have significantly lower English writing ability and that this explained Chinese students' lower academic performance over other non-Chinese international students.

How Students Learn: Personal Attributes
Another area of investigation aimed at better understanding the factors that contribute to successful outcomes in higher education and other domains is the impact of non-cognitive or personal attributes that contribute to or are associated with successful outcomes. There are numerous models and theories exploring the influence of non-cognitive attributes on learning. Three particular ones informed this study and are discussed below.

One attribute of interest is what Duckworth et al. (2007) refer to as *Grit* and define as *perseverance and passion for long-term goals*. The authors see Grit as a defining characteristic of high achieving individuals, and one that embodies that particular trait that drives individuals to stay the course, even in the face of adversity. It is what "distinguishes star performers in their fields" irrespective of talent and other defining qualities of top achievers (Duckworth et al., 2007). In an extensive study of six sample groups, Duckworth et al. (2007) found that Grit accounted for approximately 4% of the overall variance among a selection of measures (educational attainment, grade point average, and retention) and 6.3% of the variance in grade point average among Ivy League undergraduates (Duckworth et al., 2007, p. 1099). The authors also found Grit to be a better predictor of academic success than IQ, suggesting that persistence pays off and can more than compensate for imbalances in talent and ability.

Another attribute considered an asset to academic achievement, as well as a desired outcome of higher education, is capacity for *autonomous learning*. The term comes under an umbrella of names -- *self-directed* learning, *independent* learning, and *student-initiated* learning -- and is conceived of in a variety of ways (Boud, 1988; Macaskill and Taylor, 2010). It is regarded by some as a *goal of education*, by others as *an approach to teaching*, and in other circles as *an approach to learning*. Autonomy, as an approach to learning, involves students taking "significant responsibility for their own learning over and above responding to instruction" (Boud, 1988, p. 23). Among the actions that an autonomous learner would engage in are: goal setting, structuring and planning learning activities,

working collaboratively with others, identifying and solving problems, engaging in reflection and self-assessments in connection with learning process; and making decisions independently.

An important recent contribution to the research on learner autonomy is Macaskill and Taylor's (2010) development of the Autonomous Learning Scale (ALS). Recognizing the importance of autonomous learning in higher education research and practice, the authors sought to develop a sound and concise measure that would support empirical research in this area. Their short 12-item scale encompasses two particular domains of autonomous learning – *independence of learning* and *study habits*. The authors were intentionally narrow in their definition of autonomous learning in order to "bring more clarity to exactly what is being developed and what is being measured" (Macaskill and Taylor, 2010, p. 357). Not only is this tool of value to educational researchers, but according to Weimer (2012), it is also a valuable asset to teachers who are interested in understanding differences among their students, establishing baselines, and in raising students self-awareness of the impact of these personal attributes to their learning experiences.

A third area of research delving into non-cognitive influences on educational outcomes is in relation to learning style assessments. Within educational research these types of tools have been widely used to study student learning styles and learning preferences, and as a way of responding to individual learner needs (Salter et al., 2006; Conti and McNeil, 2011). The Myer's Briggs Type Indicator (MBTI) is a popular personality inventory used for identifying personal strengths and preferences (Salter et al., 2010). A common method of using the model is to evaluate individuals' personality types relative to four bi-polar scales depicting opposing personality preferences or tendencies. In some studies, the four preferences are combined to denote a specific overall "type" of which there are a total of sixteen possibilities.

The Extroversion/Introversion scale depicts how individuals derive energy – from within, or from others. The Sensing /Intuitive scale refers to how information is gathered – through the senses, or "gut" feelings. The Thinking/Feeling scale refers to the how decisions are made – on the basis of logic and objective criteria, or on the basis of feelings and values. The Judging/Perceiving scale refers to how individuals operate – ranging from planned and organized to spontaneous and flexible. For a description of how these tendencies relate to learning see Salter et al., 2001.

 Among the utility of using MBTI to understand learning diversity is in its potential to inform pedagogy. For example, in their study of the relationship between learning style tendencies and instructional delivery modes (face-to-face versus online), Harrington and Loffredo (2010) found a significant difference in mode preference between introverts and extroverts, with the former favouring online and the later preferring face-to-face instruction. In another study, Cooper and Miller (1991) were able to gain insight into how well or misaligned student learning style preferences are to faculty teaching styles. Another positive outcome of the MBTI application in educational settings is in raising students' awareness of personality and learning preferences, and thereby fostering more effective learning in general, and especially in the context of group or teamwork (Amato and Amato, 2005; Clinebell and Stecher, 2003; Goby and Lewis, 2000; Rideout and Richardson; and Page and Donelan, 2003).

Academic Preparedness
Many studies have demonstrated a strong relationship between academic preparedness and university success. In relation to this study, two dimensions of academic preparedness are of particular interest, high school grades and written communications skills. The importance of the latter dimension is highlighted above by Li et al. (2010) in connection with international student success and is discussed in more detail below.

The importance of writing skills is established by Michael and Shaffer (1979) in their study comparing the validity of two different English placement tests as predictors of academic performance among first-year students at a US university. Outcome measures in the study included English composition course grades and overall GPA. Two key findings are of interest to this present study. One is that demonstrated knowledge of the principles of effective writing was found to be a more valid predictor

of university performance than the written component of the test. The second is that performance in high school English courses is an equally valid predictor of success.

In research focused specifically on the impact of writing ability on achievement in business communications courses, Waltman and Smeltzer (1988) found that grammatical competency among students in a first-year course is a predictor of successful course completion and that it is closely correlated to overall course performance. In another study, Wilson and Plutsky (1997) found English language skills to be poor overall predictors of success among students in an upper-division business communication course. Nonetheless, they identified two particular aspects of writing that predicted final course grade -- relating ideas in sentences logically (fluency) and using standard forms (structure).

Guiding a Diverse Mix: High Impact Educational Practices
As much as senior administrations are taking stock of the institutional implications of a changing student mix, so too are front line staff and faculty. At the heart of it is a common goal of ensuring quality of learning. With the introduction of the new BUS100 course, the teaching faculty pioneering this investigation had an opportunity to examine emerging teaching and learning practices and incorporate them into pedagogy.

The selection of new practices was informed by work undertaken by SOTL scholars in recent years. Two stand out as being especially influential in guiding BUS100 faculty teaching practices and the design of this research project. One is Michael Wesch from Kansas State University, whose students developed a video urging professors and administrators to better understand the students in their classrooms (Wesch, 2007). Second is Carol Geary Schneider, whose presentation on high impact educational practices illustrated the possibilities of shifting the focus from content and delivery to a student experience focus (Geary Schneider, 2011; Kuh, 2008).

The high impact practices chosen for the BUS100 course and for examination in this research project include: flipped classroom (pre-class student preparation), optional seminars focused on development of university study skills, active in-class learning, experiential learning through application of concepts, and development of organizational and interpersonal skills through group work. Traditional teaching practices such as assignments and exams remained as core components of the course and were also examined as part of the study.

The Business Students' First Year Experience (BSFYE) Project

The three-year BSFYE project is aimed at improving the learning experiences of first-year business students at the UofR by bridging an understanding of student diversity characteristics with learning practices and acting on that knowledge. This study reports on results obtained in the first two years, from September 2012 to June 2014.

Research Goals
The primary goals of the study include:
- Producing a profile of BUS100 students to include a range of demographic variables, academic variables and other personal diversity characteristics.
- Understanding the relationships between these diversity traits and student experiences with respect to students' academic achievement in their BUS100 course and students' assessment of the effectiveness of the course.
- Examining ongoing student success in the Faculty of Business in their 2nd to 4th years of study.
- Identifying the primary levers that support and enhance students learning, and to use these to inform teaching practices.
- Obtaining the perspectives of the diverse mix of students regarding the effectiveness of high-impact teaching practices.

Methodology

The target population included all UofR students enrolled in BUS100. Data was obtained through two student surveys, course assignments and the university's Student Information System. Participation was voluntary. The first survey was administered to students in week five of the academic term and it was at this point that students consented to participate in the project. By consenting to the project students agreed to share the results of selected course assignments and to release institutional student records for use in the project. The second survey was administered in week 12 or 13 of the term. Students who did not provide consent were given the option of participating in one or both surveys anonymously. Ethical clearance for the project was obtained.

Independent Variables
Among the variables used to establish a profile of students taking BUS100 and to predict academic outcomes are general demographic characteristics, and academic program and preparedness variables derived from the University's student information system; they include gender, age, citizenship, enrolment status and faculty. Personality and learning related characteristics were derived from three separate survey instruments: (1) the MBTI personality inventory, (2) the Autonomous Learning scale, and (3) the Grit scale. Two measures were used to assess academic preparedness, written communication skills and high school final average. As well, attendance in seminars was used as an objective measure of the effectiveness of high impact practices relative to academic outcomes and student perceptions.

Both aspects of the Autonomous Learning scale (ALS) developed by Macaskill and Taylor (2010) were examined -- *independence of learning* and *study habits*. The first aspect employs seven items that gauge the extent to which individuals are self-directed in their learning and includes questions like: "I enjoy finding information about new topics on my own" and "I take responsibility for my learning experiences." The second sub-scale utilizes five items to assess the application of study skills to learning and includes items like: "My time management is good" and "I frequently find excuses for not getting down to work." The responses are rated on a five-point Likert scale ranging from 1 (*very unlike me*) to 5 (*very like me*). Reverse scoring was applied to two questions that were negatively worded. Permission was obtained for use of this instrument.

Using the 12-item Grit Scale developed by Duckworth et al. (2007), both *perseverance of effort* and *consistency of interests* were examined. Questions associated with the first dimension include: "I become interested in new pursuits every few months" and "I often set a goal but later chose to pursue another one." Questions associated with the second dimension include: "I finish whatever I begin" and "Setbacks don't discourage me." Responses are rated on a five-point Likert scale ranging from 1 (*not at all like me*) to 5 (*very much like me*). Reverse scoring was applied to all six *Consistency of Interests* questions. The Grit scale was included in the second survey administered to students beginning in Fall 2013; as a result, only two terms worth of Grit data were available for analysis.

Personality type indicators were obtained using HumanMetrics' free Jung Typology Test instrument (HumanMetrics, 2014). The test is modeled on the Myers-Briggs Type Indicator (MBTI) typology developed by Carl Jung and Isabel Briggs Myers (Myers et al., 1998). The test was completed online as a pre-class assignment. In class, the components of the MBTI typology were discussed in detail, along with their relevance to individual and group learning experiences. Students recorded the results of the test in the university's online course management system.

Students' writing competency was assessed using the Saskatchewan Assessment for Learning (AFL) writing evaluation rubric (Saskatchewan Ministry of Education, 2010). Evaluations using the AFL rubric were conducted on a 500 word essay completed in the first week of classes for students who consented to participate fully in the project. Using the AFL, two components of writing -- *fluency* and *organization* -- were assessed according to a five point scale where 1 denotes *the composition is unfocused and unclear* and 5 denotes the *composition is exemplary*. The grading was done, by Don Balas (Saskatchewan High School Teacher and co-developer of the ALS rubric). In addition to

providing the marks, students were provided an explanation of why the grades were given.

Dependent Variables

The four outcome variables examined in this study include one objective measure (BUS100 final grade) and three self-reported measures: value to student learning of the various high impact practices employed in the course, as well as the students' perceived learning of university skills (U-Skills) and business knowledge (B-Skills).

The self-reported elements were collected in the second survey administered to students. Although the survey instrument contained close to seventy items, only a sub-set of these were used to measure the following three outcomes:

- VALUE: This measure is comprised of seven items reflecting both high impact and traditional teaching approaches and requirements implemented in the BUS100 class. The items include: Pre-class readings, Pre-class quizzes, Preparation for in-class group activities, Participation in class lectures and discussions, Assignments, Major Project, and Preparation for exams. The first three reflect "flipped classroom" learning activities, the fourth item reflects "active classroom" activities, and the last three reflect "traditional" learning activities. Students were asked to rate on a five-point Likert scale ranging from 1 (*none*) to 5 (*a lot*) the value each component contributed to their learning.
- U-Skills: This measure is comprised of five skills that contribute to university learning. They include: General university study skills, Research skills, Writing skills, Exam preparation, and Group work. Using the same scale as above, students were asked to rate the extent to which their experience in class contributed to their knowledge and skills development in each of these areas.
- B-Skills: This measure is comprised of four items related to business-related skills or business knowledge development. They include: The business environment, Entrepreneurship, Ethics/Corporate Social Responsibility, and Management functions. The question and ratings used for the U-Skills items were also used for these items.

Results

Participation Rates

In the first two years of the study, 1,126 undergraduate students completed one of the twenty one BUS100 courses offered over five terms. Overall, 911 students participated in one or more aspects of the project, and 686 consented to participate fully. As shown in Table 1, participation varied depending on the activity. Of note is that participation in the ALS and Grit questionnaires mirrored the rates shown for survey 1 on a term by term basis. Total Grit participation, however, was much lower (only 36% overall) because of its late incorporation into the project.

Table 1 – Participation in Project Key Components of the Project by Term

Term	BUS100 Students	Project Participants	Survey 1*	Survey 2**	MBTI	Writing
201230	254	201	60%	67%	38%	56%
201310	247	165	52%	57%	44%	38%
201330	342	297	72%	74%	44%	55%
201410	244	211	59%	63%	41%	45%
201420	39	37	41%	74%	28%	
Total	**1,126**	**911**	**61%**	**67%**	**41%**	**47%**

* included the ALS and Grit scales; **included self-reported assessments of the value of various aspects of the course work and their contributions to the development of university skills and business skills

Note: terms ending in "10", "20" and "30" denote Winter, Spring/Summer and Fall terms, respectively

Demographic and Enrolment Profile

As shown in Table 2 below, of the 686 study participants, just over half (53%) are female with an average age of 21. The majority are younger students, with 47% under 20 years, 36% between 20 and

23 years, and 16% over the age of 23. The vast majority are domestic students (74%), while the remainder are international students (19%) and new Canadians (6%). Nine in ten are studying on a full-time basis and over three quarters are enrolled in the Faculty of Business. Over the course of the study, the trend for enrolment was for growing numbers of older students, international students, part-time students and students from faculties other than Business. These trends are statistically significant based on the first four terms of the study. Chi-Square analysis was conducted to test for significant differences in the key demographic and enrolment variables across terms.

Table 2 – Demographic and Enrolment Profile by Term

		All Terms (n=686)	201230 (n=152)	201310 (n=129)	201330 (n=245)	201410 (n=144)	201420 * (n=16)
GENDER	FEMALE	**53%**	51%	53%	54%	52%	56%
	MALE	**47%**	49%	47%	46%	48%	44%
AGE (x^2=75.674, p=.000)	<20	**47%**	63%	27%	58%	31%	33%
	20-23	**36%**	32%	54%	25%	43%	20%
	>23	**17%**	6%	19%	16%	26%	47%
	AVERAGE AGE	**21**	20	22	21	23	26
CITIZENSHIP (x^2=20.288, p=.002)	CANADIAN	**75%**	85%	78%	72%	66%	63%
	PERMANENT RESIDENT	**6%**	5%	5%	8%	6%	6%
	INTERNATIONAL	**19%**	10%	17%	20%	28%	31%
ENROLMENT STATUS (x^2=18.099, p=.000)	FULL-TIME	**89%**	98%	89%	90%	83%	44%
	PART-TIME	**11%**	2%	11%	10%	17%	56%
FACULTY (x^2=88.989, p=.000)	BUSINESS	**77%**	94%	64%	87%	58%	50%
	ARTS	**10%**	3%	18%	3%	20%	13%
	OTHER	**13%**	3%	18%	10%	22%	38%

* The 201420 term was excluded from the Chi-Square analysis due to the small sample size
Note: terms ending in "10", "20" and "30" denote Winter, Spring/Summer and Fall terms, respectively

Key Findings
Table 3 below provides a summary of significant relationships. In addition to BUS100 grades, total term grade point average (TGPA) was also assessed. The TGPA results are not shown because of their close match to BUS100 grades. Statistical analysis was done using PASW Statistics 18. To enable means comparisons, derived variables comprised of three equal groups (denoting the bottom, middle and top third of each variable) were created for the non-categorical dependent variables. An exception is *age* which was grouped using purposeful categories (see Table 2 above).

One-way ANOVAs were run using the original (ungrouped) dependent variables to test mean differences between the predictor and outcome variables. Linear regression analysis was conducted to assess the strength of all relationships.

The ANOVA scores revealed strong significant differences for most of the student diversity characteristics when measured against BUS100 grades. In contrast, there were very few significant differences associated with students' perceptions of value and skills development. There were two exceptions in that compared to permanent resident and international students, Canadian students were more likely to provide lower ratings for the value of their course and for its contribution to university skills development.

In relation to students' BUS100 grades the most significant differences (p<0.000) were associated with gender, citizenship, high school final average, writing organization, writing fluency, the MBTI Judging/Perceiving dichotomy, ALS study habits, and attendance in seminars. In addition, both dimensions of Grit were significantly associated with BUS100 grades at p=0.003 for *consistency of interests* and p=0.025 for *perseverance of effort*.

Table 3 – Diversity Characteristics vs. Student Outcomes

	BUS100 Grade			Value	U-Skills	B-Skills
	p	Group diff*	ADJR²	*p*	*p*	*p*
GENDER	0.000	4.7%	0.038	0.037	0.803	0.791
AGE	0.256	2.5%	0.004	0.265	0.231	0.026
CITIZENSHIP	0.000	12.4%	0.173	0.003	0.005	0.356
ENROLMENT STATUS (FT-PT)	0.024	3.4%	0.006	0.404	0.501	0.935
FACULTY	0.305	5.3%	0.005	0.580	0.012	0.010
HS FINAL AVERAGE	0.000	10.0%	0.159	0.067	0.230	0.303
WRITING - ORGANIZATION	0.000	10.2%	0.098	0.323	0.163	0.105
WRITING - FLUENCY	0.000	10.2%	0.139	0.175	0.167	0.488
MBTI- EXTROVERT vs. INTROVERT	0.061	2.0%	0.005	0.587	0.543	0.157
MBTI-JUDGING vs. PERCEIVING	0.000	7.4%	0.049	0.110	0.207	0.011
ALS - INDEPENDENCE	0.312	3.7%	0.007	0.092	0.032	0.023
ALS - STUDY HABITS	0.000	10.3%	0.090	0.334	0.124	0.615
GRIT - CONSISTENCY	0.003	5.9%	0.049	0.180	0.012	0.339
GRIT - PERSEVERANCE	0.025	4.4%	0.042	0.016	0.013	0.099
SEMINARS	0.000	6.3%	0.040	0.009	0.002	0.062

* "Group diff" shows the largest percentage point difference between groups; the groupings for the first five categorical variables are shown in Table 2; the remaining variables contain three equal groupings (denoting the bottom, middle and top third of each variable).

Categorical and group mean comparisons of BUS100 grades revealed that, on average, females are more likely to obtain higher grades than male students and that Canadian students outperform permanent residents and international students. Not surprisingly, students with lower entry grades and lower writing scores (whether in relation to organization or fluency) received lower BUS100 grades than students in the top tiers. With respect to personal diversity traits, it was found that students with a *Judging* MBTI type received, on average, higher BUS100 grades than students with a *Perceiving* type and that *Grittier* students performed better, especially in relation to *consistency of effort*.

Regression analysis showed citizenship to have the strongest association with BUS100 grades, accounting for 17% of the variation. Other strong predictors were high school final grades (16%), writing fluency (14%), writing organization (10%) and study habits (9%).

Limitations
While this study has generally robust results owing to sample size and repetition over time, two key limitations must be considered. The first is the general limitations associated with self-reported surveys and the potential for bias. This limitation was addressed through instrument design and guidelines for survey collection. The second limitation is the potential for a non-response bias. Although a strong overall representation was achieved for each of our categorical groupings, there were identifiable gaps in participation. For example, in the Winter 2013 term, BUS100 average grades for participants were about 6% higher than for non-participants. This limitation was addressed through participant recruiting efforts in subsequent terms.

Discussion

The results of this study highlight important trends and provide insight into some of the factors that shape students' experiences in higher education. The implications of these findings are examined below in relation to their importance to university administrators, instructors and students.

Student Demographic Diversity
The international student growth trend at the UofR, as reflected in BUS100 enrolment, parallels what is happening nationally. In addition, there has been a substantial increase in enrolment among older and part-time students. These trends are of particular importance to university administrators in guiding recruitment initiatives, and student transition and support efforts.

Findings from the empirical analysis show that students most at-risk for failure are international students, as demonstrated by the significantly lower grades obtained as compared to domestic students (a gap of over 12%). Despite this, the research demonstrated effectiveness of both high impact practices and U-Skills for this student group, as they provided significant higher ratings in both categories than did their domestic counterparts. The study did not differentiate international students based on English language proficiency; this will be examined more closely in year three of the study. Findings for age and gender are typical of other studies: women achieve higher grades; neither category revealed many significant differences in student perceptions of their experience.

These findings are of importance to both university administrators making decisions on intake standards, assessment and student support services, and instructors who face the challenges of designing courses for both domestic and international students. For students, being in a diverse classroom may be a challenge, but it also provides opportunities to develop cross-cultural competencies that will be an asset, to not only learning, but also functioning more effectively in the workplace and society in general.

Diversity in Personal Attributes
The research undertaken in this investigation revealed how individual learning characteristics relate to both measured outcomes and student perceptions. The Grit indicator results compared similarly to Duckworth's studies (showing a 4-5% difference in course grades) as well as significant differences in student perceptions. MBTI personality profiles revealed significant differences in the judging-perceiving (J/P) category, where P's final grades were 7.8% lower than the J's grades. Perhaps the most valuable personal attribute indicator is the *study habits* measure derived from the ALS instrument. The significance of study habits in academic achievement suggests that an assessment on intake and early intervention aimed at promoting and improving study habits could make a substantive difference on educational outcomes.

The implications for understanding the impact of personal attributes on student learning is of lesser value for university administrations. Its value is much greater to instructors, and perhaps is of utmost importance to students. For faculty, it has the capacity to shape instructional design to most effectively meet the varied and individual learning needs of a diverse mix of students. The biggest gains are likely to be made in incorporating self-appraisals of learning preferences, tendencies and strengths into the pedagogy. Giving students opportunities to gain self-awareness of their personal strengths and inclinations, and insight into how these may influence their learning experiences, may empower them to adjust and adopt strategies to maximize their learning.

Diversity in Academic Preparedness
This study supports others that show a strong link between academic preparedness and student success. Well-prepared students have a significantly higher likelihood of success and, in particular, written communication skills are one of the most important determinants of student success.

This is of importance to university administrators making decisions about admissions standards and assessment. This is equally important to instructors as they face huge challenges in guiding students through first-year transitions. Faculty can play a pivotal role in supporting success through early identification of signs that students are struggling; by making students aware of problems and likely outcomes; and by matching them up with appropriate learning supports.

High Impact Practices
The implementation of teaching practices deemed to be highly effective in the BUS100 courses was driven by two key questions of interest to the researchers. Were they effective overall, and how were they perceived by the various groupings of students?

In this study, there is a marked difference in student results between those who attended seminars and those who did not. Students' perception of value and university skills gained through attendance in seminars was also favourable. It was also encouraging given that it is one of the few variables (and

most significant among them) to be regarded as having contributed in a substantive way to the development of university learning skills. Less encouraging are the results showing that the newly introduced high impact practices (flipped classroom and active in-class learning) were not perceived as being as great a value to students as the traditional learning practices (assignments, term projects and exam preparation). Temporal (term-over-term) analysis did, however, reveal a positive trend, suggesting teaching faculty are learning how to better employ these new approaches.

Another promising finding is that the various high impact practices employed are generally perceived as being of equal value to student learning between groups. The results in Table 3 show few significant differences between the various groups examined in their perceptions of value, U-Skills and B-Skills. Students, regardless of group, generally perceived high value in their learning experience, as well in the acquisition of both university study skills and business knowledge.

Conclusion

An overarching purpose of the Business Students' First Year Experience project is to enhance students' learning experiences and outcomes. This study revealed important insights into student diversity and their implications for teaching and learning. This knowledge has contributed to the achievement of the project's main goals, both of understanding how student diversity relates to learning, and in the development of high impact teaching and learning practices which will be effective for all students regardless of individual differences.

This study reveals that the students with the greatest challenges to academic success are those students with lower levels of academic preparedness and international students. Further, English language proficiency stands out as a key barrier for this latter group. At the same time, international students and, to a lesser extent, traditionally under-represented groups that are likely to be less prepared academically, are prime targets of recruitment campaigns at Canadian universities.

In increasing access to a more diverse mix of students, there is a moral obligation on the part of universities to ensure that the students they admit are given the opportunities to succeed. Growth in new and non-traditional student segments means that more attention is needed to ensure proper and adequate supports are in place to meet the needs of a more diverse student body.

This research project is continuing into its third year, with some modifications based on results to-date, and with a curiosity regarding ongoing trends in perceived effectiveness of high impact practices. The process of doing the study has already had a major impact on pedagogical strategies as the researchers (who are also professors and institutional administrators) gain insights into student diversity. As this project draws to a close, many of the measures initially conducted for research purposes have become a routine part of the BUS100 pedagogy and course management. Course design now includes student learning about personality profiles, autonomous learning styles and Grit. As well, instructors are paying greater attention to student diversity.

References

Amato, C.H. & L.H. Amato (2005). Enhancing Student Team Effectiveness: Application of Myers-Briggs Personality Assessment in Business Courses. *Journal of Marketing Education*, 27(1), 41-51.

AUCC (2011). *Trends in Higher Education: Volume 1 – Enrolment*. Association of Universities and Colleges of Canada, Ottawa, Ontario.

Bell, S. (2012). Nontraditional Students Are the New Majority. *Library Journal, From the Bell Tower*, March 8, 2012.

Boud, D. (1988) Moving towards autonomy. *Developing Student Autonomy in Learning* (2nd ed.) London: Kogan Page, 17-39.

Boud, D. (Ed.) (1988) *Developing Student Autonomy in Learning*, New York: Kogan Press.

Clinebell, S. & Stecher M. (2003). Teaching Teams to be Teams: An Exercise Using the Myers-Briggs® Type Indicator and the Five-Factor Personality Traits --. *Journal of Management Education*, 27(3), 362-383.

Conti, G.J and R.C. McNeil (2011).Learning Strategy Preference and Personality Type:_Are They Related? *Journal of Adult Education*, 40(2), 1-8.

Cooper, S.E. & J.A. Miller (1991). Mbti Learning Style-Teaching Style Discongruencies. *Educational and Psychological Measurement*, 51(3), 699-706.

Duckworth, A. L., Peterson, C., Matthews, M.D. & D.R. Kelly (2007). Grit: Perseverance and Passion for Long-Term Goals, *Journal of Personality and Social Psychology*, 92(6), 1087-1101.

Geary Schneider, C. (2011) High-impact educational practices: what they are, who has access to them, and why they matter. Presentation to the Mount Royal University Centennial Teaching Institute, November 2011, Banff, Canada.

Goby, V.P. & J.H. Lewis (2000). Using Experiential Learning Theory and the Myers-Briggs Type Indicator in Teaching Business Communication. *Business Communication Quarterly*, 63(3), 39-48.

Harrington, R. & D.A. Loffredo (2010). MBTI personality type and other factors that relate to preference for online versus face-to-face instruction. *Internet and Higher Education*, 13(1), 89–95.

HumanMetrics (2014). Jung Typology Test. Available online at: http://www.humanmetrics.com/cgi-win/jtypes2.asp; viewed June 18, 2014.

Justice, E.M. & T.M. Dornan (2001). Metacognitive Differences between Traditional-Age and Nontraditional-Age College Students. *Adult Education Quarterly*, 51 (3), 236-249.

Kuh, G.D. (2008). *High-impact educational practices: What they are, who has access to them, and why they matter*; with introduction by Carol Geary Schneider. Washington, DC: Association of American Colleges and Universities.

Li, G., Chen, W. & J. Duanmu (2010). Determinants of International Students' Academic Performance: A Comparison Between Chinese and Other International Students. *Journal of Studies in International Education*, 14(4), 389-405.

Macaskill, A. & E. Taylor (2010). The development of a brief measure of learner autonomy in university students. *Studies in Higher Education*, 35(3), 351-359.

Michael, W.B. & P. Shaffer (1979). A Comparison of the Validity of the Test of Standard Written English (TSWE) and of the California State University and Colleges English Placement Test (Csuc-Ept) in the Prediction of Grades in a Basic English Composition Course and of Overall Freshman-Year Grade Point Average. *Educational and Psychological Measurement,* 39: 131-145.

Myers, I.B, McCaulley, M.H., Quenk, N.L. & A.L. Hammer (1998). *MBTI manual: A guide to the development and use of the Myers–Briggs Type Indicator* (3rd ed.). Consulting Psychologists Press, Palo Alto, CA.

Page, D. & J.G. Donelan (2003). Team-building tools for students. *Journal of Education for Business*, 78 (3), 125-128.

Rideout, C.A. & S.A. Richardson (1989). A Teambuilding Model: Appreciating Differences Using the Myers-Briggs Type Indicator with Developmental Therapy. *Journal of Counseling and Development*, 67(9), 529–533.

Salter, D.W., Evans, N.J. & D.S. Forney (2006). A Longitudinal Study of Learning Style Preferences on the Myers-Briggs Type Indicator and Learning Style Inventory. *Journal of College Student Development*, 47(2), 173-184.

Saskatchewan Ministry of Education (2010). Grade 11 Online Writing Pre-assessment Package.

Steele, K. (2010). The Changing Canadian PSE Landscape. Chapter 2 in *Strategic Enrolment Intelligence: Canada's First Book on Strategic Enrolment Management* (Jim Black, ed.). Academica Group.

Trueman, M. & J. Hartley (1996). A comparison between the time-management skills and academic performance of mature and traditional-entry university students. *Higher Education*, 32(2), 199-215.

Waltman, J.L. & L.R. Smeltzer (1988). Do Good Grammar Skills Predict Success in a Business-Communication Course? *Journal of Business and Technical Communication*, 2(2), 59-69.

Weimer, M. (2012). Cultivating More Autonomous, Motivated Learners. *Faculty Focus: The Teaching Professor Blog.*

Wesch, M. (2007). A Vision of Students Today. YouTube. Produced by Michael Wesch and the students of Introduction to Cultural Anthropology, Class of Spring 2007, Kansas State University. Available at: https://www.youtube.com/watch?v=dGCJ46vyR9o&feature=kp

Wilson, B. & S. Plutsky (1997). Predicting success in upper-division business communication classes. *Journal of Education for Business*, 72(3), 133-139.