

THE FACILITATION OF STUDENT SUCCESS:  
INCORPORATING AFFECTIVE, BEHAVIOURAL, AND  
COGNITIVE FACTORS INTO FIRST-YEAR EXPERIENCE PROGRAMS

BY

JENNIFER A. MAW

A Thesis submitted to the Faculty of Graduate Studies  
In Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PHILOSOPHY

Department of Psychology  
University of Manitoba  
Winnipeg, Manitoba  
© Jennifer A. Maw, August 2005



Library and  
Archives Canada

Bibliothèque et  
Archives Canada

0-494-08786-2

Published Heritage  
Branch

Direction du  
Patrimoine de l'édition

395 Wellington Street  
Ottawa ON K1A 0N4  
Canada

395, rue Wellington  
Ottawa ON K1A 0N4  
Canada

*Your file* *Votre référence*

*ISBN:*

*Our file* *Notre référence*

*ISBN:*

#### NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

#### AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protègent cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

---

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.

  
**Canada**

**THE UNIVERSITY OF MANITOBA**  
**FACULTY OF GRADUATE STUDIES**  
\*\*\*\*\*  
**COPYRIGHT PERMISSION**

**THE FACILITATION OF STUDENT SUCCESS:  
INCORPORATING AFFECTIVE, BEHAVIOURAL, AND  
COGNITIVE FACTORS INTO FIRST-YEAR EXPERIENCE PROGRAMS**

**BY**

**JENNIFER A. MAW**

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of**

**Manitoba in partial fulfillment of the requirement of the degree**

**Of**

**Doctor of Philosophy**

**Jennifer A. Maw © 2005**

**Permission has been granted to the Library of the University of Manitoba to lend or sell copies of this thesis/practicum, to the National Library of Canada to microfilm this thesis and to lend or sell copies of the film, and to University Microfilms Inc. to publish an abstract of this thesis/practicum.**

**This reproduction or copy of this thesis has been made available by authority of the copyright owner solely for the purpose of private study and research, and may only be reproduced and copied as permitted by copyright laws or with express written authorization from the copyright owner.**

## Contents

Acknowledgements.....	vi
The Facilitation of Student Success: Incorporating Affective, Behavioural, and Cognitive Factors into First-Year Experience Programs.....	1
Literature Review.....	6
First-Year Experience Programs.....	6
Current Typology of First-Year Experience Courses .....	9
First-Year Programs in the United States .....	10
First-Year Programs Across Canada.....	14
Operational Definitions of Student Success .....	17
Retention as a Measure of Student Success.....	17
Academic Performance as a Measure of Student Success.....	19
Knowledge and Use of Student Services as a Measure of Student Success...	20
Personality Development and Student Success .....	20
Definitions of Student Success in General.....	21
Student Success Factors.....	22
Gaps in the Literature.....	25
Definitions of Student Success .....	25
Long-Term Effectiveness of First-Year Experience Programs .....	26
Control for First-Year Experience Course Mark .....	26
Research Questions.....	27
Introduction to University: A First-Year Experience Course .....	27
Study 1 .....	32
Hypothesis.....	32
Specific Questions .....	32

Next Steps .....	33
Study 2 .....	33
Method .....	35
Study 1 .....	35
Participants.....	35
Variables .....	35
Study 2 .....	37
Participants.....	37
Variables .....	37
Demographic variables .....	37
Academic attributions .....	43
Coping.....	47
Goals .....	49
Learning style.....	49
Optimism.....	52
Perceived control .....	52
Procrastination .....	55
Test anxiety.....	55
Results.....	62
Study 1 .....	62
Preliminary Demographic Findings.....	62
Hypothesis 1: Students who Have Completed the Introduction to University Course will Have Lower Levels of Attrition .....	62
Hypothesis 2: Students who Have Completed the Introduction to University Course will Graduate Sooner.....	65

Hypothesis 3: Students who Completed the Introduction to University Course Withdraw from Fewer Courses.....	67
Hypothesis 4: Students who Completed the Introduction to University Course Would Have Higher Grade-point Averages.....	69
Additional Analyses.....	73
Study 2 .....	74
Preliminary Demographic Findings.....	74
Variable Overview.....	74
Regression Analysis.....	80
Discussion.....	88
Study 1 .....	88
Profile of “Introduction to University” Students .....	88
Hypothesis 1.....	90
Hypothesis 2.....	92
Hypothesis 3.....	92
Hypothesis 4.....	93
Implications for Future Research.....	94
Study 2 .....	95
Profile of Participating Students .....	95
Discussion of Findings.....	95
Implications for Future Research.....	96
Overall Findings.....	97
Practical Implications.....	99
Directions for Future Research .....	100
References.....	103
APPENDIX A.....	119

APPENDIX B .....	126
APPENDIX C .....	129
APPENDIX D .....	130
APPENDIX E .....	131
APPENDIX F .....	132
APPENDIX G .....	134
APPENDIX H .....	135
APPENDIX I .....	136
APPENDIX J .....	137

## Acknowledgements

First and foremost, I would like to thank my advisor, Dr. Dieter Schönwetter, for his unwavering support and reinforcement throughout the completion of this project. He was an excellent role model, both professionally and personally. Thanks are also extended to my advisory committee, Drs. Beverly Cameron, Jim Forest, Marian Morry, and Linda Wilson, for their helpful comments at the proposal stage and their support at the conclusion of the project. I would also like to acknowledge the contribution of John Gardner, for his insightful comments in his position as external examiner.

My husband, Shawn Nason, demonstrated never-ending support and encouragement over the years. Thank you for continuing to ask “so, are you finished that paper yet?” on a regular basis. Thanks also to my parents, Jeff and Joyce, and to my siblings, Jason and Jody, for their continued interest in the completion of the degree. And thanks for NOT asking “so, are you finished that paper yet?” on a regular basis. I promised I would finish...and I did!



## Abstract

First-year seminars, also known as first-year experience courses, orientation courses, or student success courses, date to the late 1800s but exploded in popularity in the 1970s. While some researchers tout the success of these programs, it can be argued that these programs are atheoretical in orientation, and often lack the framework needed to structure them. The purpose of this project was twofold. The first study examined the longitudinal effectiveness of a first-year experience course (Introduction to University) offered at a western Canadian university. It was hypothesized that students who completed the course would be more successful in terms of attrition, graduation rates, number of voluntary and authorized withdrawals, and grade-point averages. Findings revealed that although retention rates appear to be improving for those students who completed the Introduction to University course, the results were not statistically significant. Students who completed the course, however, withdrew from more courses, and had significantly higher grade-point averages in Year 1 of their studies.

The second study examined affective, behavioural, and cognitive factors that predict first-year student success at university. It was hypothesized that students who make internal academic attributions, employ positive coping strategies, set goals, have higher levels of optimism and perceived control, and have lower levels of procrastination and test anxiety would be more successful. Findings indicated that although English as a second language, gender, scores on the perceived control, procrastination, optimism and external attributions scales did predict the final grade in the Introduction to University course at one time, high school grade-point average was the only consistent predictor over the four-year period. Results from these studies are discussed in terms of future

research strategies and implications for the success of this type of course for first-year students.

## The Facilitation of Student Success: Incorporating Affective, Behavioural, and Cognitive Factors into First-Year Experience Programs

The movement from high school to post-secondary environments can be a transition which, for many students, can be overwhelming (Wratcher, 1991). Chaskes (1996) likened this transition to the experience of immigrants as they arrive in their new homeland. If this movement from one institution is seen as a transition, first-year university itself represents the major transition period: a period of time where students may recognize differences between secondary and post-secondary education. Students soon realize, for example, that the classroom experience itself is very different, and assessment procedures at the university level are often in the form of multiple-choice examinations, which are foreign to many high school students. In these situations, one of two outcomes is probable: either the student successfully identifies the differences between the two institutions and employs strategies to help cope with the new challenges, or the student tries to deal with each new challenge as it appears. For example, a motivated student may realize that lecture-based classes require substantial reading as the class progresses to stay on top of the current material. A second student, who is not as motivated, may attend classes regularly but may not open the textbook until the evening before the exam. The outcome for these two students may be quite different. But not all students will experience this transition period in the same way. Some students cope with the new changes quite well and progress through their first year with few problems. Other students may experience changes in their academic performance or may find that their social relationships shift or become strained during this period.

The primary role of a professor in university is to educate students. But that education does not have to be restricted to a particular content area. Fundamentally, professors want students to succeed, but success can be defined in many ways. For some, success is defined as earning an "A" in a course. For others, success may be defined as completing a course. Regardless of the definition, administrators need to ensure that all students have the opportunity to succeed in their new endeavors. Because it has been well established that incoming university students have very specific needs in the beginning of their academic pursuits (Gordon, 1989), a reasonable first step is to provide students with the tools and strategies that will address these needs early. Students who are equipped with the correct tools and strategies are well on their way to becoming successful learners in the university.

In an attempt to equip incoming students with these necessary tools and strategies, many universities have worked toward the establishment of a first-year experience program. The phrase "first-year experience" is a registered trademark of The National Resource Centre for the First-Year Experience and Students in Transition at the University of South Carolina (USC). In the literature, first-year experience courses are also known as orientation courses and student success courses (Gardner, 1986). They run the gamut from one-day workshops that allow students to become comfortable with their campus, to full-term courses for credit that cover such topics as time management, stress management, academic writing, and student responsibilities (Hanley & Olson, 1996; Koutsoubakis, 1999; Odell, 1996; Tobolowsky, Mamrick & Cox, 2005). For the purpose of this paper, the term first-year experience program will refer to any course or workshop offered to students that helps them better adjust to their new program or environment.

These first-year experience courses exploded in popularity in the 1970s and researchers have identified three primary reasons for their popularity: (1) Universities saw an increasing number of first generation university students with less well-developed student survival skills; (2) As universities increased in size and structure, students were confronted with more complex choices; and (3) The availability of peer-based help in adapting to university had declined (Dwyer, 1989). Even though the success of these programs, often defined in terms of student retention, has been well documented (Beal & Noel, 1980; Boudreau & Kromrey, 1994; Fidler, 1991; Fidler & Hunter, 1989; Forrest, 1985; Gardner, 1986; Gordon, 1989; Jewler, 1989; Pascarella & Terenzini, 1986; Titley, 1986), some have argued that the benefits from such courses are questionable or non-existent (Martin & Dixon, 1989, 1994; Robinson, 1989). Other administrators continue to be suspicious about the usefulness of these programs and believe the movement to be merely a fad (Odell, 1996).

Several particular strengths of the first-year experience courses have been identified. First, Anselmo (1997) noted these types of courses are particularly effective because they provide students with very basic information about survival. Students learn about the specific academic rules and regulations, the location of the various services offered on campus, and the different activities taking place on campus (Ellis, 1984; Gardner & Jewler, 1992; Jewler & Gardner, 1993). Second, many researchers have found that the first-year experience courses build specific skills: note-taking skills, study skills, test-taking skills, and the like (DeLucia, 1992; Ellis, 1984; Gardner & Jewler, 1992; Jewler & Gardner, 1993). Finally, Bonifacio and Sinatra (1992) noted that these

first-year experience courses provide opportunities for students to network and support each other as they move throughout their academic year.

The purpose of this dissertation is to investigate the factors that contribute to first-year student success in university. There are two distinct bodies of literature that will assist in this pursuit. First, numerous studies have investigated the specific predictors of student success. One difficulty that is experienced is that student success is not always clearly defined. Some define student success as success in the first year of university (Odell, 1996); others define it as overall success in university, or equate student success with retention rates (Hoff, Cook, & Price, 1996). Of significance to the present dissertation is the development of an operational definition that will help clarify the research on the student success variable. Second, the literature contains accounts of first-year experience courses designed to help students ease into the post-secondary system. These courses have focused on academic rules and regulations, campus services, academic skill building, and the development of support networks. But there has been very limited discussion as to why these areas of emphasis were selected for inclusion in first-year experience courses. The interesting absence in the literature is the connection between the two bodies of research. While researchers devote much time to the identification of specific predictors and contributors to student success, these first-year experience programs have been atheoretical in their orientation, and often lack the frameworks needed to structure their programs.

Specifically, the aim of this project is to address three broad areas: the purpose of first-year experience courses, the definition of student success, and the application of the course to first-year students. First, the purpose of many first-year experience courses is to

increase the retention of first-year students and ensure their successful passage from high school to university (Gardner, 1986; Schönwetter, Walker, Taylor, & Cameron, 2002). In order to explore further the purpose of first-year experience courses, the review of the literature will highlight the development of first-year experience courses, identify five different types of first-year experience courses, and will highlight some of the courses throughout American and Canadian institutions. Second, the issue of student success will be explored further. A review of the “student success” literature will be conducted, specifically identifying those factors that contribute to overall student success in post-secondary institutions. The literature has identified numerous factors that contribute to student success, and these will be explored to refine further an operational definition of student success. Finally, the new operational definition will be used to test the effectiveness of first year students in a first-year experience course. A longitudinal analysis will examine the long-term impact of first-year experience programs. Data from a Western Canadian Research I university offering a first-year experience course will be analyzed to explore these questions. The final component of this project is to apply practically the information gleaned from the literature and from the data. Based on this information, strategies for instructors at the university level to promote student success in the classroom are proposed and directions guiding future research are provided.

## Literature Review

*First-Year Experience Programs*

In 2003, the National Resource Centre for The First-Year Experience and Students in Transition conducted its sixth national survey in American education. Of the 771 schools that completed their survey, 629 schools offered first-year seminars (Tobolowsky et al., 2005). This organization has conducted similar surveys since 1988, and has consistently found an overwhelming number of responding institutions reported having first-year seminars (National Resource Centre, 1988, 1991, 1994), and that the majority of these institutions offer academic credit for these seminars (B. Tobolowsky, personal communication, June 27, 2005). A similar study, the National Survey of First-Year Academic Practices, published in 2002 revealed that 94.1% of surveyed institutions in the United States offered a first-year seminar (defined as an academic seminar, extended orientation seminar, student success courses and the like). These seminars vary widely in content and structure but all have the common goal of promoting student success (Barefoot, 2002).

The inclusion of these first-year courses in the academic environment is not a new phenomena; the inception of first-year experience course dates to the early 1900s. Educators at both Harvard and Stanford universities recognized the need for “orienting freshman”, and the beginning step for this formal orientation was the use of segregated dormitories for incoming students (Gordon, 1989). It was felt that this living arrangement would foster intimate contact with their advisors, thereby assisting students with the transition into academic life (Gordon, 1989).



One of the initial first-year experience courses to respond to the needs identified at both Harvard and Johns Hopkins universities was instituted at Boston University in 1888 (Drake, 1966). All new students enrolled in the mechanical engineering department were required to attend a series of lectures to help orient them to their new program and their new surroundings. At roughly the same time, Oberlin College introduced a required non-credit course to orient new students toward future careers (Drake, 1966).

The first orientation course for credit was established at Reed College in 1911, intended to help first-year students adjust to college life and study (Fitts & Swift, 1928). The content of the course included topics such as the purpose of the college, the curriculum, student honesty and ethics, student government, and college athletics. This type of course grew in popularity over the next decade, and by 1926, 82 American colleges established orientation courses for credit (Brubacher & Rudy, 1958). Although each course was developed to address the specific needs of the individual campuses, consistent similarities appeared across the courses. Most courses aimed to provide students with general information about their institution, and about various aspects of student life in general.

As more institutions began to introduce orientation courses for credit, it became apparent that these courses could be classified into three major types (Fitts & Swift, 1928). Some courses focused their content on the organization and administration of the institution, on the intellectual habits of first-year students, and on the curriculum. These types of orientation courses focused on "adjustment" issues. The second type of course emphasized thinking and studying skills, providing information on the thinking process, and study skill hints and strategies. The third type of course focused on social

integration at the university. The course content included such topics as social problems, citizenship issues, and the introduction of students to new topics such as philosophy, religion, and the humanities (Fitts & Swift, 1928).

By 1930, roughly 33% of American colleges and universities were offering orientation courses and by 1948, 43% of the institutions offered a required orientation course (Mueller, 1961). Despite this substantial increase over the first half of the 1900s, orientation courses did not continue to increase in popularity. As the course content developed, increasingly “life adjustment” issues were emphasized. Faculty members became disgruntled with these courses and objected to offering credit for personal development classes (Caple, 1964). As a result, orientation courses began to wane, and by the mid 1960s, these courses had become nearly obsolete (Drake, 1966).

Changing faces at university campuses across the United States in the mid-1970s forced a resurgence in the orientation course movement. The “new” students on campus now included a greater number of adult learners who were returning to school after many years away from academia. Additionally, there were many more first-generation students, as well as many students who were less academically prepared than those who had attended the various institutions in the first half of the 1900s (Cross, 1971). Thus, the need for the orientation courses of yesterday became crucial for the success of the new students of today.

Despite the significant passage of time from the inception of orientation courses to the current-day experience, it is astounding how similar the course content of these very basic courses have remained over 100 years. Fitts and Swift (1928) identified some of the common course topics across the institutions. These topics included study tips;

college history, traditions and ideals; college life and activities; mental and physical health; time management; note-taking; college methods of instruction; and the value of good English. One interesting question arises: Have student needs truly remained the same over that 100-year period, or have educators failed to perceive a change in student needs?

### *Current Typology of First-Year Experience Courses*

The National Resource Centre for the Freshman Year Experience and Students in Transition has identified five categories of courses under which most first-year experience courses can be classified (Barefoot & Fidler, 1996). This typology was used to describe the programs offered in the United States in the early 1990s, and continues to be used as a means of classifying the courses. However, these categories are not mutually-exclusive; some courses are a hybrid of two or more of these specific types (Hunter & Linder, 2005).

The first type of course is the extended orientation seminar, also referred to as college survival, student success, or freshman orientation courses. The faculty responsible for these types of courses is quite diverse; they may be taught by tenured faculty members, student affairs personnel or upper-level students. Course topics may include time management, study skills and career planning strategies (Barefoot & Fidler, 1996). Of the institutions that responded to the 2003 National Survey on First-Year Seminars, 65.2% indicated that they offered this type of seminar (Tobolowsky et al., 2005).

The second category of courses is academic seminars with generally uniform academic content across sections. These courses range from elective to required courses,

from inter- to extra-disciplinary in focus, and will often focus on the higher-order academic skills, such as critical thinking (Barefoot & Fidler, 1996). Approximately 27% of respondents to the 2003 National Survey on First-Year Seminars indicated that they offered this type of seminar (Tobolowsky et al., 2005). The third category was reported by 24.3% of respondents to the 2003 National Survey (Tobolowsky et al., 2005) and reflects more specific academic seminars on various topics. The content of these courses varies based on the specific background and interest of the instructor (Barefoot & Fidler, 1996). Fourteen percent of institutions responding to the 2003 National Survey offered the fourth type of course: the professional seminar. These seminars are often found in engineering or nursing programs, and emphasize the expectations and practical applications of the specific discipline. The final category is the basic study skills seminar, reported by 20% of respondents to the above noted survey (Tobolowsky et al., 2005). This particular type of course is remedial in nature, and is geared for the at-risk student. The major emphasis of this type of course is on developing basic academic skills (Barefoot & Fidler, 1996).

#### *First-Year Programs in the United States*

Given the overwhelming number of American institutions that offer first-year experience courses, it is impossible to profile all courses. A two-year research project began in 2002, entitled *Institutions of Excellence in the First Year College*, and identified exemplars of colleges and universities who had achieved first-year excellence, and had moved beyond the notion of the first-year experience as an isolated course. These institutions shared five specific characteristics. They could provide evidence of a comprehensive approach to improving the first year experience, often with a clear

statement of the purpose of what the first year was intended to do. Second, these institutions were committed to assessment; these institutions are able to articulate the assessment process, and use the results from the assessment to improve their process. Third, these institutions impact significant numbers of first-year students, including special student subpopulations. Fourth, these institutions demonstrate a wide commitment to first-year initiatives in that there is strong administrative support for their program. Finally, institutions of excellence are characterized by partnerships; faculty members, administrators, student affairs personnel and others have demonstrated commitment in support of the first-year initiatives (Barefoot et al., 2005).

Of the “institutions of excellence”, five first-year experience courses were noted as a significant part of the larger contribution to student success. LaGuardia Community College, in Queen’s, New York, offers a one-hour per week, noncredit course required for all degree-seeking students. The “New Student Seminar” is offered through the Department of Counseling, and in addition to adjusting to college life and high-stakes testing course content, formal academic advising is built in to the course. The course is said to build a greater sense of connection between students, improve the confidence levels of students, and better prepare the students for their academic endeavors (Barefoot et al., 2005).

At Kalamazoo College, in Kalamazoo, Michigan, the first-year seminar is the sole common academic experience of first-year students. The course itself has evolved from a writing course in 1986, where students were able to satisfy the college’s writing requirement, to its current-day form. Goals of the course include to: improve fundamental academic skills in writing, oral communication and research; explore a

compelling theme that will trigger class discussion and writing; begin the development of intercultural understand; begin to enhance their portfolio with student work; and build bonds between students and advisors (Barefoot et al., 2005).

Appalachian State University, in Boone, North Carolina, began its first-year experience course in 1987 and saw increasing registration numbers over the years. In 1998, the first-year experience course was linked to other first-year classes in a new program. Currently, all students participating in a general education, major-related, or theme-based learning community must take the freshman seminar course. This course is said to support the primary academic goals of the institution, such as writing, and critical thinking and learning (Barefoot et al., 2005).

Indiana University-Purdue University Indianapolis in Indianapolis, Illinois, has identified eight learning outcomes affiliated with their first-year seminar: (a) develop a comprehensive perspective on higher education; (b) create a safe, supportive, and positive learning environment; (c) understand and practice basic communication skills; (d) explore the concept of critical thinking; (e) acquire a basic understanding of scholarly inquiry; (f) understand and apply campus resources for information technology; (g) develop a knowledge of their own skills, abilities and life demands in hopes of improving these in pursuit of academic goals; and (h) make full use of all resources available to support their learning. The specific learning outcomes have been further refined to include specific skills or behaviors that coincide with the particular outcome (Barefoot et al., 2005).

Finally, the University of South Carolina, in Columbia, South Carolina, offers a three-hour-credit seminar open to both first-year and transfer students during their first

semester, which is taken by 80% of first-year students. The purpose of the seminar is to help students understand their academic responsibilities and present them with opportunities and activities to help make their time at university more productive (Clark & Lerch, 2001). University 101 aims to present information in three general areas. First, students receive information about higher education in general. They are introduced to the many resources that will help them throughout their time at university – student support services, campus activities, and administrative information about the campus. Second, instructors focus on academic and career skills. Discussions focus on strategies that can be used to make students more successful, like note and test taking strategies. Students participate in career planning strategies and have the opportunities to learn about research opportunities and gain computer skills. The final section focuses on living skills, where students learn critical thinking skills, discuss basic health and wellness issues, and adopt stress management techniques. These examples represent but a small sampling of the wealth of information presented during the course.

Hunter and Linder (2005) have identified several recent trends in first-year orientation courses. First, it was noted that there has been a gradual increase in the number of first-year experience courses offered in the United States. Second, they noted a gradual trend away from “student survival” material in favour of more traditional academic content. Third, the percentage of institutions offering first-year orientation courses for a letter grade has consistently increased since 1988. Finally, there has been a consistent increase in the number of faculty members, in addition to student personnel staff, academic advisors, and administrators, involved in the instruction of these courses.

Thus, it appears that first-year orientation courses are increasing not only in popularity but also in the academic rigour of the course itself.

### *First-Year Programs Across Canada*

The overwhelming majority of research in the area of orientation programs has been accumulated on American institutions. This is not to say that these programs are absent in Canadian institutions. But the Canadian first-year experience is said to be different in terms of philosophy, approach, and specific features in comparison to the American experience. As of 1997 it was said to have no coherent focus, was not structured in any way, and could not be classified as a “movement” as it had been in the United States. The identified programs seemed to lack specific intentions, goals, objectives and purpose (Gilbert, Chapman, Dietsch, Grayson & Gardner, 1997).

A survey of Canadian postsecondary institutions was undertaken in the fall of 1994 to identify the types of programs targeted to new students and to highlight best practices in supporting first-year student success. Of the 58 institutions that responded to the survey, all institutions reported an “orientation” program, defined as a single event, a series of events throughout the year, a semester course or a full-year course. More specifically, 47 institutions offered “success seminars” which focused on applied skill development (e.g., library skills, writing skills, career planning, etc.), and 34 institutions offered semester seminars which focused on the history of higher education, the development of critical thinking skills and rational discourse, to name a few topics. At the time, only three of these institutions offered this course for academic credit (University of Prince Edward Island, University of Guelph, and University of Manitoba) (Gilbert et al., 1997).



The most ambitious and longstanding course in the Canadian context is the University 100 seminar offered at the University of Prince Edward Island, and was established in 1986. The University 100 course is a six semester-hour course restricted to incoming students. As of 2005, this university offers seven sections of the course, with registration for each section capped at 25 students (V. Johnston, personal communication, June 28, 2005). A variety of teaching techniques are used to enhance the classes, from lectures and discussions to films and videotapes. The purpose of the course is to maximize the university benefits for students by helping them develop very practical studentship skills and a broad perspective to help these students realize their potential. To help facilitate this, six specific goals have been identified: (1) to develop communication skills (both oral and written); (2) to develop study and research skills; (3) to introduce critical thinking and argumentation skills; (4) to introduce several methods of inquiry; (5) to encourage the development of self-knowledge and self-discovery; and (6) to develop an awareness of the university, from both historical and current perspectives. This university also offers a University 103 seminar, which is a three semester-hour course for incoming students. This course is a condensed version of the University 100 seminar ([www.upei.ca/registrar/university\\_100.pdf](http://www.upei.ca/registrar/university_100.pdf)).

The tracking of retention and persistence to graduation was used to evaluate their University 100 course in the mid-1980s through the mid-1990s. The university reported that University 100 completers returned as second-year students in significantly higher numbers, and that the completers graduated in four or five years at a rate of 28.4% higher than the non-completers (Gilbert et al., 1997).

The University of Regina offers a University 100 course which aims to enhance the knowledge of the University and the process of achievement in higher education through the development of skills, strategies, and attitudes required for success (<http://www.uregina.ca/fys/courses/>). The course is instructed in one 1.5 hour session per week for the length of the semester and may or may not be used towards the completion of degree requirements. It is used in the total number of hours registered and completed at the University of Regina (i.e., it qualifies for funding purposes and in the evaluation of overall academic performance).

This university also offers a University 110 course, which introduces students to elements of successful written communication across university disciplines. The University 110 class is also instructed in one 1.5 hour session per week for the length of the semester. Similar to the University 100 course, this course may or may not be used towards the completion of your degree requirements and is used in the total number of hours you registered and completed at the University of Regina (<http://www.uregina.ca/fys/courses/>).

The underlying assumption of any first-year experience program is that students who participate should be able to better adjust to university life. In other words, these programs are aimed to help students become more successful in university. If this is the case, it is paramount that a universal definition of "student success" be established. The following section will review how these first-year experience programs have defined student success, how student success has been defined in the educational literature, and will lead towards the establishment of an operational definition of student success.

### *Operational Definitions of Student Success*

First-year experience programs have been used for a range of outcomes. Some have incorporated these programs in an attempt to reach an ever-changing student population (Gordon & Grites, 1984), although others have associated them with increased retention rates (Fidler & Hunter, 1989). Overall, these first-year experience programs have been identified as an effective way to enhance student success (Titley, 1986).

While many colleges and universities maintain that first-year experience programs enhance student success, the effectiveness of the programs has not been well documented. As indicated in the previous section, some courses focus on a broad range of subject matter, while others focus on specific student issues. Thus, evaluation methods have been inconsistent across the programs and across program offerings. Some colleges and universities have compiled evidence to support the effectiveness of first-year experience courses in cases where credit is granted for the course. Four major outcome variables have been identified. As seen in Table 1, these variables include retention, academic performance, knowledge and use of student services, and personality development.

#### *Retention as a Measure of Student Success*

Fidler and Hunter (1989) reported that, by far, retention is the most widely researched evaluation variable. USC has collected data related to student retention since 1972 and has demonstrated that students taking their first-year experience course have achieved a higher return rate than those who have not completed the course over 14 consecutive years; in 10 of those years the results have been statistically significant. USC further examined graduation rates, and found that those students who completed the

**Table 1****Operational Definitions of Student Success**

<b>Variable</b>	<b>Measure</b>	<b>Data Source</b>	<b>Reference</b>
Retention	Completion of FYE course	Student records	Fidler & Hunter (1989) Rice (1984)
	Rate of graduation	Student records	Fidler & Hunter (1989)
	Completion of first semester	Student records	Catledge & Wells (1986) Farr, Jones & Samprone (1986) Stupka (1986)
Academic Performance	Grade-point average	Student records	Hopkins & Hahn (1986) Stupka (1986) Tammi (1987) Wilkie & Kuckuck (1989) Woodward (1982)
Knowledge & Use of Student Services	Use of career planning services	Self-report	Banziger (1986) Fidler & Hunter (1989) Kramer & White (1982)
	Use of the library	Self-report	Fidler & Hunter (1989) Kramer & White (1982)
	Use of study skills programs	Self-report	Fidler & Hunter (1989) Kramer & White (1982)
	Use of writing centre	Self-report	Banziger (1986)
	Use of counseling centre	Self-report	Banziger (1986)
Personality Development	Apprehension	Self-report	Potter & McNairy (1985)
	Social improvement & responsiveness	Self-report	Potter & McNairy (1985)
	Self-discipline	Self-report	Potter & McNairy (1985)

first-year experience course had a higher graduation rate than those who did not complete the course. These results were consistent across all campuses at USC, and the differences were even greater when high-risk students were examined (Rice, 1984).

Sacramento City College explored the success of three different types of first-year experience programs: a course for credit, a four-hour new student seminar, and a two-hour new student seminar. When students were matched on age, sex, recommended reading placement, and recommended writing placement, first-semester retention rates were highest for those enrolled in the credit program, followed by those in the four-hour orientation program (Stupka, 1986). However, one weakness of this study was the absence of a control group. Students in the first-year experience programs were not compared to students who did not complete one of the programs.

Similar analyses were undertaken at Georgia College with similar results. In both cases, the retention rates for participants in first-year experience programs ( $n = 51$ ) were significantly higher than those who did not participate ( $n = 52$ ) (Farr, Jones, & Samprone, 1986). Generally, these results support the notion that these first-year experience courses, particularly when offered for credit, are a positive influence on retention.

#### *Academic Performance as a Measure of Student Success*

What impact has participation in these courses had on grade-point average (GPA) and semester units completed? Research conducted at Sacramento City College identified that students who had completed the first-year experience course achieved a significantly higher GPA than those who had not completed the course. They also completed a significantly greater number of semester units (Stupka, 1986). The variable "semester units" has been used to avoid possible confusion that may arise when reporting

the number of courses completed. Semester units are a more general way of reporting both half courses and full courses.

Similarly, the State University of New York College at Cortland and the Indiana University of Pennsylvania reported significantly higher GPAs for those students who participated in their first-year experience program in each year studied (Hopkins & Hahn, 1986; Wilkie & Kuckuck, 1989). Additionally, both the State University of New York, Plattsburgh and the University of North Carolina at Charlotte found that first-year experience program participants not only earned significantly higher grades but also reported increased contact with faculty compared to those students who did not complete the course (Tammi, 1987; Woodward, 1982).

#### *Knowledge and Use of Student Services as a Measure of Student Success*

Kramer and White (1982) reported that students who had completed a first-year experience program at Brigham Young University were significantly more knowledgeable about and more able to utilize campus services such as career planning, the library, and study skills improvement programs. These findings were echoed at the University of South Carolina, particularly when campus services made presentations to course participants (Fidler & Hunter, 1989). Marietta College found that course participants made greater use of the writing centre, career centre, and counseling centre compared to non-participants (Banziger, 1986). Thus, knowledge and use of student services is another measure defining student success in the literature.

#### *Personality Development and Student Success*

Several colleges and universities have examined how first-year experience courses have impacted on students' personality development. Potter and McNairy (1985)

found that the course experience at Clarion University of Pennsylvania may have been helpful in lowering apprehension, encouraging social improvement and responsiveness, and becoming more self-disciplined, although researchers at Columbus College found no differences in personality variables between participants and non-participants (Cartledge & Walls, 1986). Thus, the use of personality outcomes as a definition of student success had demonstrated mixed results.

### *Definitions of Student Success in General*

One issue that evolves from this discussion is the notion that few universities and colleges define student success in the same way. Many institutions have not formally evaluated their programs, although others have used the variables outlined above. Even within the variable "retention", there are different ways to define it. As reported in Table 1, some institutions define retention as the continuation from first semester to second semester (Stupka, 1986), although others define it as the graduation rate (Rice, 1984).

In order to assess the success of first-year experience programs, there is a need for an operational definition of student success. While the "first-year" literature defines it narrowly, an entire body of literature examines the definition of student success from two directions. Most literature focuses on specific predictors of student success. For example, researchers have identified students' parents' level of education (Chickering & Kuper, 1971) and parents' income or socioeconomic status (Astin, 1975; Chickering, 1974; Chickering & Kuper, 1971; Levin & Clowes, 1982; Nelson, 1982; Pascarella & Chapman, 1983) as predictors. In cases where these data are available, they would serve as interesting co-variables. Although these predictors represent variables that students may bring with them to university or college, they do not represent changes that are made

as a result of first-year experience courses. The other direction of research has been on the outcomes of student success; in other words, those variables that might change as a result of completing a first-year experience course. The latter are more consistent with the purpose of this dissertation given the focus on the influence of the course on student success. These specific variables will be outlined in the next section.

### *Student Success Factors*

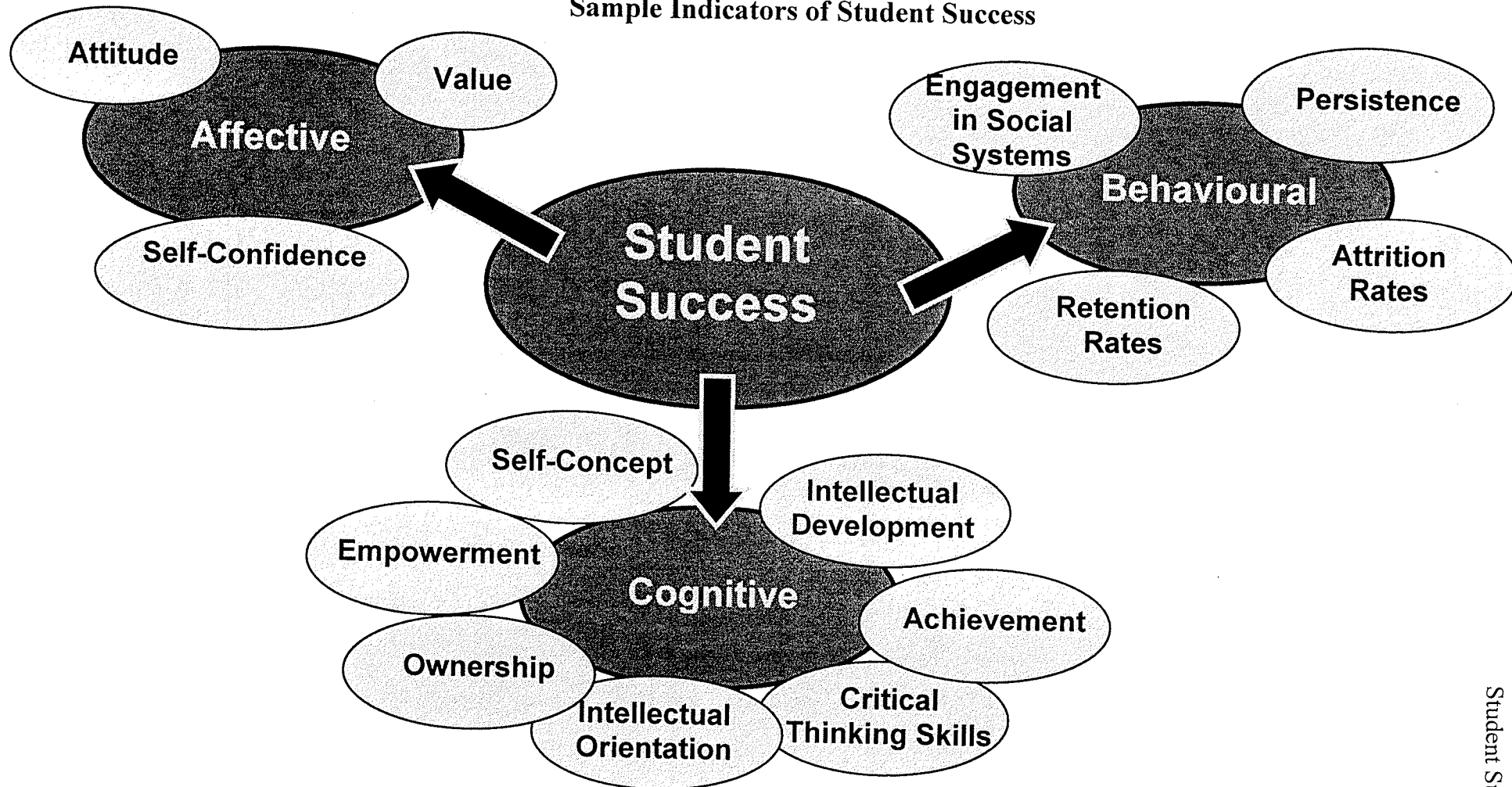
How should student success be defined? Four major outcome variables were identified earlier as defining student success, but this question has been explored further in the literature. As seen in Figure 1, there are three major categories of student success factors: affective, behavioural, and cognitive. The first category of student success factors includes affects. These factors are defined as “feeling” or emotional factors; some examples include a positive change in attitude (Inman & Pascarella, 1998; Lehmann, 1963; MacKinnon, 1999), the further development of a student’s value system (Lehmann, 1963), or an increase in student self-confidence (Inman & Pascarella, 1998; MacKinnon, 1999). The second category of student success factors in the literature are behavioural, such as students’ persistence in college (Anderson, 1981), attrition and retention rates (Anderson, 1981; Astin, 1972, 1975), withdrawal or drop-out rates from college or university (Pascarella & Chapman, 1983; Tinto, 1975, 1993), and engagement in institutional social systems (Baird, 1969; Chickering, 1974; Nelson, 1982; Welty, 1976).

The third category of student success includes the cognitive factors. This category represents the most widely researched of the three areas. Researchers have noted an overall increase in critical thinking skills, whether it is students’ perceived level



**Figure 1**

**Sample Indicators of Student Success**



of critical thinking (Astin, 1993; Pace, 1974; Tsui, 1998a), their experienced critical thinking abilities (Dressel & Mayhew, 1954; Gunn, 1993; Tsui, 1998b), or critical thinking skills in general (Beck, 1999; Inman & Pascarella, 1998; King, Wood, & Mines, 1990; Lehmann, 1963; Pascarella, Bohr, Nora, Zusman, Inman & Desler, 1993; Welty, 1976). Some researchers have noted a change in self-concept (Baird, 1969; Pascarella, Bohr, Nora, & Terenzini, 1995), intellectual orientation (Lacy, 1978), intellectual development (Pascarella et al., 1995), ownership (Inman & Pascarella, 1998), and empowerment (Inman & Pascarella, 1998), although others have found significant changes in students' grades (Pascarella et al., 1993), reading ability (Pascarella et al., 1993), and math ability (Pascarella et al., 1993). Research has also found significant changes in goal setting (Baird, 1969), general knowledge and skills (Inman & Pascarella, 1998; MacKinnon, 1999), and overall achievement (Baird, 1969). Although numerous affective, behavioural and cognitive variables have been identified in the literature, these represent a sample of those variables and have been included for illustrative purposes.

To this point, the literature has reinforced the popularity of first-year experience courses and has revealed that these types of courses have been in existence for more than 100 years. The purpose of these courses is to help with the transition to higher education, and ultimately to help students become more successful in their academic endeavours. Further, while several programs have implemented an evaluation component into their first-year experience programs, most programs have not devised a unified measure to ensure that the program is doing what it was intended to do. For example, researchers at Dalton College found those who participated in their first-year experience program attempted more credit hours, showed a higher rate of retention, and completed more

credit hours than those students who did not complete the program (Hoff et al., 1996). Similarly, researchers at the University of Kansas completed an outcome assessment of the first years of their first-year experience program. These researchers compared GPA, retention rates, and measures of self-efficacy of those who completed the first-year experience program with those who did not (Wolf-Wendel, Tuttle & Keller-Wolff, 1999). Participation in the program did not have a significant effect on GPA or retention rates, but did significantly affect the level of self-efficacy. In general, first-year experience courses seem to have more influence on cognitive skills than on retention and achievement.

In order to argue that a course or a program is worthwhile or influential, one must be able to demonstrate that it is, in fact, making a difference. The lack of operational definitions, theoretical orientations, and concrete evaluation components challenge the assumption that first-year experience courses are making a difference. The following section will outline the specific gaps in the literature that need to be addressed in order to accurately assess the effectiveness of a first-year experience program.

### *Gaps in the Literature*

#### *Definitions of Student Success*

If the purpose of a first-year experience course is to help students become more successful, then an operational definition of student success must be provided. Several programs, as identified earlier, have defined student success in terms of retention, academic performance, knowledge and use of student services, or personality development. When spelled out in this manner, programs are able to present data on

whether changes are found between those students who participated in the program, and those who did not.

In many cases, universities and colleges have not operationally defined students' success and are assuming that participation in a first-year experience course will be beneficial in the long run. It becomes difficult to justify to administrators and sponsors that a program is worthwhile just because "we think it is working". In order to legitimize the existence of first-year experience courses the usefulness of the programs must be validated and in order to do that one must be able to define success, in this case "student success". In the present study, defining student success was the first focus guiding the research.

#### *Long-Term Effectiveness of First-Year Experience Programs*

In order to demonstrate the effectiveness of a first-year experience program, it is important to be able to demonstrate change over time. Most programs discussed in the previous section have not tracked the long-term impact of their first-year experience programs. Established evidence is missing from the literature to suggest that first-year experience programs are effective over the long run. USC represents one major exception, since they have been tracking retention rates since 1972. Over the long run, this program is said to make a difference (Barefoot et al., 2005). Although the data from USC represents a start, there is a need for more research in this area. The proposed study will focus on addressing this issue.

#### *Control for First-Year Experience Course Mark*

In cases where first-year experience programs have been evaluated, one potentially harmful confound has been left in the equation. How can an institution be

confident that the first-year experience courses contribute to overall student success? Maybe these programs are simply attracting the brighter students who would have succeeded anyway. Moreover, to what extent have past studies controlled for the first-year transition course in defining the GPA? In other words, many studies (Hopkins & Hahn, 1986; Stupka, 1986; Tammi, 1987; Wilkie & Kuckuck, 1989; Woodward, 1982) do not report removing the first year transition course grade from the overall GPA, thereby confounding any evidence that the course makes a difference.

### Research Questions

To address the gaps identified in the literature review, two studies were conducted. Study 1 examined the issue of the longitudinal effectiveness of a first-year experience program, while Study 2 examined the specific predictors of first-year student success. Both studies utilized data from a western Canadian university that currently offers a first-year experience course for credit.

#### *Introduction to University: A First-Year Experience Course*

The Introduction to University course at this Western Canadian university was launched in 1993 to increase the retention rates of first-year university students and to help ensure the successful transition from high school to university. The course was designed by a multidisciplinary team of academics and student affairs personnel after a thorough review of first year student needs was conducted (Schönwetter et al., 2002). The end result was a three-credit hour academic course that was both rooted in the academic literature and reflected the insights gleaned by student affairs personnel working with first year students. While the curriculum has been refined from 1993 to

2004, the underlying philosophy, objectives, and performance measures have remained consistent over time.

As seen in Figure 2, seven fundamental characteristics have been identified as the underpinnings of this particular course (Schönwetter et al., 2002). Unlike some first-year experience courses, this particular course is grounded in developmental theory, and these theories (e.g., Astin, 1993; Kuh, 1993) are credited as guiding both the teaching and learning practices associated with this course. From these theories, six major objectives have been identified (Schönwetter et al., 2002):

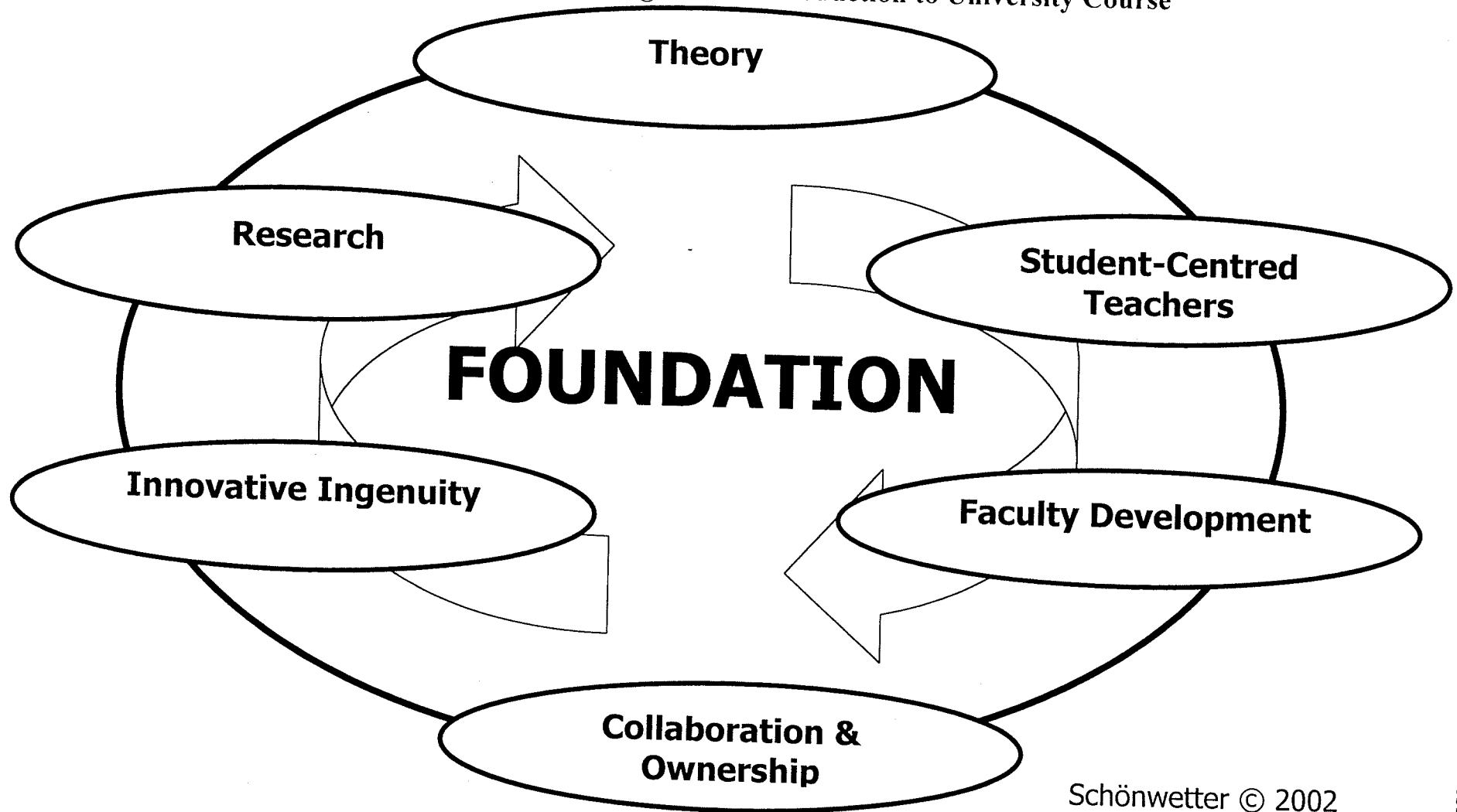
- to assist first-year students in making the transition to the university community;
- to provide an orientation to the nature, functions and resources of the university;
- to provide training in study and learning skills needed for success in university studies;
- to help develop attitudes and habits needed to succeed in a university setting;
- to provide a foundation for active and life-long learning and career success; and
- to help students define their goals more clearly and give them the tools that can help achieve their goals.

Thus, the existence of a theoretical framework represents one fundamental characteristic of the Introduction to University course. The second characteristic of the Introduction to University course is student-centredness (Schönwetter et al., 2002). The Introduction to University class is capped at 32 students to encourage a safe learning environment, where students may be more comfortable to take risks in their learning. This is consistent with Pascarella and Terenzini's (1991) report that classes with motivational or attitudinal goals are more effective when smaller. Similarly, Gordon (1989) emphasized the importance of the small-group setting to foster dialogue.

Student-oriented faculty members are selected who express a passion for teaching

Figure 2

Fundamental Underpinnings of the Introduction to University Course



Schönwetter © 2002

and an understanding of the various sub-groups that comprise a classroom (e.g., International Students, Mature Students, etc.). While many sections of the course are taught in any one year, a standard course syllabus is used to ensure consistency across the sections (see Appendix A). The course itself is under constant refinement to ensure that the most innovative teaching styles are used to reinforce the effectiveness of the program.

The third characteristic of the Introduction to University course is a cross-disciplinary faculty (Schönwetter et al., 2002). Faculty members on staff include psychologists, sociologists, theologians, historians, librarians, and writers. While all faculty members have their own perspective on teaching and learning, these ideas are shared and developed among faculty members at a variety of activities and meetings throughout the year. Generally, instructors teach two sections of the course per semester, to a maximum of four sections per year.

The fourth characteristic is an ongoing awareness of changes in research and pedagogy, specifically as it relates to student learning (Schönwetter et al., 2002). All faculty members participate in training workshops on teaching the first-year student, which are grounded in theory and research, and also actively participate in first-year experience training workshops. Some are enrolled in graduate courses such as the Seminar in Post Secondary Education Issues in Teaching and Learning in Higher Education. All faculty members attend regular meetings to discuss best practice as it applies to teaching the first year student, and collaborate regularly with services on campus to ensure that their students' needs will be met in that first year.

The fifth characteristic of the Introduction to University course is the collaboration and ownership on the part of faculty members (Schönwetter et al., 2002).



Those who teach this course are invited to mentor new instructors, participate in strategic planning, and work on curriculum design issues. All members are invited to contribute to the annual *Becoming a Successful Student Handbook*, and are encouraged to participate in further professional development opportunities.

The final two characteristics relate to the instructor's own academic and personal development, and his/her own scholarship of teaching (Schönwetter et al., 2002). Faculty members who teach Introduction to University teach the process of being successful. As students, these faculty members were able to master the skills necessary to succeed in their own endeavours, and are now passing this wealth of information to new students. By reviewing and refining those skills that are taught in the classroom, instructors may see continued improvement and development, both academically and personally.

Together, these seven characteristics make the Introduction to University course unique. Often, confusion arises between the University 1 program offered at this university, and the Introduction to University course itself. The University 1 program allows students to choose a broad range of courses in their first year of university. The Introduction to University course is one course that can be selected in that first year. It was specifically designed for students new to the university to help ease the transition. It is not intended as a remedial course. Roughly 30% of first-year students choose to take this particular course (B. Cameron, personal communication, April 22, 2004). For the first five days of registration, 20% of each section of the Introduction to University course is made available. This process helps to ensure that all students have access to the course.

Since the inception of the course, pre- and post-test measures have been administered to students enrolled in this course. The specific measures have changed or been refined since inception but some information has remained consistent. This study represents the first examination of these data. While seemingly similar programs outlined in this document proclaim to assist students in that first year of university, this particular Introduction to University course is able to articulate the specific goals and expectations of the program. Despite these articulations, how does one know that this course truly contributes to student success? Answering this question represented the aim of Study 1.

### *Study 1*

#### *Hypothesis*

The purpose of this study was to examine the longitudinal effectiveness of a first-year experience program currently offered at a Western Canadian university. If the Introduction to University course is effective, students who have completed this course should be more successful in comparison to those who have not participated in the course on a variety of measures of success.

#### *Specific Questions*

Several specific research questions were identified. Are there long-term attrition differences between those who have completed Introduction to University and those who have not? Do those who have completed Introduction to University graduate in a shorter period of time than those who have not taken the course? Is there a difference in withdrawal rates between those who have completed the course and those who have not? And finally, do Introduction to University students tend to have higher grade-point

averages at the end of each year and when they graduate, compared to those students who have not taken Introduction to University?

Generally, it is anticipated that students who have, in comparison to students who have not, completed Introduction to University course, will (1) have lower levels of attrition; (2) graduate in less time; (3) withdraw from fewer courses; (4) have both a higher grade-point average at the end of each semester and at the end of each school year.

### *Next Steps*

While Study 1 focused specifically on how the completion of the Introduction to University course impacts variables such as overall grade-point average or graduation rate, it did not provide specific information about the students who are succeeding in the course. In order to determine the long-term effectiveness of this particular course it was important to identify those specific variables that contribute to student success. Study 1 hypothesized that participation in the Introduction to University course would be one of those variables, but there may be others. Preliminary data collection in the Introduction to University classes had focused on other variables thought to predict student success in university. In order to gain a true picture of what variables make students succeed, it was important to examine other potential predictors. That was the aim of Study 2.

### *Study 2*

The purpose of Study 2 was to identify the affective, behavioural, and cognitive factors that contributed to first year student success at the university. Data collected for a three-year period were analyzed to identify those factors that best predicted student success. These variables included academic attributions, coping, goals, learning style, optimism, perceived control, procrastination, and test anxiety. These variables are

discussed more fully in the next section. Generally, it was anticipated that students who make internal academic attributions, employ positive coping strategies, set goals, have higher levels of optimism, perceived control, and lower levels of procrastination and test anxiety will be more successful students.

## Method

### *Study 1*

#### *Participants*

An application was made to the Research Ethics Board to obtain data for students who had enrolled at the university in the 1999-2000, 2000-2001, 2001-2002, and 2002-2003 academic years from the Office of Institutional Analysis and Student Records. This application dealt with various issues, including confidentiality, debriefing, and informed consent. Once approval was received from the Research Ethics Board, student records were separated into two groups: those who had completed the Introduction to University course ( $n = 4,866$ ), and those who had not ( $n = 15,321$ ). Table 2 provides a profile of these groups based on gender and age. On average, those students enrolled in the Introduction to University course were 21.73 years old at time of registration and entered university with a high school average of 75.04%. Non-Introduction to University students were 22.52 years old at the time of registration and entered university with a high school average of 76.20%. The differences in both age and high school average were significant at  $p = .000$ .

#### *Variables*

Data were obtained on the following variables: (a) demographic variables (i.e., student number, gender, date of birth, citizenship, visa status, marital status, high school average, number of prior institutions attended, cohort assignment); (b) course registration information (i.e., initial college at entry, initial faculty at entry); (c) course attrition information (i.e., number of voluntary withdrawals, number of authorized withdrawals);

**Table 2****Profile of the Students for Study 1**

	Non-Introduction to University Students	Introduction to University Students
Participants		
Males	6,592	1,887
Females	8,729	2,979
Total	15 321	4,866
Age at Registration (M (SD))*		
Males	22.10 (6.42)	20.86 (5.56)
Females	22.84 (7.41)	22.23 (6.97)

\*  $p < .001$

and (d) outcome information (i.e., sessional GPA, cumulative GPA). Summaries of these variables are presented in Tables 3 through 6. For the examination of these variables, a p-value of .01 was set as the cutoff for statistical significance.

To assess course attrition at this university, two measures were used. A “voluntary withdrawal” (VW) is utilized by students who wish to drop a course outside of the course revision period. These VWs are recorded on the student histories and transcripts. “Authorized withdrawals” (AW) are withdrawals authorized by the dean or director of the faculty after professional documentation citing a medical or compassionate reason has been submitted.

## *Study 2*

### *Participants*

Participants in Study 2 were those students who completed the Introduction to University course in the 1999-2000, 2000-2001, 2001-2002, 2002-2003 academic years. As part of the Introduction to University course, students responded to pre- and post-test questionnaires on a variety of topics. These data were analyzed for Study 2. There were 3498 participants in this study (1166 males and 1875 females). These participants represent 74.73% of total number of students participating in 099.111 in these 4 years.

### *Variables*

*Demographic variables.* Basic demographic variables were collected from students including gender, age, ethnicity, marital status, international student status, type of secondary education, current living arrangements, college affiliation, and tuition funding. The inclusion of demographic variables varied each year, resulting in a

Table 3

## Summary of Demographic Data at Time of Entry

	Introduction to University		Non-Introduction to University	
	N	Percentage	N	Percentage
<b>Age</b>				
16 – 19	2925	60.1	7634	49.9
20 – 24	1030	21.2	4154	27.2
25 – 29	326	6.7	1550	10.1
30 – 34	249	5.1	735	4.7
35 and Up	335	7.0	1225	8.1
<b>Citizenship</b>				
Canada	4501	92.5	13 597	88.7
China	135	2.8	215	1.4
Hong Kong	26	0.5	124	0.8
Other	204	4.2	1386	9.1
<b>Visa Status</b>				
Student Visa	268	5.5	1010	6.6
Permanent Resident	97	2.0	580	3.8
Work Permit	0	0.0	58	0.4
Visitor's Visa	0	0.0	6	0.0
NA	4501	92.5	13 667	89.2
<b>Marital Status</b>				
Single	4621	95.0	14 238	92.9
Married	245	5.0	1083	7.1



**Table 3****Summary of Demographic Data at Time of Entry, Continued**

		Introduction to University		Non-Introduction to University	
		N	Percentage	N	Percentage
High School GPA					
	90 – 100	190	4.0	871	5.7
	80 – 89	907	18.6	2822	18.4
	75 – 79	753	15.4	1681	11.0
	70 – 74	712	14.6	1713	11.2
	65 – 69	579	12.0	1385	9.0
	60 – 64	333	6.8	808	5.3
	50 – 59	98	1.9	336	2.2
	Below 50	2	0.0	4	0.0
	Not available	1292	26.6	5701	37.2
	Mean (SD)	75.04 ( <i>SD</i> = 8.71)		76.20 ( <i>SD</i> = 9.55)	
Prior Institutions					
	0	4159	85.5	9419	61.5
	1	647	13.3	4722	30.8
	2	50	1.0	962	6.3
	3	10	0.2	188	1.2
	4	0	0	22	0.1
Cohort Assignment					
	1999	802	16.5	768	31.3
	2000	1181	24.3	5039	32.9
	2001	1407	28.9	5512	36.0
	2002	1476	30.3	2	0.0

**Table 4****Summary of Course Registration Information at Time of Entry**

	Introduction to University		Non-Introduction to University	
	N	Percentage	N	Percentage
<b>Faculty</b>				
University 1	3692	75.9	7879	51.4
Continuing Education	644	13.2	3112	20.3
Nursing	245	5.0	328	2.1
Social Work	232	4.8	314	2.0
Arts	16	0.3	858	5.6
Engineering	5	0.1	508	3.3
Science	22	0.5	481	3.1
Other	10	0.2	1841	12.0
<b>College</b>				
University of MB	4482	92.1	14 031	91.6
St. Paul's	217	4.5	701	4.6
University	84	1.7	221	1.4
St. John's	81	1.7	248	1.6
St. Andrew's	2	0.0	60	0.4
Other	0	0.0	60	0.4

**Table 5****Summary of Course Attrition Information**

		<b>Introduction to University</b>			<b>Non-Introduction to University</b>		
		<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>
<b>Voluntary</b>							
<b>Withdrawal</b>							
<b>(Credit Hours)</b>							
<b>Year 1</b>		2.96	4.46	4854	2.72	4.78	14 660
<b>Year 2</b>		3.02	4.45	2702	2.32	4.05	10 835
<b>Year 3</b>		2.36	3.78	1308	1.91	3.63	5943
<b>Year 4</b>		1.82	3.61	445	1.52	3.09	2492
<b>Cumulative</b>		5.44	6.85	4859	5.44	7.41	14750
<b>Authorized</b>							
<b>Withdrawal</b>							
<b>(Credit Hours)</b>							
<b>Year 1</b>		0.11	1.16	4854	0.16	1.67	14 660
<b>Year 2</b>		0.14	1.34	2702	0.13	1.35	10 835
<b>Year 3</b>		0.14	1.29	1308	0.11	1.07	5943
<b>Year 4</b>		0.05	0.47	445	0.13	1.34	2492
<b>Cumulative</b>		0.23	1.81	4859	0.32	2.40	14750

**Table 6****Summary of Outcome Information**

		<b>Introduction to University</b>			<b>Non-Introduction to University</b>		
		<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>
<b>Cumulative</b>							
<b>GPA</b>							
Year 1		2.41	1.10	4447	2.30	1.30	12437
Year 2		2.51	0.95	2644	2.66	1.07	10228
Year 3		2.62	0.87	1275	2.79	0.96	5696
Year 4		2.67	0.92	430	2.87	0.95	2354
<b>Sessional</b>							
<b>GPA</b>							
<b>Year 1</b>							
Semester 1		2.52	1.21	4191	2.33	1.39	10231
Semester 2		2.36	1.14	4326	2.30	1.32	11848
Semester 3		2.59	1.28	1555	2.56	1.42	3600
<b>Year 2</b>							
Semester 1		2.32	1.25	2201	2.70	1.19	8565
Semester 2		2.48	1.04	2227	2.73	1.10	8800
Semester 3		2.76	1.12	1069	2.87	1.25	3543
<b>Year 3</b>							
Semester 1		2.41	1.23	1076	2.86	1.08	4732
Semester 2		2.61	0.99	1018	2.91	1.00	4775
Semester 3		2.77	1.18	599	2.94	1.22	2094
<b>Year 4</b>							
Semester 1		2.56	1.28	359	2.98	1.06	1951
Semester 2		2.73	1.08	361	3.04	0.97	1961
Semester 3		2.77	1.16	169	2.96	1.22	757

considerable amount of missing data. As data collection moves forward, these basic variables will be included to build a solid demographic database for the future. The demographic variables are formally presented in Table 7 and explained in the results section.

*Academic attributions.* Students' attributions regarding their academic experiences were assessed using four partial subscales from the Multidimensional Multiattribubutional Causality Scale (Lefcourt, Von Bayer, Ware, & Cox, 1979). Twelve items this scale; three items measured "ability" (e.g., "if I were to receive low marks it would cause me to question my academic ability"), three items measured "effort" (e.g., "when I receive a poor grade, I usually feel the main reason is that I haven't studied hard enough for that course"), three items measured "context" (e.g., "In my experience, once a professor gets the idea you're a poor student, your work is much more likely to receive poor grades than if someone else handed it in"), and three items measured "luck" (e.g., "Some of my lower grades have seemed to be partially due to bad breaks"). Students were asked to rate a series of statements on a 5-point Likert scale, ranging from "strongly disagree" to "strongly agree". This scale is presented in Appendix C.

For the purpose of this study, the scale was used as a two-factor scale (Lefcourt et al., 1979): internal attributions and external attributions. Cronbach's alpha for internal attributions, defined as the combination of ability and effort items, was originally reported to range between .50 and .77 while external attributions, defined as the combination of context and luck items, was found to range between .66 and .88 (Lefcourt et al., 1979). These coefficients were calculated on 6-item subscales. Hamilton and Akhter (2002) reported Cronbach's alpha reliability coefficients of .69 for the ability

**Table 7****Demographic Information Reported by Introduction to University Students**

	N	Percentage
<b>Gender</b>		
Females	1800	53.4
Males	1130	33.5
Missing data	439	13.0
<b>Age Range</b>		
17-18	1323	39.2
19-20	695	20.6
21-22	297	8.8
23-24	160	4.7
25-26	259	7.7
27-30	73	2.2
31-35	89	2.6
36-40	28	0.8
41-45	13	0.4
45+	5	0.1
Missing data	429	12.7
<b>Ethnicity</b>		
Caucasian	246	7.3
Other	160	4.7
Asian	129	3.8
East Indian	22	0.7
Métis	17	0.5
Aboriginal	14	0.4
Hispanic	14	0.4
Black	11	0.3
Missing data	2758	81.8

**Table 7****Demographic Information Reported by Introduction to University Students, Cont.**

	<b>N</b>	<b>Percentage</b>
<b>Marital Status</b>		
Single	750	22.2
Married	37	1.1
Common law	21	0.6
Divorced	18	0.5
Missing data	2545	75.5
<b>International Student Status</b>		
Non-international student	704	20.9
International student	113	3.4
Missing data	2554	75.8
<b>Type of Secondary Education</b>		
Public	357	10.6
Independent	48	1.4
Band	6	0.2
Home	3	0.1
Institutional	3	0.1
Missing data	2954	87.6
<b>Current Living Arrangements</b>		
With parents	158	4.7
Sharing accommodations	72	2.1
With family	71	2.1
On my own	66	2.0
Dorm	51	1.5
Missing data	2953	87.6

**Table 7****Demographic Information Reported by Introduction to University Students, Cont.**

	<b>N</b>	<b>Percentage</b>
<b>College Affiliation</b>		
None	328	9.7
St. Paul's	29	0.9
University College	25	0.7
St. John's	23	0.7
St. Andrew's	4	0.1
Missing data	2962	87.9
<b>Tuition Funding</b>		
Parental or family support	382	11.3
My own funds	308	9.1
A scholarship	98	2.9
Missing data	2583	76.6



sub-scale, .64 for the effort subscale, .69 for the context subscale and .67 for the luck subscale. For the three-item subscales used in this study, Cronbach's alpha reliability coefficients of .61 for the ability sub-scale, .71 for the effort subscale, .60 for the context subscale, and .64 for the luck subscale were found.

Principal Component Analysis, using varimax rotation, was undertaken to examine the factor structure of the 12-item scale. This analysis confirmed a 4-factor solution, accounting for 60.12% of the variance. Tabachnick and Fidell (1989) suggested that factor loadings of .30 and greater are worthy of interpretation. As such, only those factor loadings greater than .30 are presented in Table 8. In terms of interpretation, Comrey (1962) deemed factor loadings of .45 to be fair, .55 to be good, .63 to be very good, and .71 to be excellent. Given this information, the factor loadings presented in Table 8 can be interpreted as adequate.

*Coping.* This 19-item instrument is based on Frydenberg and Lewis's (1993) Adolescent Coping scale, and asks students to identify the types of coping strategies that are used to handle stress, and to rate the use of these strategies on a 5-point Likert scale ranging from "not at all true of me" to "very true of me". Sample coping strategies include "seek social support from family and/or friends" and "seek professional advice". This scale is presented in Appendix D.

Frydenberg (1997) reported that internal consistency coefficients for the Adolescent Coping scale ranged from 0.62 to 0.87, with an average reliability coefficient of 0.73. This was deemed satisfactory as Moos and Billings (1982) have reported that coping measures can have internal consistency coefficients as low as 0.44. Reliability analysis with the current data revealed a Cronbach's alpha coefficient of .64.

**Table 8****Factor Loadings of the Multidimensional Multiattributational Causality Scale****(Lefcourt, Von Bayer, Ware & Cox, 1979)**

	<b>Factor</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Some of my bad grades may have been a function of bad luck, being in the wrong course at the wrong time.	.82			
My academic low points sometimes make me think I was just unlucky.	.73			
Some of my lower grades have been partially due to bad breaks.	.60			
Some of the low grades I've received seem to me to reflect the fact that some teachers are just stingy with marks.	.57			.36
When I receive a poor grade, I usually feel that the main reason is that I haven't studied enough for that course.		.81		
When I fail to do as well as I expected in school, it is often due to a lack of effort on my part.		.75		
Poor grades inform me that I haven't worked hard enough.		.82		
If I were to fail a course, it would probably be because I lacked skill in that area.			.77	
If I were to get poor grades, I would assume that I lacked ability to succeed in those courses.			.76	
If I were to receive a low mark, it would cause me to question my academic ability.			.63	
In my experience, once a professor gets the idea you're a poor student, your work is much more likely to receive poor grades than if someone else handed it in.				.81
Often my poorer grades are obtained in courses that the professor has failed to make interesting.				.80
<b>Eigenvalues</b>	<b>3.015</b>	<b>2.017</b>	<b>1.145</b>	<b>1.037</b>

Principal Components Analysis revealed a 3-factor solution, where factor 1 represents positive methods of coping and factor 2 represents counterproductive coping strategies. Factor 3 remains somewhat puzzling. Three items refer to seeking external support to cope with one's stress (i.e., seek spiritual support, social support or professional advice), while the remaining two items represent negative methods of coping (i.e., blame oneself, worry). The factor loadings, presented in Table 9, are acceptable and these items account for 40.26% of the variance. Because the 3-factor solution had not been originally reported in the literature (Frydenberg & Lewis, 1993), a 2-factor structure was utilized for this study, which was consistent with the original intention of the scale. For the purpose of analysis, items were classified as either positive or negative coping strategies.

*Goals.* This 26-item scale was based on the six objectives identified as foundational for the Introduction to University course. Students were asked to rate the importance of a series of personal goals on a 5-point Likert scale ranging from "not at all important to me" to "very important to me". Sample goals include "to improve my exam taking skills" and "to develop critical thinking skills". Reliability analysis revealed an alpha value of .95. This scale is presented in Appendix E. Principal Components Analysis revealed a one-factor solution, accounting for 44.83% of the total variance. This is consistent with the original intention of the scale. The individual factor loadings are presented in Table 10.

*Learning style.* This 12-item scale was based on Kolb's Learning Style Inventory (Kolb, Rubin, & McIntyre, 1979). In Kolb's original scale, students are asked to rank four sentence endings that correspond to the four learning modes – Concrete Experience

**Table 9****Factor Loadings of the Coping Scale (based on Frydenberg and Lewis 1993)**

	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>
Find ways to lower stress	.79		
Seek creative solutions to reduce the stress.	.72		
Seek relaxing diversions.	.67		
Find ways to reduce tension.	.63		
Work off frustrations	.64		
Use physical recreation such as running, or playing sports to reduce stress.	.50		
Work hard to succeed	.44		.30
Work hard to achieve in order to reduce the stress.	.43		.35
Invest time in friends	.42		
Ignore the problem.		.65	
Make excuses for feeling stressed out.		.63	
Blame others for the stressful situation		.62	
Keep it to myself		.59	
Engage in wishful thinking		.50	
Worry			.66
Blame yourself for the stress you are experiencing.			.61
Seek social support from family and/or friends.			.56
Seek professional advice.			.45
Seek spiritual support.			.38
<b>Eigenvalues</b>	<b>3.089</b>	<b>2.281</b>	<b>1.559</b>

**Table 10****Factor Loadings of the Goal Scale**

	<b>Factor 1</b>
To develop creative problem-solving skills.	.77
To improve my thinking and reasoning skills.	.77
To learn how to work with others.	.74
To develop critical thinking skills.	.73
To develop planning and organizing skills.	.73
To learn how to apply learning to everyday situations.	.72
To improve my interpersonal communication skills.	.72
To develop personal goals.	.71
To learn how to integrate things into the global community.	.71
To learn to work ethically in all aspects of education & career.	.71
To learn leadership skills.	.70
To learn how to assess self-image.	.69
To develop improved skills in reading and mastering texts.	.68
To be inspired to an interest in lifelong learning.	.68
To develop personal responsibility.	.68
To develop skills to be a successful independent learner.	.67
To ensure mastery of a body of knowledge.	.67
To learn techniques for more effective time management.	.65
To improve my presentation skills	.63
To improve my exam taking skills.	.62
To become familiar with the library and how to use it.	.61
To join learning support groups.	.61
To learn how to assess and adjust to a professor's expectations.	.58
To improve my essay writing skills.	.55
To take good notes in class.	.53
To prepare for a career.	.43
<b>Eigenvalue</b>	<b>11.656</b>

(i.e., experiencing), Reflective Observation (i.e., reflecting), Abstract Conceptualization (i.e., thinking), and Active Experimentation (i.e., doing). This scale was modified, and instead of rank-ordering the sentence endings, students selected the one sentence ending that most reflected their personal learning style. While high internal consistency has been reported for the original Learning Style Inventory (Kolb, 1985; Sims, Veres, Watson & Buckner, 1986; Veres, Sims, & Shake, 1987; Willcoxson & Prosser, 1996), no reliability information is available for this adapted version of the scale. This scale can be found in Appendix F.

*Optimism.* This 8-item scale was taken from the Life Orientation Test (Scheier & Carver, 1985). It asks students to rate a series of statements on a scale ranging from “strongly disagree” to “strongly agree”. This scale was designed to assess dispositional optimism. Examples of these statements include “in uncertain times, I usually expect the best” and “things never work out the way I want them to”. Scheire and Carver (1985) reported a Cronbach’s alpha coefficient of .76, and a similar alpha was found using the current data ( $\alpha=.79$ ). The full scale is presented in Appendix G.

Scheier and Carver (1985) purported that the Life Orientation Test was a two-factor scale. This was replicated using a forced two-factor Principal Components Analysis. The two factors accounted for 58.82% of the variance, and factor loadings can be found in Table 11. Again, only loadings greater than .30 are reported. Negative items were reverse-coded, and a one-dimensional scale was used for the analysis.

*Perceived control.* Students were asked to respond to a series of questions regarding their own perceived levels of control. On a scale of 1 (strongly disagree) to 5

**Table 11****Factor Loadings of the Optimism Scale (based on Scheier & Carver, 1985)**

	<b>Factor 1</b>	<b>Factor 2</b>
Things never work out the way I want them to.	.80	
I rarely count on good things happening to me.	.80	
I hardly ever expect things to go my way.	.80	
If something can go wrong for me, it will.	.76	
I always look on the bright side of things.		.78
I'm always optimistic about my future.		.74
I'm a believer in the idea that "every cloud has a silver lining."		.69
In uncertain times, I usually expect the best.		.65
<b>Eigenvalues</b>	<b>3.347</b>	<b>1.427</b>

(strongly agree), they assessed statements such as “the more effort I put into my courses, the better I do in them” and “I enjoy having control over the various things I do in my life”. This scale was based on Rothbaum, Weisz, and Snyder’s (1982) primary and secondary control scale. Six items from the larger 24-item scale were identified as the best indicators of this scale, modified slightly, and were retained for study on first-year students (D. Schönwetter, personal communication, 2004). Two of the items were reworded in 2002-2003; “it is important to me to be able to control how well I do in my university courses” was changed to “it is important to me to be able to control how well I do in this course” and “being able to determine my academic performance in my university courses is important to me” was changed to “being able to determine my academic performance in this course is important to me”.

T tests were performed to determine differences in the mean scores of the two different questions. Mean scores for the statements “it is important to me to be able to control how well I do in my university courses” ( $M = 4.35$ ,  $SD = .77$ ) and “it is important to me to be able to control how well I do in this course” ( $M = 4.29$ ,  $SD = .81$ ) did not significantly differ ( $t(1441.52) = 1.97$ ,  $p > .01$ ). However, the effect size (estimated using Cohen’s  $d$ ) was found to be .10 indicating an overlap of 92.3% of the distributions. Similarly, mean scores for “being able to determine my academic performance in my university courses is important to me” ( $M = 4.21$ ,  $SD = .83$ ) and “being able to determine my academic performance in this course is important to me” ( $M = 4.15$ ,  $SD = .87$ ) were found to be not significant ( $t(1451.89) = 1.56$ ,  $p > .01$ ) with an effect size equal to .08 indicating an overlap of greater than 92.3% of the distributions. Cohen (1988) defined effect sizes as “small,  $d = .2$ ”, “medium,  $d = .5$ ” and “large,  $d = .8$ ”, thus the effect sizes in



the above case do not reach the “small” size. With the negligible effect size and high percentage of overlap in the distributions, the data for these two questions were merged to increase the sample size for this scale, and a summed score was calculated. Reliability analysis revealed a Cronbach’s alpha coefficient of .76 for this scale.

Principal Components Analysis was used to verify the unidimensionality of the scale. A one-factor solution was found, accounting for 46.49% of the variance. The factor loadings for the six items can be found in Table 12. This scale is presented in Appendix H.

*Procrastination.* The Procrastination Scale (Lay, 1986) asks students to rate the truthfulness of various statements as they describe themselves. Examples of statements include “I do not do assignments until just before they are to be handed in” and “I generally return phone calls promptly”. This scale was said to be unidimensional, and this was replicated through principal components analysis. All items loaded on a single factor, accounting for 49.39% of the variance. The factor loadings are presented in Table 13. Lay (1986), in the original study, reported a Cronbach’s alpha coefficient of .82. Cronbach’s alpha computed on the current data set was .94. This scale can be found in Appendix I.

*Test anxiety.* The Test Anxiety Scale (Sarason, 1975), in its original form, asks students to respond to 37 true-false statements. This scale was modified to be consistent with other scales within the questionnaire, and instead asked students to rate the same series of statements on a scale of “strongly disagree” to “strongly agree”. Examples of these items include “I seem to defeat myself while working on important tests” and “I wish examinations did not bother me so much”. This scale was included in the

**Table 12**

**Factor Loadings of the Perceived Control Scale (based on Rothbaum, Weisz & Snyder, 1982)**

	<b>Factor 1</b>
It is important to me to be able to control how well I do in this course.	.80
Being able to control my academic performance in this course is important to me.	.73
Controlling how things unfold in my life is important to me.	.70
I enjoy having control over various things I do in my life.	.70
My greatest personal accomplishments have come from hard work and persistence.	.58
The more effort I put into my courses, the better I do in them.	.57
<b>Eigenvalue</b>	<b>2.789</b>

**Table 13****Factor Loadings of the Procrastination Scale (Lay, 1986)**

	<b>Factor 1</b>
I often have a task finished sooner than necessary.	.69
I generally delay before starting on work I have to do.	.68
I am continually saying "I'll do it tomorrow".	.64
I often find myself performing tasks that I had intended to do days before.	.64
In preparing for some deadline, I often waste time by doing other things.	.64
I usually start an assignment shortly after it is assigned.	.64
I usually have to rush to complete a task in time.	.61
I do not do assignments until just before they are to be handed in.	.57
I usually take care of all the tasks I have to do before I settle down and relax for the evening.	.56
I usually accomplish all the things I plan to do in a day.	.53
Even with jobs that require little else except sitting down and doing them, I find they seldom get done for days.	.49
I usually buy even an essential item at the last minute.	.47
I always seem to end up shopping for birthday or Christmas gifts at the last minute.	.45
I usually make decisions as soon as possible.	.40
When it is time to get up in the morning I most often get right out of bed.	.39
A letter may sit for days after I write it before mailing it.	.39
When I am finished with a library book, I return it right away regardless of the date it's due.	.34
When preparing to go out, I am seldom caught having to do something at the last minute.	.27
I prefer to leave early for an appointment.	.25
I generally return phone calls promptly.	.23
<b>Eigenvalue</b>	<b>9.877</b>

questionnaire package with the intention that the number of items be reduced to a more manageable scale. Principal Components Analysis, using varimax rotation, was utilized to reduce the number of items on the Test Anxiety Scale. A forced single-factor solution was produced, and items with factor loadings greater than .55 were retained for the revised scale. This criterion was selected based on Comrey (1962), who indicated that factor loadings of .55 represented "good" loadings. The factor loadings for the 20-item scale are presented in Table 14. A Cronbach's alpha coefficient of .94 was computed for this scale. A copy of the 20-item revised scale can be found in Appendix J.

#### Rationale for the Use of Secondary Data Analysis

Secondary data analysis has been identified as a method in which one can re-examine an existing data set in an attempt to reach new interpretations, conclusions or additional knowledge (Hukim, 1982). This new analysis is beyond the scope of the initial examination and often serves to answer new questions. In general, secondary data analysis has been used to explore new relationships, validate findings from original studies, and in the refinement of existing theories (Liang & Lawrence, 1989).

There are several advantages to using secondary data analysis. Researchers have noted that that this method of analysis can help reduce financial costs, can expedite research in general allowing for research findings to be more quickly available to the general public, and can allow researchers to spend more time on theoretical pursuits rather than becoming overburdened with the logistical problems associated with data collection (Hukim, 1982; Hyman, 1972). Others have found that the results stemming from secondary data analysis may be less sensitive to sampling error and, thus, be more generalizable (Black, 1995). Even if one made the argument that secondary data may be

**Table 14****Factor Loadings of the Revised Test Anxiety Scale (Sarason, 1975)**

	<b>Factor 1</b>
I freeze up on things like intelligence tests and final exams.	.80
During a course examination, I frequently get so nervous that I forget facts I really know.	.73
During a test, I find myself thinking of the consequences of failing.	.71
After important tests, I am frequently so tense my stomach gets upset.	.71
I wish examinations did not bother me so much.	.71
Thoughts of doing poorly interfere with my performance on tests.	.71
I have an uneasy, upset feeling before taking a final examination.	.70
As soon as an exam is over, I try to stop worrying about it, but I just can't.	.70
I start feeling very uneasy just before getting a test paper back.	.69
I usually get depressed after taking a test.	.69
During exams, I sometimes wonder if I'll ever get through school.	.68
Even when I'm well prepared for a test, I feel very anxious about it.	.67
I sometimes feel my heart beating very fast during important exams.	.67
Before an important examination, I find my hands or arms trembling.	.66
If I were to take an intelligence test, I would worry a great deal before taking it.	.66
I get to feeling very panicky when I have to take a surprise exam.	.64
I seem to defeat myself while working on important tests.	.63
While taking an important exam, I find myself thinking of how much brighter the other students are than I am.	.62
If I were to take an intelligence test, I feel confident and relaxed.	.58
Thinking about the grade I may get in a course interferes with my studying and performance on tests.	.58
<b>Eigenvalue</b>	<b>9.228</b>

dated, some argue that outdated data may still be pertinent since social situations generally remain constant over time, or because the data may provide insight into a new area of investigation (Mason, Tauber, & Winsborough, 1977). In the present two studies, data are current, having been collected in the last 2 to 5 years.

Despite these arguments, many still remain uncomfortable with the idea of secondary data analysis. An obvious drawback is the notion that data collected for another purpose may not contain all variables of interest to the researcher, or may change items and variables part way through a study, as seen with the perceived control scale in this case. These obstacles represent minor issues to be dealt with along the way, and should not deter a researcher from pursuing the ultimate goal of the project. In terms of the longitudinal analysis, the major variables to assess the success of the Introduction to University course are well established in the institutional database. As for the second phase of this study, it will be acknowledged that the analysis is restricted to those variables that have been collected over the last 5 years and may not represent all possible variables that predict student success. However, it is an important beginning point to identify which of the current variables collected predict student success so that further refinement for future studies in identifying other variables can take place.

Several researchers have noted that the lack of information about data collection also restricts the confidence in secondary data analysis. Questions have been raised about sample selection, coding strategies, subject criteria, setting, and the sequence of the survey items, and some have suggested that it is nearly impossible to detect interviewing, coding, and keypunch errors when working with secondary data (Black, 1995; Kiecolt & Nathan, 1987; Liang & Lawrence, 1989). One way to overcome this limitation is to

carefully select data sets so that one can evaluate the quality of the data sets prior to any analysis. Contact with the previous researchers, access to any publications or final reports based on the data, and basic statistical comparisons between the current analysis and published reports are several ways to increase one's confidence in the data (Liang & Lawrence, 1989).

Because these limitations are manageable, secondary data analysis can be argued to be a reasonable approach to modern-day research. The two datasets that will be utilized for this project were generated at the University of Manitoba; therefore, personal contact with the principal investigators is possible. The data from Introduction to University students utilized items and scales with established reliability and validity and as reported earlier, these scales reflect similar, if not higher reliability values. These facts help to reinforce the validity of the data.

Given the exploratory nature of these studies, a p-value of .01 was set as the marker of statistical significance. While this is more stringent than the more commonly used level of .05, there are several reasons for this selection. First, the datasets used for these studies yielded large sample sizes. When one has a large sample size, very small difference will yield significant results. Second, a large number of hypotheses were tested in these studies. With an increase in hypotheses comes an increase in the chance of finding significant results. Thus, a more stringent p-value was selected resulting in an attempt to balance the probability of making Type I and Type II errors.

## Results

### *Study 1*

#### *Preliminary Demographic Findings*

Crosstab analysis was used to examine the gender and age patterns of university students involved in this study. Table 15 presents the results of this analysis. The Pearson chi-square test of significance confirms that those students who complete the Introduction to University course represent a unique population when compared to those students who did not complete the course. A greater number of females enrolled for the course compared to males, and when the proportion of males and females was compared it was found that the population registered for the Introduction to University class was significantly different in terms of gender ( $p = .000$ ). Similarly, differences in the ages of students were found ( $p = .000$ ). A greater number of young students (aged 16 – 19) enrolled in the Introduction to University course.

#### *Hypothesis 1: Students who Have Completed the Introduction to University Course will Have Lower Levels of Attrition*

Crosstab analysis was used to explore whether students who have completed the Introduction to University course had lower levels of attrition in comparison to their counterparts. Attrition rates were assessed by examining the number of students who had registered and completed classes in a given year and had not graduated. Table 16 summarizes the percentage of students who enrolled in each year, ordered by cohort, and presents the Pearson chi-square test of significance results. The results were examined by cohorts. At the time of registration, all students were assigned to a particular cohort



**Table 15****Demographic Information**

	<b>Student Data</b>		<b>Pearson Chi-Square</b>		
	Introduction to University	Non- Introduction to University	Value	<i>df</i>	Approx. Sig.
<b>Gender</b>					
Males (Percentage)	1887 (38.8)	6592 (43.0)	27.3	1	.000
Females (Percentage)	2979 (61.2)	8729 (57.0)			
<b>Age</b>					
16 – 19 (Percentage)	2925 (60.1)	7634 (49.9)			
20 – 24 (Percentage)	1030 (21.2)	4154 (27.2)			
25 – 29 (Percentage)	326 (6.7)	1550 (10.1)	178.6	4	.000
30 – 34 (Percentage)	249 (5.1)	735 (4.7)			
35 and Up (Percentage)	335 (7.0)	1225 (8.1)			

**Table 16****Re-registration Information**

	<b>Student Data</b>		<b>Pearson Chi-Square</b>		
	Introduction to University	Non- Introduction to University	Value	df	Approx. Sig.
<b>Cohort 1 (1999 start)</b>					
Year 1 - Number (Percentage)	736 (100.0)	3908 (100.0)	-		
Year 2 - Number (Percentage)	521 (70.8)	2846 (72.8)	7.67	1	.006
Year 3 - Number (Percentage)	448 (60.9)	2471 (63.2)	10.65	1	.001
Year 4 - Number (Percentage)	384 (52.2)	1987 (50.8)	11.86	1	.001
<b>Cohort 2 (2000 start)</b>					
Year 1 - Number (Percentage)	1098 (100.0)	4074 (100.0)	-		
Year 2 - Number (Percentage)	800(72.9)	3031 (74.4)	1.00	1	.319
Year 3 - Number (Percentage)	692 (63.0)	2519 (61.8)	4.15	1	.042
<b>Cohort 3 (2001 start)</b>					
Year 1 - Number (Percentage)	1281 (100.0)	4381 (100.0)	-		
Year 2 - Number (Percentage)	1018 (79.5)	3197 (73.0)	29.34	1	.000
<b>Cohort 4 (2002 start)</b>					
Year 1 - Number (Percentage)	1376 (100.0)	*			

\* Data was not included in dataset

defined by the year in which they started at the university. Table 16 demonstrates mixed results. For Cohort 1, students who did not complete the Introduction to University course had a higher re-registration rate for their second ( $p = .006$ ) and third year ( $p = .001$ ) of university. That is, a greater number of students returned to university in those subsequent years. This was not the case for Year 4; more students who completed the Introduction to University course returned to school the following year in comparison to their counterparts ( $p = .001$ ). For Cohort 2, no significant differences were found between those students who completed the course and those who did not in terms of attrition rates in their second and third year of university. Significant findings were evident in Cohort 3; more students who completed the Introduction to University course returned to university the following year in comparison to students who did not complete the course ( $p = .000$ ). Thus, limited support has been found for the first hypothesis.

*Hypothesis 2: Students who Have Completed the Introduction to University Course will Graduate Sooner*

In order to examine the time to graduation, it was necessary to filter out those students who had entered university with transfer credits. Data for cohorts 1, 2 and 3 were examined to determine if students who completed the Introduction to University course (and had not completed any prior university courses) would graduate sooner. To assess this, the number of students graduating each year, by cohort, was examined. Crosstab analysis was used to determine the percentage of graduating students each year, and the Pearson chi-statistic provided insight in to the level of significant difference (see Table 17). The only statistically significant finding was for Cohort 1. In the first year, three students who did not complete the Introduction to University course graduated

**Table 17****Graduation Information**

	<b>Student Data</b>		<b>Pearson Chi-Square</b>		
	Introduction to University Students	Non- Introduction to University Students	Value	<i>df</i>	Approx. Sig.
<b>Cohort 1 (1999 start)</b>	N = 746	N = 3993			
Year 1 - Number (Percentage)	0 (0.0)	3 (0.0)	38.06	1	.000
Year 2 - Number (Percentage)	0 (0.0)	70 (1.8)	5.04	1	.025
Year 3 - Number (Percentage)	18 (2.4)	228 (5.7)	0.00	1	.983
Year 4 - Number (Percentage)	9 (1.2)	77 (1.9)	0.43	1	.515
<b>Cohort 2 (2000 start)</b>	N = 1105	N = 4197			
Year 1 - Number (Percentage)	0 (0.0)	0 (0.0)	-	-	-
Year 2 - Number (Percentage)	9 (0.8)	79 (1.9)	6.11	1	.013
Year 3 - Number (Percentage)	4 (0.4)	15 (0.4)	0.00	1	.982
<b>Cohort 3 (2001 start)</b>	N = 1281	N = 4617			
Year 1 - Number (Percentage)	0 (0.0)	5 (0.1)	1.39	1	.239
Year 2 - Number (Percentage)	0 (0.0)	11 (0.2)	3.05	1	.081

compared to zero students from the Introduction to University course. While it is rare to graduate in the first year of university, it is within the realm of possibility as several diploma programs are offered at the university (e.g., Faculty of Agriculture and Food Sciences). This result is statistically significant ( $p = .000$ ), but because of the extremely low number of students it cannot be deemed practically significant. Thus, the data failed to provide support for the second hypothesis, and it would seem that the completion of the Introduction to University course does not impact the rate at which students will graduate from their program.

*Hypothesis 3: Students who Completed the Introduction to University Course Withdraw from Fewer Courses*

T-test analysis was undertaken to explore the hypothesis that students who have completed the Introduction to University course will have voluntarily withdrawn from fewer credit hours and will have fewer authorized withdrawals (measured in credit hours) than those who did not complete the course. Table 18 indicates that in Years 2 and 3, students enrolled in the Introduction to University course did voluntarily withdraw from significantly more credit hours than did students who did not complete the course. While the results for Years 1 and 4 were not statistically significant, the findings were consistent with the overall trend; that is, students who completed Introduction to University voluntarily withdrew from a greater number of credit hours. However, when cumulative statistics were examined for the voluntary withdrawal data, no significant differences were found, ( $t(8891.02) = .017, p = .986$ ).

**Table 18****Voluntary Withdrawals**

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<b>Sig.</b>
<b>Year 1</b>						
Intro to Univ.	4853	2.69	4.28	1.58	19390	.114
Non-Intro to Univ.	14539	2.57	4.64			
<b>Year 2</b>						
Intro to Univ.	2686	2.68	4.15	5.96	3929.73	.000
Non-Intro to Univ.	10686	2.15	3.86			
<b>Year 3</b>						
Intro to Univ.	1281	2.08	3.57	3.18	1821.03	.001
Non-Intro to Univ.	5863	1.73	3.40			
<b>Year 4</b>						
Intro to Univ.	435	1.58	3.32	1.28	2883	.200
Non-Intro to Univ	2450	1.38	2.94			

A similar analysis explored differences in the authorized withdrawals (measured in credit hours). The results, presented in Table 19, indicate that no significant differences were found in Years 1, 2, and 3, while marginal significance was found in Year 4. However, when cumulative statistics are examined for the authorized withdrawal data, significant differences were found,  $t(10902.73) = -2.84, p = .005$ , suggesting that students who completed the Introduction to University course incur fewer authorized withdrawals over the course of their program.

*Hypothesis 4: Students who Completed the Introduction to University Course Would Have Higher Grade-point Averages*

Due to the nature of the dataset, it was impossible to remove the Introduction to University grade from the cumulative grade-point average to control for grade inflation as a result of the Introduction to University course. However, given that the dataset allowed for access to sessional grade-point averages, it was possible to examine these data to gain some insight into the possible influence of the course. This is something that most other studies have failed to accomplish (Hopkins & Hahn, 1986; Stupka, 1986; Tammi, 1987; Wilkie & Kuckuck, 1989; Woodward, 1982). T test analysis was undertaken to explore the fourth hypothesis. It was hypothesized in an earlier section that students who had completed the Introduction to University course would have higher grade-point averages, both at the end of the term and cumulatively. Table 20 illustrates the findings for sessional data, and reveals that those students who completed the Introduction to University course obtained significantly higher sessional grade-point averages in both first and second semester in Year 1. Students who did not complete the Introduction to University course obtained significantly higher sessional grade-point

**Table 19****Authorized Withdrawals**

	<i>N</i>	<i>Mean</i>	<i>s.d.</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>
<b>Year 1</b>						
Intro to Univ.	4447	0.11	1.16	-2.46	12003.97	.040
Non-Intro to Univ.	12437	0.16	1.67			
<b>Year 2</b>						
Intro to Univ.	2644	0.14	1.34	0.38	13535	.705
Non-Intro to Univ.	10228	0.13	1.35			
<b>Year 3</b>						
Intro to Univ.	1275	0.14	1.29	0.97	7249	.333
Non-Intro to Univ.	5696	0.11	1.07			
<b>Year 4</b>						
Intro to Univ.	430	0.05	0.47	-2.48	1932.39	.013
Non-Intro to Univ	2384	0.13	1.34			



**Table 20****T-test Analysis of Sessional GPA**

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	<i>Sig.</i>
<b>Year 1 - Semester 1</b>						
Intro to Univ.	4191	2.52	1.21	8.09	8830.22	.000
Non-Intro to Univ.	10231	2.33	1.39			
<b>Year 1 - Semester 2</b>						
Intro to Univ.	4326	2.36	1.14	2.80	8830.71	.005
Non-Intro to Univ.	11848	2.30	1.32			
<b>Year 1 - Semester 3</b>						
Intro to Univ.	1555	2.59	1.28	.62	3244.87	.533
Non-Intro to Univ.	3600	2.56	1.42			
<b>Year 2 - Semester 1</b>						
Intro to Univ.	2201	2.32	1.25	-12.65	3298.41	.000
Non-Intro to Univ.	8565	2.70	1.19			
<b>Year 2 - Semester 2</b>						
Intro to Univ.	2227	2.48	1.04	-9.47	11025	.000
Non-Intro to Univ.	8800	2.73	1.10			
<b>Year 2 - Semester 3</b>						
Intro to Univ.	1069	2.76	1.12	-2.71	1949.19	.007
Non-Intro to Univ.	3543	2.87	1.25			

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>Df</i>	<i>Sig.</i>
<b>Year 3 - Semester 1</b>						
Intro to Univ.	1076	2.41	1.23	-11.16	1474.44	.000
Non-Intro to Univ.	4732	2.86	1.08			
<b>Year 3 - Semester 2</b>						
Intro to Univ.	1018	2.61	0.99	-8.52	5791	.000
Non-Intro to Univ.	4775	2.91	1.00			
<b>Year 3 - Semester 3</b>						
Intro to Univ.	599	2.77	1.18	-3.04	2691	.002
Non-Intro to Univ.	2094	2.94	1.22			
<b>Year 4 - Semester 1</b>						
Intro to Univ.	359	2.56	1.28	-5.87	452.93	.000
Non-Intro to Univ.	1951	2.98	1.06			
<b>Year 4 - Semester 2</b>						
Intro to Univ.	361	2.73	1.08	-5.09	473.18	.000
Non-Intro to Univ.	1961	3.04	0.97			
<b>Year 4 - Semester 3</b>						
Intro to Univ.	169	2.77	1.16	-1.84	924	.067
Non-Intro to Univ.	757	2.96	1.22			

averages in all semesters of Years 2 and 3 and cumulative grade-point average in Year 2, 3, and in the first and second semester of Year 4. No significant differences were found between grade-point averages neither in the third semester of Year 1 nor in the third semester of Year 4.

Table 21 presents the cumulative grade-point average data. A similar pattern emerged; students who completed the Introduction to University course earned a significantly higher cumulative grade-point average in Year 1, but students who did not complete the course earned significantly higher cumulative grade-point averages in Years 2, 3, and 4.

#### *Additional Analyses*

Several researchers have noted that first-year experience courses have made a significant impact on both traditional and at-risk students (Boudreau & Kromrey, 1994; Cone, 1991; Grunder & Hellmich, 1996; McIntyre et al., 1992; Starke, Harth, & Sirianni, 2001). An analysis was undertaken to determine if the same pattern was evident at this particular university. No consistent pattern was found to suggest that the Introduction to University course was particularly helpful for at-risk students, when compared to all students and low-risk students. The results were consistent with those findings for all students, regardless of level of risk. This is consistent with Robinson's (1989) research, which reported no statistically significant advantage for at-risk students.

**Table 21****T-test Analysis of Cumulative GPA**

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<b>Sig.</b>
<b>Year 1</b>						
Intro to Univ.	4447	2.41	1.10	5.36	9127.58	.000
Non-Intro to Univ.	12437	2.30	1.30			
<b>Year 2</b>						
Intro to Univ.	2644	2.51	0.95	-7.15	4528.64	.000
Non-Intro to Univ.	10228	2.66	1.07			
<b>Year 3</b>						
Intro to Univ.	1275	2.62	0.87	-6.38	2035.66	.000
Non-Intro to Univ.	5696	2.79	0.96			
<b>Year 4</b>						
Intro to Univ.	430	2.67	0.92	-3.93	2812	.000
Non-Intro to Univ	2384	2.87	0.95			

## Study 2

### *Preliminary Demographic Findings*

Table 7 provided an overview of the self-report data from the Introduction to University course population (see pp. 44-46). In general, those students who completed the survey in class were most often female (53.4%), and between the ages of 17 and 18 (39.2%).

### *Variable Overview*

As indicated in previous sections, Introduction to University students responded to several individual measures. Table 22 presents an overview of the responses for the eight scales used for this study: academic attributions, coping, goals, learning styles, optimism, perceived control, procrastination, and test anxiety. These were further explored as predictor variables of student success in the Introduction to University course.

Table 23 presents a correlation matrix illustrating the statistically significant relationships (i.e.,  $p < .01$ ) between the various scales. From this table, it is clear that scores on the internal attribution scales are significant and positively correlated with scores on the external attributions, negative coping strategies, goal setting, test anxiety, perceived control, and procrastination scales, while negatively correlated with scores on the optimism scale. Scores on the external attribution measures were positively correlated with scores on the negative coping strategies, test anxiety, and procrastination scales and negatively correlated with scores on the perceived control and optimism scales.

**Table 22****Summary of Responses**

	<i>N</i>	<i>M</i>	<i>SD</i>
<b>Academic Attributions</b>			
Luck attributions	810	7.11	2.33
Effort attributions	817	11.92	2.21
Ability attributions	819	8.82	2.50
Context attributions	813	8.58	2.55
Internal attributions	812	20.76	3.42
External attributions	802	15.67	4.09
<b>Coping</b>			
Positive strategies	799	31.30	5.87
Negative strategies	804	12.72	3.55
Unidentified (Factor 3)	816	14.57	3.65
<b>Goals</b>			
	787	104.57	16.79
<b>Learning Style</b>			
Concrete Experience	497	2.17	1.27
Reflective Observation	528	3.50	2.14
Abstract Conceptualization	530	3.05	1.93
Active Experimentation	605	4.59	2.39

**Table 22****Summary of Responses, Cont.**

	<i>N</i>	<i>Mean</i>	<i>SD</i>
<b>Optimism</b>	2252	27.60	5.32
<b>Perceived Control</b>	2925	25.33	3.47
<b>Procrastination</b>	2646	58.15	21.39
<b>Test Anxiety</b>	778	57.06	16.42

**Table 23**

**Scale Correlations (significant at  $p < .01$ )**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Internal attributions	1	.267		.165	.246					.366	.272	.109	-.139		
2. External attributions		1		.380						.400	-.123	.271	-.330		-.147
3. Positive coping strategies			1	-.177	.261					-.115	.359	-.257	.331		
4. Negative coping strategies				1						.270	-.161	.298	-.274		
5. Goals					1					.156	.316	-.123	.134	-.136	
6. Concrete Experience						1	-.174	-.128	-.184					-.127	
7. Abstract Conceptualization							1	-.384	-.294	-.200					.161
8. Active Experimentation								1	-.538						
9. Reflective Observation									1						
10. Test Anxiety										1		.220	-.371		-.121
11. Perceived Control											1	-.109	.252		.103
12. Procrastination												1	-.262		
13. Optimism													1	-.065	.131
14. HSGPA														1	.171
15. Grade in 99.111															1



In terms of coping strategies, scores on the positive coping strategy scale were positively correlated with scores on the goal setting, perceived control, and optimism scale, while negatively correlated with scores on the negative coping strategies, test anxiety, and procrastination scales. Scores on the negative coping strategies scale were positively correlated with test anxiety and procrastination and negatively correlated with perceived control and optimism. Scores on the goal-setting scale were positively correlated with scores on the test anxiety, perceived control and optimism scale, while negatively correlated with the procrastination scale.

In terms of learning style, scores on the Concrete Experience scale negatively correlated with scores on the Abstract Conceptualization, Active Experimentation, and Reflective Observation scales. Scores on the Abstract Conceptualization subscale correlated negatively with the Active Experimentation, Reflective Observation, and test anxiety scales. Finally, scores on the Active Experimentation scale correlated negatively with the Reflective Observation scale.

Scores on the test anxiety scale correlated positively with scores on the procrastination scale and negatively with scores on the optimism scale. Scores on the perceived control scale correlated negatively with scores on the procrastination scale but positively with scores on the optimism scale. Scores on the procrastination scale correlated negatively with scores on the optimism scale. All correlations reported in this section were significant at the  $p < .01$  level.

When scale scores were correlated with high school grade-point average (HSGPA) and the final mark in the Introduction to University course, interesting findings emerged. HSGPA was significant and negatively correlated with scores on the goal

scale, the concrete experience subscale of the learning style inventory, and the optimism scale. The final grade in the Introduction to University course was negatively correlated with external attribution subscale and the test anxiety scale but positively correlated with the abstract conceptualization subscale, the perceived control scale, the optimism scale and the HSGPA. All correlations were significant at  $p < .01$ .

### *Regression Analysis*

Stepwise regression was used to explore the relationship between one's grade in the Introduction to University course and several independent variables. The purpose of this analysis was to examine the potential influences on students' grades in a course. Because this research represents an ongoing project, the scales of interest were not necessarily administered to students each year. Thus, an initial multiple regression was conducted using only those variables that had been included in the questionnaire package for each of the four years of interest. These variables included HSGPA, age at registration, gender, English as a student's first or second language, procrastination, and perceived control. Stepwise regression analysis was selected as it is seen as a compromise between forward and backward selection. According to Tabachnick and Fidell (1989), it represents the best path to a prediction equation, especially important when conducting an exploratory study.

When these variables were regressed onto the dependent variable, HSGPA, English as a second language, gender and score on the perceived control scale were found to impact the final grade in the Introduction to University course. In other words, students who had higher HSGPAs, spoke English as a 1<sup>st</sup> language, were female and who had higher scores on the perceived control measure performed better in the Introduction

to University course. These results are presented in Table 24. The combination of these four variables accounted for 17.9% of the variance.

Because the inclusion of variables changed over the 4 year period of this study, individual regression analyses were conducted by cohort, adding additional variables where appropriate. Cohort 1 (students who enrolled in university in the 1999-2000 academic year) was examined independently, entering the same variables that were included for the above analysis. This analysis revealed that only HSGPA and the procrastination score predicted performance in the Introduction to University class. As seen in Table 25, these variables accounted for 20.5% of the variance in this equation.

For Cohort 2 (students who enrolled in university in 2000-2001), the same variables plus the addition of the optimism, a scale which was new to this cohort, were included in the regression equation. For this particular group, both HSGPA and optimism predicted the final grade in Introduction to University. For this cohort, students who had higher HSGPAs and higher levels of optimism performed better in Introduction to University. As seen in Table 26, these two variables accounted for 13.5% of the variance in the regression equation.

Cohort 3 (students who enrolled in university in 2001-2002) completed the same battery of questionnaires as the previous year's students, thus the variables for inclusion in the regression equation remained the same. For this group, not only did high school grade-point average and scores on the optimism scale predict the final grade in the Introduction to University course, but gender was a factor as well. For this group, students with higher HSGPAs, higher scores on the optimism scale, and who were female

**Table 24****Summary of Regression Analysis for Students Completing Introduction to University**

	Standardized Coefficient	Unstandardized Coefficient	<i>p</i>	R <sup>2</sup>	Change in R <sup>2</sup>
High School GPA	.345	.076	.000	.125	
English as 2nd Language*	-.211	-.853	.000	.170	.045
Gender**	-.068	-.266	.006	.175	.005
Perceived Control	.061	.034	.012	.179	.004

\* English as a Second Language coded as 0 = No, 1 = Yes

\*\* Gender coded as 0 = female, 1 = male

**Table 25**

**Summary of Regression Analysis for Students Completing Introduction to University (Cohort 1)**

	Standardized Coefficient	Unstandardized Coefficient	<i>p</i>	R <sup>2</sup>	Change in R <sup>2</sup>
High School GPA	.410	.097	.000	.181	
Procrastination	-.153	-.024	.006	.205	.024

**Table 26****Summary of Regression Analysis for Students Completing Introduction to University (Cohort 2)**

	Standardized Coefficient	Unstandardized Coefficient	<i>p</i>	R <sup>2</sup>	Change in R <sup>2</sup>
High School GPA	.342	.073	.000	.123	
Optimism	.113	.039	.005	.135	.012

performed better in Introduction to University. As seen in Table 27, these three variables accounted for 25.7% of the variance in the equation.

Significant changes were made to the inventory administered to Introduction to University students in the fourth cohort (students who enrolled in university in 2002-2003). In addition to the variables used with Cohorts 2 and 3, additional variables were also included: international student status, a goal inventory, the learning style inventory, an examination of internal and external attributions, positive and negative coping strategy assessment, and a scale to assess test anxiety. All variables were entered into the regression equation. In this case, only high school grade-point average and scores on the external attribution scale predicted the final grade in Introduction to University, accounting for 26.9% of the variance. Those students who had higher HSGPAs and higher scores on the external attribution scale performed better in Introduction to University. These results are presented in Table 28.

**Table 27****Summary of Regression Analysis for Students Completing Introduction to University (Cohort 3)**

	Standardized Coefficient	Unstandardized Coefficient	<i>p</i>	R <sup>2</sup>	Change in R <sup>2</sup>
High School GPA	.443	.090	.000	.201	
Gender*	-.178	-.678	.002	.234	.033
Optimism	.152	.056	.008	.257	.023

\* Gender coded as 0 = female, 1 = male



**Table 28**

**Summary of Regression Analysis for Students Completing Introduction to University (Cohort 4)**

	Standardized Coefficient	Unstandardized Coefficient	<i>p</i>	R <sup>2</sup>	Change in R <sup>2</sup>	Student Success 85
High School GPA	.487	.095	.000	.252		
External Attributions	-.133	-.058	.019	.269	.017	

## Discussion

While the findings of this study generally ran contrary to the general expectations, interesting and useful information can be gleaned from these results. The following sections highlight these findings and provide some explanation for the results and the potential implications of these findings.

### *Study 1*

#### *Profile of "Introduction to University" Students*

One observation arising from the demographics is that students who take the Introduction to University course are younger than those who enter university not enrolling in the course. This finding seems to indicate that the marketing of the Introduction to University course is effective in attracting younger students. Student advisors from the university are known to circulate among various high schools to promote the University 1 program (D. Schönwetter, personal communication, 2004), and specifically encourage prospective students to enroll in the Introduction to University course. This course is marketed as a "transitional" course, intended to help students ease from the high school environment to the university setting. It may be that this marketing strategy is encouraging younger, particularly male, students to enroll in the Introduction to University course. Additionally, students who enrolled in this course must have completed fewer than 12 credit hours of university courses. This may also explain the large number of young students in the course.

Students who have completed the Introduction to University course are predominantly Caucasian, although students of Asian descent make up the second largest group of students. They are also predominantly new to the university environment; while

14.5% of students who completed the Introduction to University course have attended other institutions, this is substantially smaller than the 38.4% of non-Introduction to University students.

Finally, a sharp increase in the number of students enrolled in the Introduction to University course was observed. Starting with an enrollment of 125 students in 1993, course enrollment has escalated to 1476 students who completed the course in 2002. The year 2002 marked the first year of a "registration cap", in that no more than 1500 students were permitted to enroll in this course. Thus, it is obvious that the popularity of this course was on the rise. This finding is consistent with the historical trends (Dwyer, 1989; Mueller, 1961) and may also be explained by general familiarity with the course itself: as more students become aware of its existence, more students may register for the class. The overall interest in the course reinforces the importance of ensuring that it is performing as it was intended.

What remains unclear is the purpose or motivation for taking this specific course. Conscientious objectors to this course, including students, administrators, and faculty members, have argued that the Introduction to University course is nothing but an easy alternative; students are able to take Introduction to University to fulfill their "W" written requirement for graduation. Many have the perception that the Introduction to University course has little value and requires little work or effort. A review of a sample course outline (see Appendix A) illustrates that successful completion of this course involves a steady amount of work, not unlike other first year courses. One recommended area of future research is the motivational component behind the selection of the Introduction to University course. Since a battery of questionnaires is administered to the students at the

beginning of the year, it is recommended that a motivation question be added to explore further this issue.

### *Hypothesis 1*

The first hypothesis of this study was that students who have completed the Introduction to University course would have lower levels of attrition. The generation of this hypothesis was firmly rooted in the literature (Cartledge & Wells, 1986; Farr, Jones & Samprone, 1986; Fidler & Hunter, 1989; Rice, 1984; Stupka, 1986) and thus, it was anticipated that this research would reveal similar findings. When "retention" was defined as the registration and completion of classes in a given year, and graduation was controlled for, no consistent support was found for this hypothesis. However, several interesting trends appear. First, if the retention rates for "year 2" are examined across the cohorts, an increase in retention can be identified: Increases from 70.8% to 72.9% to 79.5% were observed. This may suggest that the program is contributing to the retention of more students. The Introduction to University course is a work-in-progress; each year new instructors are hired and trained, more professional development is presented and the curriculum is refined further. Several researchers have explored the relationship between professional development and the enhancement of student learning and have found a positive relationship (Ball & Cohen, 1999; Barth, 1990; Bull & Buechler, 1996; Darling-Hammond, 1998; DuFour & Eaker, 1998; Little, 1993; Sergiovanni, 1994). Thus, a logical conclusion would be that these improvements to the course pay off over time as indicated by a steady increase in retention rates over time.

Despite the fact that retention rates appear to be improving over time, it is apparent in Cohorts 1 and 2 that retention rates were not significantly greater for those

students who completed the Introduction to University course. This finding may support the need to revisit some of the important factors in the course in subsequent years. This could be done in several ways. A “refresher” seminar could be offered at the beginning of each school year (i.e., second year, third year, and fourth year) to motivate students for the coming year and to remind them of the important information that was gained from the course. Web-CT or other computer based courses may be of use as well. Courses of this nature have been successfully added at the University of South Carolina allowing students to fine-tune their academic skills and further their meta-cognitive self-discovery (<http://www.sc.edu/univ101/courses/univ201/index.html>). Alternatively, instructors in all faculties could be encouraged to incorporate some of the basic principles from the Introduction to University course into their regular classes. For example, the topics of time management and stress management are relevant in all classes; a brief discussion of these issues at relevant times may be the reminder that students need to help them stay on track. This idea is consistent with basic behaviour modification principles; for behaviour change to last, it is imperative that the behaviour continue to be reinforced over time (Martin & Pear, 1999). Additionally, several universities in the United States have connected their first-year experience course to other courses offered at the university (Henscheid, 2004), while others have established that campuses with higher levels of student engagement had an “unshakeable” focus on student learning. First-year seminars in this category have described their classes as merely the first in a series of institutional activities designed to foster student engagement, support and overall achievement (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). Thus, this notion of extending beyond one first-year course has been perceived as a worthwhile endeavor.

*Hypothesis 2*

The second hypothesis of this study predicted that students who have completed the Introduction to University course would graduate sooner when compared to students who did not complete the course. The result of this analysis revealed that a longer period of data collection is required prior to drawing any conclusions. Only students in Cohort 1 could be examined as it was the only cohort to have four years of complete data (the general amount of time required to complete a Bachelor's degree). When students with transfer credits were filtered out, Cohort 1 had a very small percentage of graduating students, and the results were non-significant. It seems obvious that students are taking more than four years to complete a four-year, 120-credit hour, degree. Researchers have suggested that students may extend the length of their program for economic, personal or other reasons, and many report that the number of hours worked outside university will influence the length of one's program (California State University, 2002; Tinto, 1993), and that working while attending university can be detrimental to one's academic studies (Curtis & Williams, 2002; Oakley, Oleksik, & Surridge, 2002), by negatively impacting students' motivation and stress levels (Oakley et al., 2002). Additionally, researchers have found that the detrimental effect of working may be a function of the number of hours worked in a week (McVicar & McKee, 2002). Thus, several more years of data are needed before this hypothesis can be tested adequately.

*Hypothesis 3*

The third hypothesis of this study predicted that students who have completed the Introduction to University course would withdraw from fewer courses. This hypothesis stemmed from the research that revealed higher retention rates among students who had

completed similar courses. If students were more likely to return to university they were more likely to complete the courses in which they registered. No support was found for this hypothesis. In fact, the opposite was shown to be the case – students who completed Introduction to University actually withdrew from more courses each year! Information obtained after the formalization of the hypothesis provided some insight into this finding; students who register in the University 1 program (of which Introduction to University is a part) are actually encouraged to use the voluntary withdrawal option as a means of exercising choice (B. Cameron, personal communication, April 20, 2004). The findings of this study seem to indicate that this is happening. These students, by having the voluntary withdrawal option explained to them, are more likely to be aware of it than if they were left on their own to review the University Calendar. Students who took the Introduction Course to University are more likely to withdraw from more courses, an exercise in exploring course options.

#### *Hypothesis 4*

The final hypothesis of this study predicted that those students who have completed the Introduction to University course will have higher grade-point averages, both sessionally and cumulatively. The results of this study were clear – students who completed the course did have a higher grade-point average in year 1 only. When this project was developed, it was identified that one of the past difficulties was the inclusion of the first-year experience mark into the calculation of the GPA, arguing that the first-year experience mark may be artificially inflating the first year GPA. Due to problems inherent in the database itself, it was not possible to control for this factor. In order to control for the grade in a particular course, it is imperative that the session the course was

completed be identified. Because of how the information is tracked in the university database it was impossible to connect the students' completion of a particular course to a particular term (S. Hladky, personal communication, April 2004). In other words, in order to control for this additional factor, more specific data must be collected in the future.

It should be noted that beginning in the last semester of the 2002-2003 academic year, the grades for the Introduction to University course have been matched at the request of the administration of the university (D. Schönwetter, personal communication, 2004). In previous years, the final mark in the Introduction to University course was higher than the cumulative GPA at the end of four years in the Faculty of Arts. A policy was established to have instructors of the Introduction to University course align their final grades with the four-year Faculty of Arts average. Subsequent research with this dataset will not have the possible confound of the course grade.

#### *Implications for Future Research*

This study, like those preceding it, reinforces the need for continued work in this area. Many of the difficulties seem to lie in the inability to access the necessary data for analysis. Several obvious areas for future research will continue the exploration into the success of first-year experience programs. These areas include (a) an investigation into the motivation for taking first-year experience courses; (b) the need for follow-up programs to continue where Introduction to University, or other similar programs have left off; (c) longitudinal analysis of graduation rates over more cohorts; and (d) the control of the grade in the first-year experience course of interest. Further exploration of



these issues will provide greater insight into the overall effectiveness of the Introduction to University course.

## *Study 2*

### *Profile of Participating Students*

Unlike the dataset used for Study 1, this dataset relied on voluntary student responses to a series of questionnaires, thus not all Introduction to University students were included in this analysis. Approximately 75% of those students who completed the Introduction to University course completed both the pre- and post-test questionnaires associated with this class. This sample was predominantly female and younger students; 68.6% of respondents were 22 years old or younger.

### *Discussion of Findings*

While formal hypotheses were not generated for this study, it was expected that students who made internal academic attributions (e.g., Auer, 1992; Miltiadou & Savenye, 2003; Tanksley, 1994), employed positive coping strategies (e.g., Shields, 2001), set goals (e.g., Ames, 1992; Conti, 2000; Lopez, 2000; Zimmerman & Schunk, 2001), have higher levels of optimism (Peterson & Barrett, 1987), and perceived control (e.g., Findley & Cooper, 1983; Perry, Hladkyj, Pekrun, & Pelletier, 2001), and lower levels of procrastination (e.g., Hirsch, 2001) and test anxiety (e.g., Musch & Broder, 1999) would be more successful students. While the relationships between these factors and student success have been established in the literature, these represent only some of the variables that make a contribution. This consideration limits secondary data analysis: one is restricted to those variables deemed important by those who initially collected the data.

When “student success” is defined as the grade earned in the Introduction to University course, one predictor is clear – high school grade-point average consistently accounted for a significant amount of the variance in a regression equation both in the overall study and in independent cohorts. This finding is consistent with the research that has examined the link between high school grades and academic performance in university (Hopkins & Hahn, 1986; Stupka, 1986; Tammi, 1987; Wilkie & Kuckuck, 1989; Woodward, 1982) - those students with higher HSGPAs generally perform better in university. Other significant predictors were also identified (e.g., English as a first language, gender, score on the perceived control scale, procrastination, optimism, score on the external attributions scale) but these predictors were not found to be consistent across the cohorts.

#### *Implications for Future Research*

This study provides several ideas for further work in the area of student success. One problem inherent in the analysis of self-report data is the limitation that is placed on the generalizability of the findings. In any research project, one is left wondering if those individuals who did not participate in the study were a significantly different group when compared to those individuals who did participate. This may be particularly true for this study. Given that one of the variables examined was procrastination, there may be a significant relationship between scores on a procrastination scale and classroom attendance (in order to have completed the questionnaire, students had to be in class to pick it up) and/or completing the questionnaire and returning it to the research office. As a result of procrastination, these students may not be well represented. Thus, the results of any study can only be generalized to a similar population.

That said, future work in this area should focus on obtaining data from a greater representation of all students enrolled in the class. Greater flexibility would need to be permitted so that questionnaires would be distributed over time, to maximize response rates. By increasing flexibility, power and generalizability of a study are increased.

Another key area for future research is an expansion of the variables examined in the determination of predictors of student success. While this study was limited in the number of variables examined, future studies should focus on additional measures of student success to determine if stronger predictors do exist.

### *Overall Findings*

Several themes emerge from a review of the results and discussion of this study. The overall demographic information highlights that younger students who have never attended university are registering for the Introduction to University class. Because the marketing strategies have targeted high school students, this result underscores the effectiveness of the marketing. Students are signing up for the course out of high school, and this trend has been increasing over time (up to the registration cap that was introduced in 2002). Interest continues to be peaked, and there appears to be little dispute that the course has found a niche.

A second observation that stems from this study is the consistent increase in retention rates in the second year of university across time. In other words, each year, more students are returning for their second year in university. This may suggest that factors associated with the Introduction to University program help students continue their journey through university.

Another interesting observation is that students who have completed the Introduction to University course incur a greater number of voluntary withdrawals when compared to students who did not complete the same course. While the rationale for this finding was provided above, one might speculate that students in the Introduction to University course (or the University 1 program) are indirectly taught another very important skill – control. Students are educated about the notion that they can choose to withdraw from a course, and it seems apparent that students are learning this lesson.

A fourth observation that stems from this study is the fact that students who completed the Introduction to University course have a higher grade-point average at the end of year 1, compared to those students who did not complete the course. An optimistic speculation might suggest that participation in the course might contribute to the overall success of these students, however, dissenters have argued that this increase in grade-point average may be simply the inflation of the cumulative GPA at the end of year 1 caused by the mark received in the Introduction to University course. Continued research will need to be undertaken to tease out the impact of the course grade on the end-of-year grade-point average.

Finally, the most consistent finding of this project is the contribution of one's high school grade-point average to the overall success of a student. Researchers have maintained that the best predictor of performance in university is one's performance in high school. This study confirms this finding.

Overall, while the results did not confirm most of the original findings, several interesting observations could be derived. Research is seen to be an on-going process;

each new study sparks numerous research questions to be answered by those that follow. This study is no different.

### *Practical Implications*

Given the information revealed in this study, what does one do now? Several practical implications seem to flow logically from the findings of this study. First, the marketing strategy of targeting the course to high school students and presenting the information to high school students during informational sessions has been effective. Additionally, since the course runs at full capacity each year, there is little argument for the popularity of the course. Thus, it seems appropriate to continue the marketing strategy. Additionally, despite the registration cap for the course, it might also be reasonable to market the course to a more specific student group. For example, since topics of the course include time management, stress management and academic writing skill development, it could be suggested to reinforce these components during information sessions to ensure that students weaker in these skill sets are aware that the course is designed to address these issues. Students who have well-developed skills in these areas may not benefit from the course as much as someone who needs work in these areas.

Second, the University administration may want to consider “refresher” sessions to continue the development of the skills taught in the Introduction to University course. As indicated in a previous section, other universities are beginning to move in this direction, understanding that the reinforcement (and practice) of newly acquired skills only help to retain the new information. These sessions need not be full courses, but could be offered as part of a “Welcome Back” program just prior to the start of classes in

the fall. Alternatively, new courses could be developed to not only reinforce the ideas taught in the Introduction to University course, but also further develop skills and knowledge in these areas.

Third, anecdotal information from students reveals that topics like time management and stress management are important topics for students. But the dissemination of this type of information does not have to be restricted to university. Part of the role of a high school teacher is to help prepare students for university. If high school teachers were made aware of the importance of teaching these topics to students, this information could be built in to their day-to-day lesson plans. Ideally, a session could be presented at the Special Area Group (SAG) conference, which is held annually in the province. This session could present that background and premise of the Introduction to University course, and could also reinforce the importance of teaching these skills to students. If teachers did build some of the principles into their teaching, students might better transition into university.

Finally, in keeping with the above idea, instructors at universities and colleges could begin to incorporate some of the principles of the course into their teaching style. The Introduction to University program outlined a very specific model that underpins the Introduction to University course. Instructors outside of Introduction to University can incorporate these theories and practices into their everyday teaching style. This will not only make stronger instructors, but more successful students as well.

#### *Directions for Future Research*

From each research project come many new ideas for additional work in the area or recommendations for conducting similar work in the future. This research project is

no different. The most salient recommendation to come from this project is the need to build a research or evaluative component into the program when it is being conceptualized. With clearly defined objectives and outcomes come clear, attainable research goals. One difficulty with the present project was the reliance on secondary data; while secondary data can be particularly useful as it may give access to information otherwise unattainable, it can be particularly difficult to use. Additionally, since the data were collected for other purposes, the type of research questions asked must be driven by the information that is available. If research questions are identified up front, one can ensure that they have the necessary data to answer those specific questions.

Second, to answer questions about the overall impact of a program on student success, one needs longitudinal data. At minimum, the required length of time for data collection would need to be equal to the average amount of time taken to complete a program at the academic institution. In this project, only one cohort (and a smaller one at that) had actually completed 4 years of school, but it was revealed that the vast majority of these students had not graduated yet. If this is the case, more data must be collected. Administrators must recognize that the determination of the success of a program, or the success of students within a program, is not a quick study. It would take multiple years to collect data that would provide valid evidence of the performance of that program (or students), regardless of how success is defined.

Third, it was noted earlier that the content of first-year experience courses have virtually remained the same over a 100-year period. Researchers and program administrators alike should consider undertaking a current needs assessment to clarify

whether the needs of students have remained consistent over time, or whether educators simply failed to recognize the change in student need.

Fourth, the final grade of the introductory course must be controlled when the impact of that course on overall grade-point average is evaluated. While this was the aim of the current project, difficulties inherent in using secondary data made this an impossible feat. Again, this reinforces the need to identify important research questions prior to the design of a program, so that databases can be constructed that will allow for this type of analysis.

Fifth, the Canadian university culture represents but one aspect of the larger post-secondary environment. Thus, the current research, and consequently the conclusions that stem from this research, is limited to the Canadian university experience. While first-year experience programs may be offered at Canadian colleges, the results of this study should be read with caution when attempting to make inferences about the first-year "college" experience. Future research in this area might include an examination or comparison of first-year experience programs at both the university and the college level.

Finally, the success of university students in general is an important issue. As a greater number of universities add aspects of the "first-year" experience to their programs, the opportunities are expanding for collaboration. To help strengthen the current body of research, it is recommended that Canadian research universities work together to build a larger research program spanning multiple institutional cultures and course types. Continued research in this area will not only serve students but will also provide universities with important information to help elevate the academic experience.



## References

- Ames, C. (1992). Classrooms, structures, and student motivation. *Journal of Educational Psychology, 84*, 261-271.
- Anderson, K. (1981). Post-high school experiences and college attrition. *Sociology of Education, 54*, 1-15.
- Anselmo, A. (1997). Is there life after freshman seminar? The case for the freshman seminar class reunion. *Journal of the Freshman Year Experience, 9*, 105-130.
- Astin, A. W. (1972). *College dropouts: A national study*. Washington, DC: American Council of Education.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass.
- Astin, A. W. (1993). What matters in college. *Liberal Education, 79*, 4-15.
- Auer, C.J. (1992). A comparison of the locus of control of first and second grade students in whole language, basal reader, and eclectic instructional approach classrooms (Doctoral Dissertation, Northern Illinois University, 1992). *Dissertation Abstracts International, 53* (11), 3856.
- Baird, L. (1969). The effects of college residence groups on students' self-concepts, goals, and achievements. *Personnel and Guidance Journal, 47*, 1015-1021.
- Ball, D., & Cohen, D. (1999). Developing practice, developing practitioners: Toward a practice based theory of professional education. In L. Darling-Hammond & L. Sykes (Eds.) *The heart of the matter: Teaching as the learning profession* (pp. 3-32). San Francisco: Jossey-Bass.
- Banziger, G. (1986). *Evaluating the freshman seminar course and developing a model of intervention with freshmen*. Marietta, GA: Marietta College.

Barefoot, B. O. (2002). *Second national survey of first-year academic practices, 2002*.

Retrieved June 23, 2005 from

<http://www.brevard.edu/fyc/Survey2002/index.html>.

Barefoot, B. O., & Fidler, P. P. (1996). *The 1994 national survey of freshman seminar programs: Continuing innovations in the collegiate curriculum (Monograph No. 20)*. Columbia, SC: University of South Carolina.

Barefoot, B. O., Gardner, J. N., Cutright, M., Morris, L. V., Schroeder, C. C., Schwartz, S. W., Siegel, M. J., & Swing, R. L. (2005). *Achieving and sustaining institutional excellence for the first year of college*. San Francisco: Jossey-Bass.

Barth, R. (1990). *Improving schools from within: Teachers, parents and principals can make the difference*. San Francisco: Jossey-Bass.

Beal, P. E., & Noel, L. (1980). *What works in student retention*. Iowa City, IA: American College Testing Program and the National Centre for Higher Education Management Systems.

Beck, J. P. (1999). *A longitudinal study of critical thinking skills in freshmen nursing students*. Unpublished Doctoral Dissertation, The Pennsylvania State University, College Station.

Black, C. (1995). Using existing data sets to study aging and the elderly: An introduction. *Canadian Journal on Aging, 14*, 135-150.

Bonifacio, P., & Sinatra, P. (1992). The urban college freshman: Challenges and adjustments. In R. C. DeLucia (Ed.), *Transitions: The urban college student's first-year experience* (pp. 3-17). Needham Heights, MA: Ginn Press.

- Boudreau, C., & Kromrey, J. D. (1994). A longitudinal study of retention and academic participation in a freshman orientation class. *Journal of College Student Development, 35*, 444-449.
- Brubacher, J., & Rudy, R. (1958). *Higher education in transition*. New York: Harper & Row.
- Bull, B., & Buechler, M. (1996). *Learning together: Professional development for better schools*. Bloomington, IN: Indiana Education Policy Centre.
- California State University. (2002). *Graduation rate task force*. Northridge, CA: California State University.
- Caple, R. (1964). A rationale for the orientation course. *Journal of College Student Personnel, 6*, 42-46.
- Cartledge, C. M., & Walls, D. G. (1986). *COL 105: The freshman experience in staying alive*. Columbus, OH: Columbus College.
- Chaskes, J. (1996). The first-year student as immigrant. *Journal of the Freshman Year Experience & Students in Transitions, 8*, 79-91.
- Chickering, A. (1974). *Commuting versus resident students: Overcoming educational inequalities of living off-campus*. San Francisco: Jossey-Bass.
- Chickering, A., & Kuper, E. (1971). Educational outcomes for commuters and residents. *Educational Record, 52*, 255-261.
- Clark, J., & Lerch, R. (Eds.). (2001). *Transitions 2001-2002*. Columbia, SC: University of South Carolina.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

- Comrey, A. L. (1962). The minimum residual method of factor analysis. *Psychological Reports, 11*, 15-18.
- Cone, A. (1991). Sophomore academic retention associated with a freshman study skills and college adjustment course. *Psychological Reports, 69*, 312-314.
- Conti, R. (2000). College goals: Do self-determined and carefully considered goals predict intrinsic motivation, academic performance, and adjustment during first semester? *Social Psychology of Education, 4*, 189-211.
- Cross, K. P. (1971). *Beyond the open door: New students to higher education*. San Francisco: Jossey-Bass.
- Curtis, S., & Williams, J. (2002). The reluctant workforce: Undergraduates' part-time employment. *Education and Training, 44*, 5-10.
- Darling-Hammond, L. (1998). Teacher learning that supports student learning. *Educational Leadership, 55*, 6-11.
- DeLucia, R. C. (1992). *Transitions: The urban college student's first-year experience*. Needham, Heights, MA: Ginn Press.
- Drake, R. (1966). *Review of the literature for freshman orientation practices in the United States*. Fort Collins, CO: Colorado State University.
- Dressel, P., & Mayhew, L. (1954). *General education: Explorations in evaluation*. Westport, CT: Greenwood Press.
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Alexandria, VA: Association for Curriculum Development.

- Dwyer, J. N. (1989). A historical look at the freshman year experience. In M. L. Upcraft & J. N. Gardner (Eds.), *The freshman year experience: Helping students survive and succeed in college* (pp. 25-39). San Francisco: Jossey-Bass.
- Ellis, D. (1984). *Becoming a master student*. Rapid City, SD: Houghton Mifflin Co.
- Farr, W. K., Jones, J. A., & Samprone, J. C. (1986). *The consequences of a college prefatory and individual self-evaluation program on student achievement and retention*. Milledgeville, GA: Georgia College.
- Fidler, P. P. (1991). Relationship of freshman orientation seminars to sophomore return rates. *Journal of the Freshman Year Experience*, 3, 7-38.
- Fidler, P. P., & Hunter, M. S. (1989). How seminars enhance student success. In M. L. Upcraft & J. N. Gardner (Eds.), *The freshman year experience* (pp. 216-237). San Francisco: Jossey-Bass.
- Findley, M. J., & Cooper, H. M. (1983). Locus of control and academic achievement: A literature review. *Journal of Personality and Social Psychology*, 44, 419-427.
- Fitts, C. T., & Swift, F. H. (1928). The construction of orientation courses for college freshman. *University of California Publications in Education, 1897-1929*, 2, 145-250.
- Forrest, A. (1985). Creating conditions for student and institutional success. In L. Noel, R. Levitz, & D. Saluri (Eds.), *Increasing student retention* (pp. 62-77). San Francisco: Jossey-Bass.
- Frydenberg, E. (1997). *Adolescent coping: Theoretical and research perspectives*. New York: Routledge.

- Frydenberg, E., & Lewis, R. (1993). *Adolescent coping scale: Administrator's manual*. Hawthorn, Australia: The Australian Council for Educational Research.
- Gardner, J. N. (1986). The freshman year experience. *College and University*, 61, 261-274.
- Gardner, J. N., & Jewler, A. J. (1992). *Teaching your college experience: A guide for instructors*. Belmont, CA: Wadsworth.
- Gilbert, S, Chapman, J., Dietsche, P., Grayson, P., & Gardner, J. N. (1997). *From best intentions to best practices: The first-year experience in Canadian postsecondary education (Monograph No. 22)*. Columbia, SC: National Resource Centre for The Freshman Year Experience & Students in Transition.
- Gordon, V. N. (1989). Origins and purposes of the freshman seminar. In M. L. Upcraft & J. N. Gardner (Eds.), *Origins and purposes of the freshman seminar: Helping students survive and succeed in college* (pp. 183-197). San Francisco, CA: Jossey-Bass.
- Gordon, V. N., & Grites, T. J. (1984). The freshman seminar course: Helping students succeed. *Journal of College Student Personnel*, 25, 315-320.
- Grunder, P., & Hellmich, D. (1996). Academic persistence and achievement of remedial students in a community college's college success program. *Community College Review*, 24, 21-33.
- Gunn, C. (1993). Assessing the effectiveness of critical thinking: Development of a constructed response test. *Dissertation Abstracts International*, 54, 2267B.

- Hamilton, J., & Akhter, S. (2002) Psychometric properties of the Multidimensional Multiattributional Causality Scale. *Educational and Psychological Measurement*, 62, 802-817.
- Hanley, G. L., & Olson, S. L. (1996). Preparing incoming students for the university educational process: From the students' perspective and retrospective. *Journal of the Freshman Year Experience and Students in Transition*, 8, 47-77.
- Henscheid, J. M. (Ed.) (2004). *Integrating the first-year experience: The role of first-year seminars in learning communities (Monograph 39)*. Columbia, SC: University of South Carolina..
- Hirsch, G. (2001). *Helping college students succeed: A model for effective intervention*. Florence, KY: Brunner-Routledge.
- Hoff, M. P., Cook, D., & Price, C. (1996). The first five years of freshman seminars at Dalton College: Student success and retention. *Journal of the Freshman Year Experience and Students in Transition*, 8, 33-42.
- Hopkins, W. M., & Hahn, D. M. (1986). *Unpublished research materials and correspondence from State University of New York College at Cortland*.
- Hukim, C. (1982). *Secondary analysis in social research*. London: George Allen & Unwin.
- Hunter, M. S. & Linder, C. W. (2005). First-year seminars. In M. L. Upcraft, J. N. Gardner, & B. O. Barefoot (Eds.), *Challenging and supporting the first-year student: A handbook for improving the first year of college* (pp.275-291). San Francisco: Jossey-Bass.

- Hyman, H. H. (1972). *Secondary analysis of sample surveys: Principles, procedures, and potentialities*. New York: Wiley.
- Inman, P., & Pascarella, E. (1998). The impact of college residence on the development of critical thinking skills in college freshmen. *Journal of College Student Development, 39*, 557-568.
- Jewler, A. J. (1989). Elements of an effective seminar: The University 101 program. In M. L. Upcraft & J. N. Gardner (Eds.), *The freshman year experience* (pp. 198-215). San Francisco: Jossey-Bass.
- Jewler, A. J., & Gardner, J. N. (1993). *Your college experience: Strategies for success*. Belmont, CA: Wadsworth.
- Kiecolt, K. J., & Nathan, L. E. (1987). *Secondary analysis of survey data*. London: Sage Publications.
- King, P. M., Wood, P. K., & Mines, R. A. (1990). Critical thinking among college and graduate students. *Review of Higher Education, 13*, 167-185.
- Kolb, D. A., Rubin, I. M., & McIntyre, J. M. (Eds.) (1979). *Organizational psychology: A book of readings*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Kolb, D. (1985). *Learning style inventory*. Boston: McBer & Co.
- Koutsoubakis, D. (1999). A test of the effectiveness of a one-term freshman orientation program at the foreign campus of an accredited private American university. *Journal of the First-Year Experience, 11*, 33-58.
- Kramer, G. L., & White, M. T. (1982). Developing a faculty mentoring program: An experiment. *NACADA Journal, 2*, 47-58



Kuh, G. D. (1993). In their own words: What students learn outside the classroom.

*American Educational Research Journal*, 30, 277-304.

Kuh, G. D., Kinzie, J., Schuh, J. H., Whitt, E. J., and Associates. (2005). *Student success in college: Creating conditions that matter*. San Francisco: Jossey-Bass.

Lacy, W. (1978). Interpersonal relationships as mediators of structural effects: College student socialization in a traditional and an experimental university environment.

*Sociology of Education*, 51, 201-211.

Lay, C. (1986). At last, my research article on procrastination. *Journal of Research in Personality*, 20, 474-495.

Lefcourt, H. M., Von Baeyer, C. L., Ware, E. E., & Cox, D. J. (1979). The multidimensional-multiattributational causality scale: the development of a goal specific locus of control scale. *Canadian Journal of Behavioural Science*, 11, 286-304.

Lehmann, I. (1963). Changes in critical thinking, attitudes, and values from freshman to senior years. *Journal of Educational Psychology*, 54, 305-315.

Levin, B., & Clowes, D. (1982). The effect of residence hall living at college on attainment of the baccalaureate degree. *Journal of College Student Personnel*, 23, 99-104.

Liang, J., & Lawrence, R. (1989). Secondary analysis of sample surveys in gerontological research. In M. Lawton, M. Powell & A. Herzog (Eds.), *Special research methods for gerontology* (pp.31-62). Amityville, NY: Baywood Publishing Company.

- Little, J. W. (1993). Teacher's professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis, 15*, 129-151.
- Lopez, D. F. (2000). Social cognitive influences on self-regulated learning: The impact of action-control beliefs and academic goals on achievement-related outcomes. *Learning and Individual Differences, 11*, 301-319.
- MacKinnon, M. M. (1999). *CORE elements of student motivation in problem-based learning* (78 ed. Vol. 78). San Francisco: Jossey-Bass.
- Martin, G., & Pear, J. (1999). *Behavior modification: What it is and how to do it*. Upper Saddle River, NJ: Prentice Hall.
- Martin, N. K., & Dixon, P. M. (1989). The effects of freshman orientation and locus of control on adjustment to college. *Journal of College Student Development, 30*, 362-367.
- Martin, N. K., & Dixon, P. M. (1994). A followup study: The effects of freshman orientation and locus of control on adjustment to college. *Social Behavior and Personality, 22*, 201-208.
- Mason, W. M., Tauber, K. E., & Winsborough, H. H. (1977). *Old data for new research*. Madison, WI: University of Wisconsin.
- McIntyre, R., Pumroy, D., Burgee, M., Alexander, S., Gerson, S., & Saddoris, A. (1992). Improving retention through intensive practice in college survival skills. *NASPA Journal, 29*, 299-306.
- McVicar, D., & McKee, B. (2002). Part-time work during post-compulsory education and examination performance: Help or hindrance? *Scottish Journal of Political Economy, 49*, 393-406.

- Miltiadou, M., & Savenye, W. C. (2003). Applying social cognitive constructs of motivation to enhance student success in online distance education. *Educational Technology Review, 11*, 78-95.
- Moos, R. H., & Billings, A. G. (1982). Conceptualizing and measuring coping resources and process. In L. Goldberger & S. Brentiz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 212-230). New York: Free Press.
- Mueller, K. (1961). *Student personnel work in higher education*. Boston: Houghton Mifflin.
- Musch, J., & Broder, A. (1999). Test anxiety versus academic skills: A comparison of two alternative models for predicting performance in a statistics exam. *British Journal of Educational Psychology, 69*, 105-116.
- National Resource Centre for the Freshman Year Experience (1988, 1991, 1994). *National survey of freshman seminar programming*. Columbia, SC: University of South Carolina.
- Nelson, J. (1982). Institutional assessment of a private university by commuter and resident students. *Dissertation Abstracts International, 43*, 90A-91A.
- Oakley, D., Oleksik, G., & Surridge, P. (2002, December). Working for a degree, the role of employment in contemporary student life. Paper presented at the meeting of the Society for Research in Higher Education, Glasgow, United Kingdom.
- Odell, P. M. (1996). Avenues to success in college: A non-credit eight week freshman seminar. *Journal of the Freshman Year Experience and Students in Transition, 8*, 79-92.

- Pace, C. (1974). *The demise of diversity? A comparative profile of eight types of institutions*. Berkeley, CA: The Carnegie Commission on Higher Education.
- Pascarella, E., Bohr, L., Nora, A., & Terenzini, P. (1995). The influence of on-campus living versus commuting to college on intellectual and interpersonal self-concept. *Journal of College Student Personnel*, 26, 292-299.
- Pascarella, E., Bohr, L., Nora, A., Zusman, B., Inman, P., & Desler, M. (1993). Cognitive impacts of living on campus versus commuting to college. *Research in Higher Education*, 37, 159-174.
- Pascarella, E., & Chapman, D. (1983). Validation of a theoretical model of college withdrawal: Interaction effects in a multi-institutional sample. *Research in Higher Education*, 19, 25-48.
- Pascarella, E., & Terenzini, P. T. (1986). Orientation to college and freshman year persistence/withdrawal. *Journal of Higher Education*, 57, 155-174.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students*. San Francisco: Jossey-Bass.
- Perry, R. P., Hladkyj, S., Pekrun, R. H., & Pelletier, S. T. (2001). Academic control and action control in the achievement of college students: A longitudinal field study. *Journal of Educational Psychology*, 93, 776-789.
- Peterson, C., & Barrett, L. C. (1987). Explanatory style and academic performance. *Journal of Personality and Social Psychology*, 53, 603-607.
- Potter, R.M., & McNairy, F. (1985). *Research summary: GS 110 - The student in the university*. Clarion, PA: Clarion University of Pennsylvania.

- Rice, R. L. (1984). *Does university 101 work? You bet: Research documenting the effectiveness of university 101 upon retention and student study habits and attitudes*. Lancaster, SC: University of South Carolina.
- Robinson, L. F. (1989). The effect of freshman transition-to-college/orientation courses on student retention. *College Student Journal*, 23, 225-229.
- Rothbaum, S., Weisz, J., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology*, 42, 5-37.
- Sarason, I. G. (1975). Test anxiety, general anxiety, and intellectual performance. *Journal of Consulting Psychology*, 21, 485-490.
- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: Assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219-247.
- Schönwetter, D. J., Walker, L. J., Taylor, K. L., & Cameron, B. (2002). Celebrating a successful "Introduction to University" course. *Communique*, 2, 23-25.
- Sergiovanni, T. (1994). *Building communities in schools*. San Francisco: Jossey-Bass.
- Shields, N. (2001). Stress, active coping, and academic performance among persisting and nonpersisting college students. *Journal of Applied Biobehavioral Research*, 6, 65-81.
- Sims, R., Veres, J., Watson, P., & Buckner, K. (1986). The reliability and classification stability of the learning style inventory. *Educational and Psychological Measurement*, 46, 753-760.

- Starke, M., Harth, M., & Sirianni, F., (2001). Retention, bonding, and academic achievement: Success of a first-year seminar. *Journal of the First-Year Experience*, 13, 7-35.
- Stupka, E. H. (1986). *Student persistence and achievement: An evaluation of the effects of an extended orientation course*. Sacramento, CA: Sacramento City College.
- Tabachnick, B. G., & Fidell, L. S. (1989). *Using multivariate statistics*. New York: Harper Collins Publisher, Inc.
- Tammi, M. W. (1987). *The longitudinal evaluation of a freshman seminar course on academic and social integration*. Charlotte, NC: University of North Carolina.
- Tanksley, M. D. (1994). *Building good self-esteem for certain fifth grade children through cooperative learning, individualized learning techniques, parental involvement, and student counseling*. Practicum Paper (ERIC Document Reproduction No. ED 367 095).
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago, IL: University of Chicago Press.
- Titely, B. S. (1986). Orientation programs. In L. Noel, R. Levitz, & D. Saluri (Eds.), *Increasing student retention* (pp. 221-229). San Francisco: Jossey-Bass.
- Tobolowsky, B. F., Mamrik, M., & Cox, B. E. (2005). *The 2003 national survey of first-year seminars: Continuing innovations in the collegiate curriculum*. Columbia, SC: University of South Carolina.

- Tsui, L. (1998a). Courses and instruction affecting critical thinking. *Research in Higher Education*, 39, 185-220.
- Tsui, L. (1998b, March). *A review of research on critical thinking*. Paper presented at the meeting of the Association for the Study of Higher Education, Miami, FL.
- University of Calgary (n.d.). *U of C 101: The introduction*. Retrieved September 9, 2003, from <http://www.ucalgary.ca/UofC/students/101/>.
- University of Regina (n.d.). *First-year services*. Retrieved September 9, 2003, from <http://www.uregina.ca/fys/>.
- Veres, J., Sims, R., & Shake, L. (1987). The reliability and classification of the learning style inventory in corporate settings. *Educational and Psychological Measurement*, 47, 1127-1133.
- Welty, J. (1976). Resident and commuter students: Is it only the living situation? *Journal of College Student Personnel*, 17, 465-468.
- Willcoxson, L., & Prosser, M. (1996). Kolb's learning style inventory (1985): Review and further study of validity and reliability. *British Journal of Educational Psychology*, 66, 251-261.
- Wilkie, C., & Kuckuck, S. (1989). A longitudinal study of the effects of a freshman seminar. *Journal of the Freshman Year Experience*, 1, 7-16.
- Wolf-Wendal, L. D., Tuttle, K., & Keller-Wolff, C. M. (1999). Assessment of a freshman summer transition program in an open-admissions institution. *Journal of the First-Year Experience*, 11, 7-32.

- Woodward, F. (1982). *Freshman seminar program evaluation, State University of New York, Plattsburgh*. Paper presented at the National Conference on the Freshman Year Experience, Columbia, S.C.
- Wratcher, M. A. (1991). Freshman academic adjustment at a competitive university. *College Student Journal*, 25, 177-179.
- Zimmerman, B. J., & Schunck, D. H. (2001). *Self-regulated learning and academic achievement: Theoretical perspectives* (2<sup>nd</sup> ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.



## APPENDIX A

### Sample Course Outline

#### **099.111(3) Introduction to University (L04)**

The University of Manitoba

Credit: 3 hours

Office hours:

Class Time:

Instructor:

E-mail:

Daytime phone:

**CALENDAR DESCRIPTION:** A seminar course designed to help students make the transition from high school to university by imparting the knowledge, skills, and aptitudes requisite for success in university study.

#### **COURSE OBJECTIVES:**

1. To assist first-year students in making the transition to the university community.
2. To provide an orientation to the nature, functions, and resources of the university.
3. To provide training in study and learning skills needed for success in university studies.
4. To help develop attitudes and habits needed to succeed in a university setting.
5. To provide a foundation for active and life-long learning, and career success.
6. To help students define goals more clearly and give them tools that can help them achieve their goals.

**METHOD OF TEACHING:** Lectures, class discussions, group projects, and demonstrations. Enrollment in this section is limited to 30 students in order to ensure a seminar-discussion group environment in which participants will get to know each other. All participants are advised to come prepared for each of the planned activities in order to benefit maximally from each session. Thus, active participation in the course is essential.

#### **REQUIRED TEXTS:**

McWhorter, Kathleen T. *Study and Critical Thinking Skills in College*. 4<sup>th</sup> ed. New York: Longman, 2000.

Schonwetter, Dieter J., ed. *Becoming A Successful Student*. Winnipeg: University of Manitoba Bookstore, 2001.

**COURSE REQUIREMENTS** (see further below):

Readings: see schedule; students are expected to have a basic understanding of the material to be covered in class by having the relevant chapter(s)/pages read ahead of time. Exams will include information found in these readings

Written Assignments: this course fulfills a 3-hour writing requirement (W) and thus, assignments will focus on writing.

A mid term test and a final exam: The mid term test and final exam will cover lectures, text readings, class discussions and presentations.

Academic Integrity: See the University's General Calendar on this matter.

Late Assignments: Late assignments will not be accepted unless instructor approval is obtained at least 1 week in advance of the deadline. In the case of circumstances beyond your control, I will consider extensions (documentation required).

**MINIMUM PERFORMANCE REQUIREMENT**: In order to pass the course, you must complete the following: Mid-term and final exams, and the research paper. Any student not completing any of these will be given a grade of 'F' regardless of the course mark.

**VOLUNTARY WITHDRAWAL DATE**: Nov. 14 (by 5:30 PM). But please speak to me before dropping the course.

**Tentative Outline**

DATE	TOPIC(S)	ASSIGNMENTS DUE (BEGINNING OF CLASS)	BASS READING (BEFORE CLASS)	McWHORTER READING (BEFORE CLASS)
Thurs. Sept. 6	introduction to the course; syllabus			
Tues. Sept. 11	first steps; the nature of university	1. <i>autobiography</i>	3, 5-7	ch. 1
Thurs. Sept. 13	learning styles			chs. 2 & 7
Tues. Sept. 18	student survey; time management	2. <i>learning style inventory</i>  research topic determined (to be stated in class)	40-57	ch. 3
Thurs. Sept. 20	library tour (MEET AT DAFOE LIBRARY ENTRANCE)			389-99
Tues. Sept. 25	library resources (MEET AT DAFOE LIBRARY ENTRANCE)	3. <i>UofM web site search</i>		ch. 13
Thurs. Sept. 27	time management; writing papers		110-17	ch. 19; pp. 400-14
Tues. Oct. 2	writing papers; memory	4. <i>formal research paper proposal</i>		ch. 8
Thurs. Oct. 4	reading skills	<b>TIME MANAGEMEN T PAPER</b>	67-70	
Tues. Oct. 9	note taking	5. <i>annotated bibliography</i>	61-66	chs. 12 & 14
Thurs. Oct. 11	taking tests	<b>PROFESSOR INTERVIEW QUESTIONS</b>	72-77	
Tues. Oct. 16	stress	6. <i>cooperative learning</i>		ch. 4
Thurs. Oct. 18	<b>MID TERM</b>			

	<b>EXAM</b>			
Tues. Oct. 23	study skills	<i>7. stress scale</i>		ch. 9
Thurs. Oct. 25	critical thinking	<b>PROFESSOR INTERVIEW GROUP PAPER</b>		chs. 6, 11, & 15
Tues. Oct. 30	writing skills		80-106	
Thurs. Nov. 1	paper style guides	<i>8. persuasion/ advertisement exercise</i>		
Tues. Nov. 6	how to do presentations		124-28	ch. 5
Thurs. Nov. 8	oral presentations	<b>RESEARCH PAPER</b>		
Tues. Nov. 13	oral presentations			
Thurs. Nov. 15	oral presentations			
Tues. Nov. 20	<b>NO CLASS SESSION</b>	study for the final exam!		
Thurs. Nov. 22	job search workshop		146-53	
Tues. Nov. 27	(oral presentations if needed); resumes and cover letters	<i>9. response to job search presentation</i>	155	
Thurs. Nov. 29	catch-up and review			chs. 16 & 17
Tues. Dec. 4	catch-up and review	<i>10. letter to next year's 99.111 students</i>		ch. 18
TBA	<b>FINAL EXAM</b>			

**FINAL GRADES:**

A+	92-100 Exceptional	B+	76-79 Very Good
A	80-91 Excellent	B	70-75 Good
C+	66-69 Satisfactory	D	50-59 Marginal
C	60-65 Adequate	F	Below 50 Failure

**DESCRIPTION OF ASSIGNMENTS AND THEIR VALUE:**

ASSIGNMENT	TOTAL PERCENTAGE
interactions	/10
professor interview paper	/10
Time management paper	/10
mid term test	/10
major research paper	/30
oral presentation	/10
final exam	/20

**ASSIGNMENT INSTRUCTIONS**

**A. INTERACTIONS.** Objective: to provide you with an opportunity to describe your views, ideas, and reactions to 10 specific course exercises or content areas. These will be read but not graded. In order to receive full marks, hand in each interaction at the beginning of class on the due date. Late interactions will not be accepted.

1. Autobiography. See *BASS* pp. 3, 5-7 for ideas.
2. Learning Style Inventory. See M chaps. 2 and 7; complete the questionnaire on pp.108-14 and describe the results. Will this help you develop strategies for university success?
3. University of Manitoba web-site search. Describe a variety of resources available to students. Is there anything of particular interest to you?
4. Formal Research Paper Proposal. What is your topic? Include at least 10 relevant sources (no more than 3 on-line resources at this stage).
5. Annotated bibliography. Write a brief summary of 10 books or articles which will be used in your research paper. (No on-line sources for this assignment).
6. Cooperative learning. Provide a brief response to your experience of preparing for the mid-term test with your group. Was it useful? Why or why not?
7. Stress scale. How are your stress levels? How do you cope with stress? Respond to your readings and the class discussion about stress.
8. Persuasion/advertisement exercise. Critically observe 2 advertisements.

9. Response to the job search presentation. Were there any helpful ideas? What suggestions and strategies were put forward? Etc.

10. A letter to next year's 99.111 students. What advice would you offer? What are some strengths and weaknesses of this course? What you would have done differently knowing what you now know? Etc.

**B. PROFESSORS INTERVIEW ESSAY.** Objectives: to work with others in a group assignment (often expected in university courses); to discover whether or not professors are approachable, what their interests are, and what they do other than teach.

Step 1: in groups of four, create a list of 10 interview questions that will address some of the questions you have about professors; suggestions will be given (do this in class)

Step 2: in groups of two, interview (e-mail is not recommended) 1 professor using the 10 questions (do this out of class)

Step 3: as a group, write a 500 word essay comparing and contrasting the differences you discovered; hand in two copies; marks will be shared by group members

**C. TIME MANAGEMENT PAPER.** Read *BASS* 40-58. Keep a record of your activities for a 2 week period (see *BASS* pp. 49-50). Create two time pie-charts: one which summarizes your activities and another which is an ideal time chart. Analyze your finding in a 5-6 page report (single sided, double spaced). Comment on such things as what you learned about yourself, what you want to change (if anything), and what you could do to improve your success as a university student. Refer to any time management strategies you find (documenting your sources using APA).

**D. RESEARCH PAPER.** Choose a student lifestyle issue from the list below and prepare a formal research paper topic.

### ***Relationships***

*communication*  
*listening*  
*conflict resolution*  
*effective complaining*  
*choosing your friends*  
*choosing a mate*  
*dating etiquette*

### ***Values***

*pro-choice vs. pro-life*  
*euthanasia*  
*war vs. peace*  
*safe sex vs. abstinence*  
*plagiarism*  
*purchasing a term paper*

### ***Money***

*spending habits*  
*saving*  
*RRSPs*  
*low budget enjoyment*

### ***Health***

*nutrition*  
*ethical eating/vegetarianism*  
*anorexia*  
*bulimia*  
*tobacco*  
*weight control*  
*body image*  
*exercise*  
*rest*

***Sexuality***

*hormones*

*date rape*

*pregnancy counseling*

*AIDS*

*safe sex? a misnomer?*

*unwanted pregnancy*

***Other***

*with approval of instructor*

**E. ORAL PRESENTATION.** Students will make a brief (10-15 minutes) presentation summarizing the major findings made in their research for the major paper.

## APPENDIX B

## Demographic Variables

**Read each item carefully and respond using the scale provided. Record your answers on the pink IBM form.**

1. How many credit hours are you taking this year? (*Note: half courses = 3 credit hours, full courses = 6 credit hours*)

- a) 3    b) 6    c) 9    d) 12    e) 15    (*if more, go to #2*)

2. **If more than 15 credit hours**, how many credit hours are you taking this year?

- a) 18    b) 21    c) 24    d) 27    e) 30 or more

3. I have spent most of my life growing up:

- a) On an Aboriginal Reserve Land
  - b) In a Remote Environment (i.e., population under 100 people)
  - c) In a Small Rural Environment (i.e., population 100 - 499 people)
  - d) In a Large Urban Environment (i.e., population 499 - 4999 people)
- (*If larger go to the next question.*)

4. I have spent most of my life growing up:

- a) In a Small Urban Environment  
(i.e., small city: population 5000 - 9999 people)
- b) In a Moderate Urban Environment  
(i.e., large city: population 10,000 - 29,999 people)
- c) In a Large Urban Environment  
(i.e., large city: population 30,000 - 99,999 people)
- d) In a Super-Urban Environment  
(i.e., large city: population 100,000 - 499,000 people)
- e) In a Mega-Urban Environment  
(i.e., large city: population 500,000 and more)

5. My education in Kindergarten through to Grade 12 has mostly been:

- a) Public school
- b) Independent school (Private school)
- c) Home school and/or Correspondence school
- d) Band school (schools operated by registered Indian bands or tribes)
- e) Institutional school (such as School for the Deaf, Marymount and New Directions)

6. Your college affiliation:

- a) None            b) St. Andrew's            c) St. Paul's
- d) St. John's    e) University College



7. Gender:           a)female   b) male
  
8. Your age if between 17-26:  
                  a) 17-18    b) 19-20           c) 21-22       d) 23-24       e) 25-26
  
9. Your age if 27 or older:  
                  a) 27-30    b) 31-35           c) 36-40       d) 41-45       e) older than 45
  
10. Is English your first language?   a) No   b) Yes
  
11. Are you an international student? a) No   b) Yes
  
12. Your marital status:  
                  a) Single    b) Married       c) Divorced   d) Common-law
  
13. Your current residence is:  
                  a) University dormitory - on campus  
                  b) At home with parents  
                  c) At home with family  
                  d) On my own  
                  e) Shared accommodations
  
14. Your home prior to coming to the University of Manitoba is/was:  
                  a) In Winnipeg  
                  b) Outside of Winnipeg, but in Manitoba  
                  c) Outside of Manitoba, but in Canada  
                  d) Outside of Canada, but in North America  
                  e) Outside of North America
  
15. Tuition for this school year is funded mostly through:  
                  a) my own funds  
                  b) parental or family support  
                  c) by scholarship

16. What best describes you:

- a) First generation student – you (and your siblings) are the first in your family to go to university.
- b) Second generation student – either one of both of your parents have gone to university.
- c) Third generation student – any one or all of your grandparents have gone to university.
- d) Fourth generation student – any one or all of your great-grandparents have gone to university.
- e) Fifth generation student – any one or all of your great-great-grandparents have gone to university.

17. Which one racial group best describes your ethnicity?

- |             |                |               |          |
|-------------|----------------|---------------|----------|
| a)Caucasian | b) Black       | c) Aboriginal | d) Métis |
| e) Hispanic | f) East Indian | g) Asian      | h) other |

## APPENDIX C

## Academic Attributions

The following items refer to students' attributions regarding their academic experiences.

**Read each item carefully and respond using the scale provided. Record your answers on the IBM form, using the appropriate number.**

**Response scale:**

**Strongly Disagree**

**Strongly Agree**

**1**

**2**

**3**

**4**

**5**

In my experience, once a professor gets the idea you're a poor student, your work is much more likely to receive poor grades than if someone else handed it in.

Often my poorer grades are obtained in courses that the professor has failed to make interesting.

When I receive a poor grade, I usually feel that the main reason is that I haven't studied enough for that course.

If I were to receive a low mark, it would cause me to question my academic ability.

Some of my lower grades have been partially due to bad breaks.

When I fail to do as well as I expected in school, it is often due to a lack of effort on my part.

If I were to fail a course, it would probably be because I lacked skill in that area.

My academic low points sometimes make me think I was just unlucky.

Poor grades inform me that I haven't worked hard enough.

If I were to get poor grades, I would assume that I lacked ability to succeed in those courses.

Some of the low grades I've received seem to me to reflect the fact that some teachers are just stingy with marks.

Some of my bad grades may have been a function of bad luck, being in the wrong course at the wrong time.

## APPENDIX D

## Coping

**Which coping strategies do you use for handling stress? For the following items, please indicate the extent to which each of the statements below reflects you.**

**Response scale:****Not at all true of me****1****2****3****4****Very true of me****5**

Seek spiritual support.

Seek social support from family and/or friends.

Seek professional advice.

Find ways to reduce tension.

Blame yourself for the stress you are experiencing.

Worry.

Seek relaxing diversions.

Seek creative solutions to reduce the stress.

Use physical recreation such as running, or playing sports to reduce stress.

Ignore the problem.

Keep it to myself

Engage in wishful thinking

Blame others for the stressful situation

Invest time in friends

Find ways to lower stress

Work off frustrations

Work hard to succeed

Work hard to achieve in order to reduce the stress.

Make excuses for feeling stressed out.

## APPENDIX E

## Goals

**Each of the following items represent typical goals for students enrolled in first year university courses. Please rank the personal importance of each.**

**Response scale:**

**Not at all important**

**1**

**2**

**3**

**4**

**Very important**

**5**

To take good notes in class.

To improve my presentation skills.

To learn how to assess and adjust to a professor's expectations.

To improve my essay writing skills.

To learn techniques for more effective time management.

To develop improved skills in reading and mastering texts.

To become familiar with the library and how to use it.

To join learning support groups.

To improve my exam taking skills.

To develop critical thinking skills.

To develop creative problem-solving skills.

To develop planning and organizing skills.

To improve my thinking and reasoning skills.

To improve my interpersonal communication skills.

To develop skills to be a successful independent learner.

To ensure mastery of a body of knowledge.

To prepare for a career.

To learn leadership skills.

To learn how to integrate things into the global community.

To be inspired to an interest in lifelong learning.

To learn how to work with others.

To learn how to apply learning to everyday situations.

To learn to work ethically in all aspects of education & career.

To develop personal responsibility.

To develop personal goals.

To learn how to assess self-image.

## APPENDIX F

## Learning Style

**For the next items which of each 4 choices is most descriptive of you?**

When I learn:

- |                                     |                                 |
|-------------------------------------|---------------------------------|
| a) I like to deal with my feelings. | b) I like to think about ideas. |
| c) I like to be doing things.       | d) I like to watch and listen.  |

I learn best when:

- |                                     |                                    |
|-------------------------------------|------------------------------------|
| a) I listen and watch carefully.    | b) I rely on logical thinking.     |
| c) I trust my hunches and feelings. | d) I work hard to get things done. |

When I am learning:

- |                                 |  |
|---------------------------------|--|
| a) I tend to reason things out. | b) I am responsible about things.        |
| c) I am quiet and reserved.     | d) I have strong feelings and reactions. |

I learn by:

- |              |              |
|--------------|--------------|
| a) Feeling.  | b) Doing.    |
| c) Watching. | d) Thinking. |

When I learn:

- |  |                                   |
|--|-----------------------------------|
| a) I am open to new experiences.                               | b) I look at all sides of issues. |
| c) I like to analyze things, break them down into their parts. | d) I like to try things out.      |

When I am learning:

- |                              |                           |
|------------------------------|---------------------------|
| a) I am an observing person. | b) I am an active person. |
| c) I am an intuitive person. | d) I am a logical person. |

I learn best from:

- |                       |                                      |
|-----------------------|--------------------------------------|
| a) Observation.       | b) Personal relationships.           |
| c) Rational theories. | d) A chance to try out and practice. |

When I learn:

- |  |   |
|--|---|
| a) I like to see results from my work. | b) I like ideas and theories.           |
| c) I take my time before acting.       | d) I feel personally involved in things |

I learn best when:

- |                                     |                           |
|-------------------------------------|---------------------------|
| a) I rely on my observations.       | b) I rely on my feelings. |
| c) I can try things out for myself. | d) I rely on my ideas.    |

When I am learning:

- a) I am a reserved person.
- b) I am an accepting person.
- c) I am a responsible person.
- d) I am a rational person.

When I learn:

- a) I get involved.
- b) I like to observe.
- c) I evaluate things.
- d) I like to be active.

I learn best when:

- a) I analyze ideas.
- b) I am receptive and open-minded.
- c) I am careful.
- d) I am practical.

## APPENDIX G

## Optimism

**Read each item carefully and respond using the scale provided. Record your answers on the IBM form, using the appropriate number.**

**Response scale:****Strongly Disagree****1****2****3****4****Strongly Agree****5**

In uncertain times, I usually expect the best.

If something can go wrong for me, it will.

I always look on the bright side of things.

I'm always optimistic about my future.

Things never work out the way I want them to.

I rarely count on good things happening to me.

I'm a believer in the idea that "every cloud has a silver lining."

I hardly ever expect things to go my way.



## APPENDIX H

## Perceived Control

The following six items refer to students' sense of control over their academic performance and in their lives more generally.

**Read each item carefully and respond using the scale provided. Record your answers on the IBM form, using the appropriate number.**

**Response scale:****Strongly Disagree****Strongly Agree****1****2****3****4****5**

The more effort I put into my courses, the better I do in them.

Controlling how things unfold in my life is important to me.

I enjoy having control over various things I do in my life.

It is important to me to be able to control how well I do in this course.

Being able to control my academic performance in this course is important to me.

My greatest personal accomplishments have come from hard work and persistence.

## APPENDIX I

## Procrastination

For the following items, please indicate the extent to which each of the statements below reflects you.

**Response scale:****Not at all true of me****1****2****3****4****Very true of me****5**

I often find myself performing tasks that I had intended to do days before.

I do not do assignments until just before they are to be handed in.

When I am finished with a library book, I return it right away regardless of the date it's due.

When it is time to get up in the morning I most often get right out of bed.

A letter may sit for days after I write it before mailing it.

I generally return phone calls promptly.

Even with jobs that require little else except sitting down and doing them, I find they seldom get done for days.

I usually make decisions as soon as possible.

I generally delay before starting on work I have to do.

I usually have to rush to complete a task in time.

When preparing to go out, I am seldom caught having to do something at the last minute.

In preparing for some deadline, I often waste time by doing other things.

I prefer to leave early for an appointment.

I usually start an assignment shortly after it is assigned.

I often have a task finished sooner than necessary.

I always seem to end up shopping for birthday or Christmas gifts at the last minute.

I usually buy even an essential item at the last minute.

I usually accomplish all the things I plan to do in a day.

I am continually saying "I'll do it tomorrow".

I usually take care of all the tasks I have to do before I settle down and relax for the evening.

## APPENDIX J

## Test Anxiety

The following items refer to students' anxiety levels when taking an academic test.

**Read each item carefully and respond using the scale provided. Record your answers on the IBM form, using the appropriate number.**

**Response scale:****Strongly Disagree****1****2****3****4****5****Strongly Agree**

I have an uneasy, upset feeling before taking a final examination.

During a course examination, I frequently get so nervous that I forget facts I really know.

I seem to defeat myself while working on important tests.

While taking an important exam, I find myself thinking of how much brighter the other students are than I am.

If I were to take an intelligence test, I would worry a great deal before taking it.

If I were to take an intelligence test, I feel confident and relaxed.

I get to feeling very panicky when I have to take a surprise exam.

During a test, I find myself thinking of the consequences of failing.

After important tests, I am frequently so tense my stomach gets upset.

I freeze up on things like intelligence tests and final exams.

I sometimes feel my heart beating very fast during important exams.

I usually get depressed after taking a test.

As soon as an exam is over, I try to stop worrying about it, but I just can't.

During exams, I sometimes wonder if I'll ever get through school.

I wish examinations did not bother me so much.

Thinking about the grade I may get in a course interferes with my studying and performance on tests.

Thoughts of doing poorly interfere with my performance on tests.

Even when I'm well prepared for a test, I feel very anxious about it.

Before an important examination, I find my hands or arms trembling.

I start feeling very uneasy just before getting a test paper back.