

EFFECTS OF A STUDENT SUCCESS COURSE ON ACHIEVEMENT,
SELF-EFFICACY, AND LOCUS OF CONTROL

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ABSTRACT

This study was designed to investigate the effects of a student success course on retention rates in a post-secondary technical institute. An experimental group of 43 first year students attended a five day workshop prior to the start of classes. The success course dealt with four general student success issues: (1) academic study skills, (2) life enhancing skills, (3) career planning, and (4) resources available to the student. Results included a significantly higher graduation rate for the experimental group when compared to the general population, especially for female and business students. The student success course resulted in no significant pre- to post differences in the experimental group level of self-efficacy or locus of control. It was concluded that this student success course would be beneficial for similar post-secondary institutes trying to increase student retention.

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Student achievement and success are important issues in post-secondary education. Odell (1996, p. 80) stated that "there is little argument about the need to improve student retention" in post-secondary education. It appears that attrition rates are consistently high in North American colleges and universities. Gardner, Jewler, & Robb (1995) found that Canada sends a greater percentage of students to post-secondary programs than do most other countries; however, about 50 percent of these students do not graduate. Tinto (1982) studied American college completion rates during the century from 1880 to 1980. He calculated completion rates by the ratio of first degrees awarded to the number of first degree enrollments four years earlier and found that aggregate dropout rates remained at approximately 45 percent in American higher education during that time. A Commission of Inquiry on Canadian University Education (Smith, 1991) reported that approximately 42% of undergraduate students who entered Canadian universities in 1985 failed to obtain a degree within five years. Tinto (1993) found that approximately 4 of every 10 students in four-year colleges and universities will not complete a degree. These are very high rates of non-completion for post-secondary students.

It has long been known that students who leave post-secondary school before graduation are likely to have more difficulty establishing careers than those who graduate

(Astin, 1975; Astin, 1978; Owens, 1989; Smith & Walter, 1995). How will these drop-outs be able to explain a lack of credentials when they are trying to enter the job market? Teachers must be wondering if their teaching is at all effective if so many students are leaving college before graduation. College administrators must be concerned when they see the loss of so many potential tuition dollars. College boards of directors, who are charged with running efficient and effective programs, must be very concerned with high non-completion rates among their college students. They must become concerned about increasing financial costs in a post-secondary school system which seems to lose so many students and seems to give so many students non-productive time at college. Taxpayers who are supporting post-secondary education might begin to question the effectiveness of programs which have such a high percentage of non-completers.

Students leave school before graduation for a variety of reasons (Gardner et al., 1995). A student may, for example, not consider the education relevant and might become bored with the educational process. Some students might have a personal crisis and decide to leave school to deal with it. Some students decide that employment is better suited to their current needs and therefore leave school to seek employment. Others may not have set any goals in their lives and therefore do not see the relevance of education to their life plan. Still others are poorly prepared (academically) to succeed at

school and will likely not succeed regardless of their level of motivation; for example, Chickering and Reisser (1993) indicate that educators have long recognized there is a significant difference between the optimism of first year students and the commitment needed to succeed academically. In other words, first year students need much more than enthusiasm to graduate; they need to set goals, to establish plans, to commit to a course of action, to develop study skills, to establish good personal support networks, and to develop perseverance. A student needs more than simply a positive attitude that he/she will succeed at post-secondary school (ie: optimism); students also need to have a high level of self-efficacy in terms of their beliefs about their personal skills/abilities which are necessary for success at school.

Student Success Courses

Many colleges and universities have student success courses to address the issue of student retention (Shanley & Hearn, 1991). Student success courses appear to be needed during or before the first year of a student's post-secondary career; for example, in Canadian post-secondary programs "the most dramatic drop-out rate is during and after the first year, when between 30 and 40 percent of students discontinue their studies" (Gardner et al., 1995, p. 2). Fidler and Hunter (1989) did an extensive review of literature that

assessed the impact of student success courses and found that the variable most studied is retention (usually defined as enrollment into the second year); they also found a positive relationship between participation in a student success course and retention. The theory behind a student success course is simple: if teachers help students to acquire the study skills necessary for school, then these students will have a better chance to graduate. Student success courses appear to have a wide variety of curricula (Barefoot & Fidler, 1992). There are some common elements to most of these courses (Ellis, 1997): (1) academic issues (goal setting, taking notes, writing examinations, critical thinking, writing, reading, memory, etc.); (2) life enhancing skills (motivation, time and stress management, health and wellness, relationships, self-esteem, money, etc.); (3) career issues (concrete steps in a career plan); and (4) resources (school resources and community resources).

Motivation and Self-Efficacy

Motivation to achieve is very important if a student is going to succeed (Covington & Roberts, 1994; Hickey, 1997; Nicholls & Nolen, 1995; Ryan & Pintrich, 1997; Weiner, 1984). Pokay and Blumenfeld (1990) indicated that research on motivation suggests "students who have high expectancies for success and value the task are more likely to perform well" (p. 41). There are many motives for becoming a post-secondary

student. A post-secondary diploma or degree usually means a better job; parents might pressure their children to attend college; one might want to attend a college to be with his/her friends who are at college; or perhaps the student simply has a desire to acquire knowledge of the world. Whatever the motive for being in college, once students are in college they "must develop a hunger to learn" (Ramsland, 1992, p. 7) if they are going to receive the greatest benefit from a college education.

"Among the mechanisms of personal agency, none is more central or pervasive than people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1991, p. 257). Self-efficacy is the belief we have about our abilities. We might have high self-efficacy beliefs in which case we have a strong belief in our abilities; or, we might have low self-efficacy beliefs in which case we have a weak belief in our abilities. Academic self-efficacy means a perceived capability to perform academic tasks at the desired level (Schunk, 1991). In other words, a student with a high level of self-efficacy might have a good self-image and believe that he/she can succeed. Bandura (1986) indicated that humans have a self system which enables them to have control over their thoughts, feelings, and actions. Bandura (quoted in Engler, 1991) states "self-efficacy beliefs regulate human functioning through four major processes. They

include cognitive, motivational, affective, and selection processes" (p. 10). Cognitive processes are very important to post-secondary success; for example, "self-beliefs of efficacy affect thought patterns that can enhance or undermine performance" (p. 10) and "most human motivation is cognitively generated" (p. 18). Thus, if a person has a high level of perceived self-efficacy, then he/she might set higher goals and have a higher commitment to achieving these goals than if that person had a lower level of perceived self-efficacy (Bandura & Wood, 1989; Locke, Frederick, Lee, & Bobko, 1984; Taylor, Locke, Lee, & Gist, 1984).

Bandura (cited in Engler, 1991) suggests that people who have abnormal behaviors generally have a very low sense of self-efficacy; that is, "they do not believe that they can successfully perform the behaviors that will enable them to cope with everyday life" (p. 248). They tend to avoid situations that might be threatening or in which they might have to take a risk in order to succeed; thus, "they do not engage in activities that might demonstrate their abilities and serve to change their sense of self-efficacy" (p. 248). Students who have a high sense of self-efficacy might tend to believe that they have the ability to cope and to perform successfully in everyday situations at post-secondary school. Such students would not be afraid of a threatening situation in which they might have to take a risk (ex: asking a question in class or writing a mid-term examination). Johnson, Baker,

Kopala, Kiselica, & Thompson (1989) indicated that self-efficacy is present in learning situations and it facilitates all behavior change. People who, for example, have a low sense of self-efficacy do not even begin to undertake a learning task because they are defeated before they start.

Attribution Theory and Locus of Control

People tend to look for causes for outcomes in order to determine why these outcomes occurred, particularly if the outcomes were negative or unexpected (Weiner, 1986). Causal attributions answer "why" questions, such as "why did I get a poor grade on the exam?" (Graham, 1997, p. 22). We make causal attributions about ourselves and these influence personal motivation, while causal attributions about others will influence social motivation. In terms of achievement, studies have shown that people often attribute success and failure to an aptitude or an ability factor (Graham, 1997). When people succeed, they might feel they are smart or that they worked hard (unless they have an external locus of control). Likewise, if they fail, people might conclude they are not smart or that they did not work hard (unless they have an external locus of control).

Locus of Control is a psychological construct which indicates whether we attribute the events in our lives to internal or external sources. If a student has a high internal locus of control, then he/she will be more likely to

take responsibility for the outcomes in his/her life; a student with a high external locus of control will tend to blame others for the outcomes of his/her life. Engler (1991) indicated four things about people with a high internal locus of control: (1) they tend to be more perceptive and ready to learn about their surroundings, (2) they tend to ask more questions and to process information more efficiently than externals, (3) they tend to assume more responsibility for the consequences of their own behaviors, and (4) they are less likely to be influenced by other people. Students who have an appropriately higher internal locus of control might have a better willingness to learn at the post-secondary level, a stronger desire to ask questions in class, a greater capacity to accept the natural and logical consequences of their study behaviors, and a smaller chance of being affected by peer pressure. An appropriate and a healthy level of internal locus of control would be a level high enough to allow the student to internalize responsibility for most of his/her life's events, yet not so high as to lead to perfectionism due to total responsibility for all of his/her life's events. Such responsibility is an impossible ideal.

It appears that student success courses, students' self-efficacy, and students' locus of control may be important aspects to consider when colleges try to solve the problem of high student attrition.

The Purpose of the Research

The purpose of this research was to investigate the effects of a student success course on graduation rates, self-efficacy, and locus of control among post-secondary students in technology and business programs at a two-year technical institute in Western Canada.

Research Questions

The following specific questions were addressed in the study: (1) Is there a significant difference between the graduation rates of a group that took a student success course and a group that did not take this course? (2) Is there a significant difference between the grade 12 average of the experimental group and the grade 12 average of the general population of Saskatchewan high school graduates? (3) Is there a significant difference in the experimental group self-efficacy before and after the student success course? (4) Is there a significant difference in the experimental group locus of control before and after the student success course?

Definition of Terms

Accessible Population: All first-year students entering either the first year of a technology program or the first year of a business program in the fall of 1994 at the Institute where the research occurred. The experimental group, the comparison group, and the general population were drawn from this group.

General Population: All students from the accessible population who are not a part of either the experimental group or the comparison group.

General Sample: The sample of 34 technology students and 34 business students drawn from the accessible population (but not from the experimental group or the comparison group) and used to calculate a grade 12 average for the general population.

Experimental Group: The students from the accessible population who completed the entire student success course.

Comparison Group: The students from the accessible population who enrolled in the student success course but did not complete the entire course.

Limitations

The validity of the research is limited due to the following issues. First, the students in both the experimental group and the comparison group were volunteers; as such, perhaps they were highly motivated to succeed regardless of any student success course. There was no significant difference between the mean high school averages of the experimental group and the general population; therefore, the motivation levels could be similar in both groups. Second, the treatment occurred over a five day period before the start of the first semester; thus, the students did not get the opportunity to apply their new knowledge and study

skills to a "real-world" situation during the student success course.

Delimitations

The research was limited to students entering a program of study at a two-year technical institute in Western Canada. The programs of study at the technical institute are divided into three divisions: (1) Technology, (2) Business, and (3) Industrial. Only Technology and Business students were considered for this study. Participants were classified by division rather than by specific programs within a division.

The researcher assumed that students in both the experimental group and the comparison group had the same level of motivation for post-secondary studies because both groups were invited to participate and then enrolled on the first day of the student success course. The research did not include grade point average as a variable because it would be unfair to compare the grade point averages of part-time and full-time students.

CHAPTER II

REVIEW OF LITERATURE

Introduction

A search of the current literature identified many empirical studies on student success courses, self-efficacy, and locus of control. The theoretical and empirical literature on achievement and motivation is so extensive that even a cursory review was not attempted. This chapter is restricted mainly to literature which is believed to be representative of studies concerning student success courses and to selected literature on self-efficacy and locus of control in relation to student success courses.

Student Success Courses

The first year of college is a very critical period in terms of student attrition (Noel, 1985; Strumpf & Hunt, 1993; Tinto, 1987). The first year is a crucial decision time for students in post-secondary education. Most students who decide to discontinue college make this decision during the first year and usually within the first two months (Odell, 1996). The first year is the time of greatest student attrition, and therefore the majority of student success courses and other retention efforts deal with first year students (Fidler, 1991). The research found in this literature review dealt mostly with student success courses offered in the first year of studies.

Miami-Dade Community College (MDCC) studied retention rates of first year students starting in 1984 (Cuseo, 1991). MDCC offered an orientation course for all incoming students in which students discuss skills essential for college survival. Results indicated that students who participated in the orientation course during their first semester were more likely to persist and to earn acceptable grade point averages and that 67% of participating students (N = 2,008) were retained while only 46% of non-participants were retained (Belcher, Ingold, & Lombard, 1987).

Barefoot (1993) reported the effects of The University of Prince Edward Island student success courses in which the specific goals were to develop effective academic skills, to assist in the development of self-knowledge, and to promote an awareness of the structures, programs, and services of the University. The courses lasted two semesters and received six semester hours of credit. From 1986 to 1990, 83.5% of participants were retained compared to 60% of non-participants. The four-year graduation rate for all students at UPEI was 28%; however, 49% of student success course participants graduated in the same time period.

Stupka (1993) studied a group of first year students for four years at the Sacramento City College. Forty pairs of students were matched on four criteria: reading level, writing level, math level, and number of part-time employment hours while attending college. Both the control group and the

treatment group had 40 students. He found that there is clear support that the treatment (ie: a student success course taken during the first semester) had a positive, long-term impact on academic performance and persistence. Twice as many students from the control group dropped out of college as compared to the treatment group. After seven semesters, the treatment group completed 326% as many units of college credit as the control group. The two groups had no significant difference in grade point average. The treatment group enrolled 152 times in seven semesters, while the control group enrolled only 97 times.

Dixon and Gudan (1994) researched grade point averages and retention rates for first year students at a two-year public community college in Michigan. They found that students who were successful in completing the student success course earned significantly higher grade point averages (than the student population as a whole) during the semester of enrollment (ie: enrollment in the student success course) as well as for subsequent semesters. In addition, first year students who enrolled in the student success course were retained into the next major semester at a higher rate (83%) than the student population as a whole (62%).

Craig (1994) examined the relationship between participation in a student success course and student retention and academic performance. A random sample of at-risk first year students was selected along with a random

sample of the general population of first year students. The subjects in these samples were divided into two groups based upon their participation or non-participation in the student success course. Retention and academic achievement were studied through to the first semester of second year. Results indicated a significant relationship between participation in the student success course and retention and academic performance for all students who participated in the course (ie: whether they were in the at-risk group or not). Participants were retained and performed academically at significantly higher rates than non-participants.

Upward Bound is a program started in 1965 to help students from economically disadvantaged homes to prepare for higher education (Morrissey, 1994). At the time of this study the Upward Bound program was offered in 579 colleges across the United States. The program includes mainly grade ten students for after school, weekend, and summer tutoring programs at the local college. The summer program deals with academics, personal development, motivation, self-esteem, fitness, and substance abuse. The Upward Bound student success program has been very successful; for example, "students who participate in Upward Bound are four times more likely to earn an undergraduate degree than are students from similar backgrounds without this type of support" (p. 6).

Fidler (1991) investigated the effects of the University 101 orientation seminar at the University of South Carolina

from 1973 to 1988. The numbers enrolled in the course were quite high (from 800 to 1,700 each year). The study showed a strong positive association between those participants who passed University 101 (it is a credit course) and increased retention into second year. The University 101 program is so successful that The University of South Carolina now identifies those students who do not pass University 101; these students are then referred to an early alert program which provides assistance for high-risk first year students when they enter the university.

Glass and Garrett (1995) studied the effects of participation in an extended college orientation course on retention and grade point average. The experimental group (N=128) earned 10.67 credit hours during their first year while the control group (N=172) earned 9.36 hours during the same time. The experimental group had a significantly higher grade point average than the control group. The experimental group also had greater retention. The orientation course contained the following topics of instruction: motivation, strengths and weaknesses, note taking, study techniques, memory, test taking, time management, goals, self-esteem, wellness, stress management, library, tour of facilities, student development services (financial aid, student activities, student records, job placement, etc.).

Stewart (1997) investigated the effects of participation in a student success course (Learning Skills 1001 at

Mississippi State University) on student retention, academic success, and academic performance of first year students. Retention was determined by the number of students who enrolled into second year; academic success was determined by the number of students on academic probation at the start of the second year. Academic performance was determined by comparing participants and their matched non-participants on grades received in the same sections of the same course which was taught by the same teacher; however, a chi-square test of independence and a matched sample t -test indicated no significant difference between the retention rate, the academic success, and the academic performance of the participants and a matched sample of non-participants.

Lipsky and Ender (1990) examined the effects of a one credit study skills course on the academic achievement and retention of second semester students who had been placed on academic probation. The academic achievement of the treatment group and the non-treatment group was compared in terms of grade point averages, academic hours earned, and academic hours attempted during the semester in which the treatment occurred, as well as subsequent semesters. The treatment was a student success course which consisted of instruction in the following areas: academic goal setting, time management, study environment, listening, note taking, reading, study, test anxiety and preparation, memory, and concentration. The study occurred during two years (year one experimental N=41 and

control N=86; year two experimental N=54 and control N=173). At the end of the spring semester, the experimental group in both years had a significantly higher grade point average than did the control group, the experimental group in both years earned significantly more academic hours than did the control group, and there was no significant difference for the number of academic hours attempted. A follow-up, which was conducted after the end of the second academic year for all students, revealed that the experimental group had significantly higher grade point averages than did the students in the control group; however, there was no significant difference between the two groups in terms of academic hours earned and academic hours attempted.

Kochenour, Jolley, Kaup, Patrick, Roach, & Wenzler (1997) investigated the impact of the Supplemental Instruction (SI) courses at a large research university in the United States. 11,000 students participated in eight courses over two academic years. The level of participation was classified into three categories: no, low, or average participation. Students with low SI participation received course grades slightly higher than the class average. A positive correlation ($r=.165$, $p<.001$) was found between SI participation and standardized student grade, indicating a slight relationship between SI participation and course grade. Correlation coefficients were calculated for the relationship between predicted grade point average [PGPA was a measure that

included both achievement (high school grade point average) and aptitude (composite American College Testing score)] and standardized student grade ($r=.404$, $p<.001$). The PGPA was established as a strong predictor of student success. The correlation coefficients were calculated for PGPA and SI participation ($r=-.013$, ns). As there was no significant relationship between PGPA and SI attendance, the researchers concluded that there was no evidence that only the better students attended the student success course.

Petrie and Helmcamp (1998) conducted a longitudinal investigation which examined the impact of a 12 week academic and personal effectiveness course. All students ($N=415$ fall semester, $N=196$ spring semester) were instructed in the areas of study skills (ex: note taking, reading, test taking), personal life skills (ex: time, goal setting), self-awareness (ex: careers, individual differences), and campus services (counselling centre, computer laboratory, recreation, etc.). Students were pretested and a posttested using the Cognitive Skills Inventory (CSI) in order to measure self-reported cognitive functioning and study habits related to academic success. The CSI has four subscales: Integration (degree to which students organize information within meaningful frameworks and relate this to prior knowledge), Repetition (degree to which students use behaviors designed to increase ability to retain information), Comprehension (ability to know when something is understood/learned), and Coping (degree to

which students become anxious about studying or test-taking). The t -tests for dependent samples showed that the fall group had significant increases in Integration, $t(414) = 13.12$, $p < .0001$; Repetition, $t(414) = 8.98$, $p < .0001$; and Comprehension, $t(414) = 5.43$, $p < .0001$; and significant decreases in Coping (ie: students became less anxious about studying and test-taking), $t(414) = -3.7$, $p < .0002$. The t -tests for dependent samples showed that the spring group had significant increases in Integration, $t(195) = 12.13$, $p < .0001$; Repetition, $t(195) = 8.57$, $p < .0001$; and Comprehension, $t(195) = 8.96$, $p < .0001$; and significant decreases in Coping (ie: students became less anxious about studying and test-taking), $t(195) = -3.24$, $p < .0014$.

Strumpf and Hunt (1993) researched the effects of a first year orientation course on the retention rate and academic standing of first semester students, while controlling for the volunteer effect. Of 240 students who expressed an interest in taking the student success course, 77 were randomly chosen for the experimental group which did receive the treatment (ie: the student success course) and 80 were randomly chosen for the control group which did not receive the treatment. The outcome variable used was the rate of retention in good academic standing. This variable was defined as enrollment into the next semester with a cumulative grade point average at or above the minimum needed for graduation (2.0 on a 4.0 scale). There were significant differences in the rates of

retention in good academic standing for the semester of treatment and for three subsequent semesters. Approximately 79% of the experimental group were retained versus 63% of the control group after the first semester. Also, 85% of the experimental group were retained versus 64% of the control group after the second semester. After the third semester, 79% of the experimental group were retained versus 66% of the control group. Finally, after the fourth semester, 74% of the experimental group were retained versus 59% of the control group.

Hoff, Cook, & Price (1996) analyzed the first five years of the student success course (SSC) at a two-year public institution in the University System of Georgia. The SSC, which was offered in the fall semesters from 1987 to 1991 to first year students, included instruction in group building, college services, academic survival skills, and personal development issues. The study compared the retention rates and the graduation rates of the 405 SSC students who took the course to the 500 students who did not take the course. Results indicated a significantly higher rate of retention for the SSC students. During the fall following first enrollment, 69.5% of the SSC students returned, compared with 55.8% of non-SSC students. During winter of the following year, 68.7% of the SSC students returned, compared with 50.0% of the non-SSC students. Graduation rates were also significantly higher for the SSC students as 30.8% of the SSC students graduated

compared with only 19.4% of the non-SSC students.

House and Kuchynka (1997) observed the effects of a freshman orientation course on grade point average and persistence over a two year period. Entering health science students (N=516) from two consecutive years were used as the sample. There were 85 students who took the course and 431 students who did not. The course consisted of topics such as university introduction, academic strategies for success, and decision-making strategies. The groups were compared on cumulative grade point average after one semester, cumulative grade point average after two semesters, and persistence for two years. Students who took the course had a mean first semester grade point average of 2.60 while those who did not take the course had a mean average of 2.28. After two semesters, the cumulative grade point averages were 2.65 for the those from the course and 2.40 for the others. In terms of persistence, 82.4% of the course students returned to second year compared with 64.5% of those who did not take the course.

Self-Efficacy

Bandura (1977) was the first to suggest the construct of self-efficacy in his publication of "Self-Efficacy: Toward a Unifying Theory of Behavioral Change." Since that time, there has been much research into self-efficacy from many fields, such as phobias, depression, social skills, assertiveness,

smoking behavior, pain control, health, and athletic performance (Pajares, 1996). Recently, there has been an increasing amount of educational research on self-efficacy, particularly as it relates to achievement motivation (Pintrich & Schunk, 1995).

Marsh and Yeung (1997) studied the relationship between academic self-concept and academic achievement in 603 students at a Catholic boys' school in Australia. The instrument used was the Academic Self Description Questionnaire (ASDQ). The students' school grades and teacher performance ratings were observed at the end of each semester for three years. The ASDQ was administered during the middle of the second semester of each year. The results clearly suggest a conclusion that prior academic achievement affects subsequent academic self-concept. The results also indicate that there is support for the effects of prior self-concept on subsequent achievement.

McCormick, Tooke, Winston, & Kjellander (1991) investigated the relationship between perceived self-efficacy and academic achievement. There were 26 women and 9 men (all undergraduate psychology majors) who participated in seminars which would fulfil a mandatory, advanced writing requirement. Mean grade point averages of the subjects were between 2.9 (C+) and 3.2 (B-). The seminars had strict guidelines concerning the nature and the number of written assignments. The College Students' Self-Image Scale (CSSIS) was administered during the last two weeks of the seminar. The

CSSIS is a modification of the Self-Efficacy Scale (Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers, 1982) which has been found to be a reliable, self-report measure of general personal competence which has the capability of predicting academic and vocational success. Results indicated that perceived self-efficacy (as measured by the CSSIS) was positively and significantly associated with high academic achievement (as defined by grade point average).

Smith, Walter, & Hoey (1992) examined 46 first year students at a large American research university (midwest) to determine whether participation in a required student success course in academic skills development influenced first year students' academic self-efficacy. The researchers looked at the students' self-predicted grade point average at the beginning of the semester and again at the semester mid-point. Results showed significant differences between the predicted and the actually achieved grade point averages. The group who received the student success course predicted a lower grade point average than was actually achieved. While the group who did not receive the student success course predicted a grade point average which was higher than was actually achieved.

Locus of Control

Locus of control is a concept within social learning theory and refers to the extent to which a person is self-directed or believes that one determines one's own fate.

People with a strong internal belief in their own abilities tend to believe that they are responsible for what happens to them and that they have a good measure of control over their lives, while those with a strong external locus of control tend to believe that things which happen to them are determined by luck, fate, or other people (Rotter, 1966; Weiner, 1986). There has been much research generated by the concept of locus of control (Pascarella & Terenzini, 1991; Perry, 1991) and it appears that college students who are more internal in their locus of control do consistently better than those who are external on a range of academic achievement measures (Pascarella, Edison, Hagedorn, Nora, & Terenzini, 1996).

Linder and Janus (1997) examined the relationship of dental students' (N=145) perceptions of how much control they have over their environment to their academic achievement. The Rotter Internal-External Locus of Control Scale was administered to all participants. Grades were taken from a pre-clinical course for all participants at the end of the fall semester of 1996. These grades were then used as a measure of academic achievement. Analysis of variance indicated that there was a significant relationship between locus of control and course grades. The students (N=56) who were classified as internal locus of control achieved a significantly higher mean course grade than the students (N=89) who were classified as external locus of control.

Luzzo (1993) explored the relationship between locus of control and career decision-making skills (cognitive domain) and career decision-making attitudes (affective domain). Participants were 401 undergraduates (250 females and 151 males) at a large state university. The ages of the participants ranged from 18 to 24 ($M=19.86$, $SD=1.53$). The Rotter I-E Scale was used to assess locus of control. Career decision-making skills were assessed by the Decision Making scale of the Career Development Inventory's University and College Form (Super, Thompson, Lindeman, Jordaan, & Myers, 1981) which measured competence in resolving simulated career problems. Career decision-making attitudes were measured by the Career Maturity Inventory-Attitude Scale (Crites, 1978) which measured five attitudinal variables considered necessary when making career choices. Results indicated that there was no relationship between gender and locus of control for both measures of career development; however, significant relationships existed between locus of control and both career decision-making skills and career decision-making attitudes.

Green (1995) studied 28 first year college students who had taken the student success course at the college where the research occurred. Subjects were pre-tested during the student success course and post-tested eight weeks after the end of the course. Results indicated that there was a significant shift toward an internal locus of control for the subjects.

Cone and Owens (1991) researched 250 first year college students (128 males and 122 females) who had taken the study skills and college adjustment course (a college student success course which used the same text as the experimental group's student success course). A pretest was administered to the subjects to obtain locus of control measures. The posttest was then used to measure locus of control at the end of the semester. The study skills course occurred for two 50 minute sessions per week for the entire 16 week semester. Results indicated that the subjects who received the study skills course and who pretested as external locus of control were significantly more internal at the end of the semester when compared to those subjects of the comparison group who also pretested as external.

CHAPTER III

DESIGN, DATA GATHERING, AND DATA ANALYSIS

Introduction

At the time of the study, the technical institute at which the study was conducted offered two-year diploma programs in nine engineering technology areas: Architectural Engineering Technology, Civil Engineering Technology, Computer Aided Design and Drafting Technology, Surveying Engineering Technology, Water Resources Engineering Technology, Computer Engineering Technology, Electrical Engineering Technology, Electronics Engineering Technology, and Instrumentation Engineering Technology. In addition to these programs, the institute offered two-year diploma programs in five business areas: Accounting, Computer Information Systems, Administration, Marketing, and Public Administration. The institute also offered one-year certificate programs in industrial areas such as welding, carpentry, and auto body repair. This study included only students from the technology and business divisions because these students were in the two-year diploma programs as opposed to the one-year certificate programs. The numbers of incoming students in the fall of 1994 were typical of the yearly intake of students. There were 247 incoming students in the technology division in September of 1994; 257 incoming students started programs in the business division.

Sarkar (1993) observed the completion rates for students

at the institute where the present study was done. Students who entered Technology programs in 1991 had a completion rate of 50% and students who entered Business programs in the same year had a completion rate of 46%. There was concern about such high attrition; thus, this study attempted to discover if a student success course would have any effect on these graduation rates.

Ethics approval was granted by the Research Ethics Review Committee of the University of Regina (see Appendix A).

Design

The design of this study was quasi-experimental. Participants in the experimental group completed the treatment (ie: student success course of five days duration) during the week prior to the fall semester of 1994. The experimental group graduation rates were compared to the general population graduation rates in order to give a measure of academic achievement. Pretests for self-efficacy and locus of control were given to the experimental group prior to the start of the treatment. Posttests for self-efficacy and locus of control were administered to the experimental group at the end of the treatment. Participants in the comparison group started the treatment yet did not, for a variety of reasons, complete the entire treatment. The general population had no treatment.

The independent variable was the treatment given to the experimental group. The dependent variables were: (1)

Graduation Rate, (2) Changes in Self-Efficacy, and (3) Changes in Locus of Control. The graduation rate was simply observed. The self-efficacy and the locus of control of the experimental group were measured with standardized instruments both before and after the treatment.

Sample

The participants for this research were taken from the total number of 504 incoming technology and business students. All technology students were required to have a complete grade 12 diploma with grade 12 algebra and grade 12 geometry-trigonometry; technology students in the electrical stream of the technology programs (Computer Engineering Technology, Electrical Engineering Technology, Electronics Engineering Technology, and Instrumentation Engineering Technology) were also required to have grade 12 physics. All business students were required to have a complete grade 12 diploma with grade 12 algebra. The technology students started with a common first semester (four months) and then proceeded into their speciality areas. The business students started with a common first year (eight months) and then proceeded into their speciality areas.

All incoming students were invited to participate in a student success course. The experimental group consisted of the 43 students who completed the entire student success course. Table 1 illustrates the gender and the age of the

Table 1

Demographic Data for Experimental Group (N=43)

<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
17	03	06	09
18	06	14	20
19	03	02	05
20	03	00	03
21	01	00	01
22	03	00	03
23 +	<u>00</u>	<u>02</u>	<u>02</u>
Total	19	24	43
Mean Age	19.10	18.83	18.95

Table 2

Program Data for Experimental Group (N=43)

<u>Program</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Technology	12	05	17
Business	<u>07</u>	<u>19</u>	<u>26</u>
Total	19	24	43

Table 3

Demographic Data for Comparison Group (N=24)

<u>Age</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
17	02	01	03
18	07	05	12
19	02	02	04
20	00	00	00
21	00	01	01
22	00	00	00
23 +	<u>03</u>	<u>01</u>	<u>04</u>
Total	14	10	24
Mean Age	19.50	20.20	19.79

Table 4

Program Data for Comparison Group (N=24)

<u>Program</u>	<u>Males</u>	<u>Females</u>	<u>Total</u>
Technology	07	01	08
Business	<u>07</u>	<u>09</u>	<u>16</u>
Total	14	10	24

experimental group. There were 24 females and 19 males in the experimental group ranging in age from 17 to 31. The mean age was approximately 19 years for the entire experimental group. Table 2 shows the program of the experimental group participants. There were 12 male technology students, 7 male business students, 5 female technology students, and 19 female business students.

The comparison group were those students who started the student success course but then did not finish. Table 3 illustrates the gender and the age of the comparison group. There were 10 females and 14 males in the comparison group ranging in age from 17 to 36. The mean age was 19.50 for males, 20.20 for females, and 19.79 for the entire comparison group. Table 4 shows the program of the comparison group participants. There were 8 technology students and 16 business students.

Treatment and Data Collection

The student success course was offered in a one week block prior to the start of the fall semester. The course was delivered at the institute from 8:30 A.M. to 4:00 P.M. during each of the five successive days.

The treatment consisted of 19 sessions with each of the first three sessions lasting 60 minutes and each of the remaining sessions lasting 75 minutes. Four sessions were held each day for the first four days. Only three sessions

were held on the last day. The treatment sessions were concerned with four main areas of student life: (1) academic study skills (ex: taking notes, writing examinations, etc.); (2) life enhancement skills (ex: time and stress management, goal setting, financial management, relationships, etc.); (3) resources (ex: community resources, campus resources, etc.); and (4) career planning (ex: a general introduction to the need for career plans). The following session topics were presented to the participants in the following order: (1) Goals and Motivation, (2) Discovery Wheel (a tool for participants to assess their current study abilities and then to set goals for improve their study skills), (3) Critical Thinking, (4) Campus Resources, (5) Former Student Testimonial (a recent graduate spoke in terms of the need for first year students to develop good study strategies), (6) Taking Notes, (7) Memory and Reading, (8) Time Management, (9) Writing, (10) Diversity, (11) Self-Esteem, (12) Handling Money, (13) Mock Lectures (a faculty member gave a short class on mathematics to show the students a typical class in a post-secondary school), (14) Career Planning, (15) Writing Examinations, (16) Community Resources, (17) Stress Management, (18) Wellness and Health, (19) Relationships.

All students in the accessible population (N=504) were sent a letter inviting them to participate in a student success course. This gave the study 67 students who attended the student success course. These students were then placed

in either the experimental group or the comparison group by the following method. If a student completed the entire student success course, then they were placed into the experimental group (N=43). If a student did not complete the entire student success course, then they were placed into the comparison group (N=24).

The rest of the 437 students in the accessible population were the general population group which consisted of 198 male technology students, 24 female technology students, 92 male business students, and 123 female business students.

Following the course, data on participants were collected over a 32 month period. Data collection was completed by April 30, 1997. All students were eligible to graduate by this date if they completed all graduation requirements.

Instruments

Self-Efficacy Scale (SES)

Self-Efficacy can be defined as the general levels of belief in one's own ability (Corcoran & Fischer, 1987). The self-efficacy was measured before and after the treatment using the Self-Efficacy Scale (Corcoran & Fischer, 1987). The SES was constructed by Sherer (a copy of the letter of permission to use the scale is in Appendix B). It is a 23 item scale which measures general expectations of self-efficacy. The scale assumes that personal expectations of mastery are a major determinant of behavior change and that

"individual differences in past experiences and attributions of success lead to different levels of generalized self-efficacy expectations" (Corcoran & Fischer, 1987, p. 294).

There are two subscales to the SES: general self-efficacy and social self-efficacy. The SES has good internal consistency with alphas of .86 for the general subscale and .71 for the social subscale. The SES has shown good criterion-related validity by accurately predicting that people with higher self-efficacy would have greater success in past vocational, educational, and monetary goals. The SES has shown concurrent validity by correlating significantly in expected directions with a number of other instruments (the Ego Strength Scale, the Interpersonal Competency Scale, and the Rosenberg Self-Esteem Scale) (Corcoran & Fischer, 1987).

Rotter I-E Scale

External locus of control is the belief that an event is not contingent upon one's own behavior but that the event is the result of luck, chance, fate, or the control of powerful others (Rotter, 1982). Internal locus of control is the belief that an event is contingent upon one's own behavior or one's own relatively permanent characteristics (Rotter, 1982). The locus of control in the experimental group was measured before and after the treatment using the Rotter I-E Scale (a copy of the letter of permission to use the scale is in Appendix D) (Rotter, 1982). The Rotter I-E Scale is a 23 item forced-choice inventory which assesses the generalized

expectancies for internal versus external control of reinforcement. Internal control refers to the belief that an event is dependent upon one's own behavior; while, external control refers to the belief that events are not entirely contingent on one's own behavior but the "result of chance, fate, or luck" (Anastasi, 1988, p. 588). The Rotter I-E Scale has split-half and Kuder-Richardson reliabilities of about .70 (for total score clusters). The retest reliabilities are also about .70 (after intervals of one to two months) (Anastasi, 1988). Anastasi (1988) also reported that the Rotter I-E Scale has good construct validity.

Data Analysis

The significance of differences between the graduation rates of the experimental group and the general population were tested using a Chi-Square test of significance.

The significance of differences between the pretest and the posttest scores for self-efficacy and for locus of control were tested using t -tests for dependent means.

The significance of differences between the high school grade 12 averages of the experimental group and the general population were tested using t -tests for independent means.

The level of significance was set at $p < .05$ for all statistical tests.

The comparison group was small in numbers and was, therefore, not used for any data analysis purposes.

CHAPTER IV

RESULTS

Introduction

The general purpose of this study was to assess the effectiveness of a student success course in terms of higher retention and graduation rates for students in a number of two-year technical institute programs. As well, the study assessed changes in self-efficacy and locus of control in the experimental group.

The descriptive statistical data are presented first and the statistical tests of significance follow. The findings pertaining to the original research questions are presented in the order in which they are presented in Chapter One: significant differences in graduation rates, grade 12 averages, self-efficacy, and locus of control.

Descriptive Statistics

Table 5 illustrates the numbers of students in the study. There were a total of 504 students in the study. Three groups of students were available: the general population, the experimental group and the comparison group. The general population contained 437 students, the experimental group contained 43 students, and the comparison group had 24 students for a total of 504 students. Overall, there were 322 males and 182 females consisting of 247 students in technology programs and 257 students in business programs.

Table 5

Numbers of Students in Total Group and Subgroups (N=504)

	<u>Total</u>	<u>Males</u>	<u>Females</u>
General Population	437	290	147
General Population Graduates	197	127	70
Experimental Group	43	19	24
Experimental Group Graduates	30	11	19
Comparison Group	24	13	11
Comparison Group Graduates	7	3	4

Statistical Tests of Significance

Table 6 contains the grade 12 averages for the experimental group and the general population. The experimental group grade 12 average was 1.38% higher than the grade 12 average of the general population. A t -test for independent means showed that this difference was not significant. The same comparisons for four subgroups (namely technology students, business students, males, and females) also indicated no significant differences.

The graduation rates for the experimental group and the general population are shown in Table 7. First, students in the experimental group are compared to the students in the general population. Then, experimental group students in technology programs are compared to general population students in technology programs. Lastly, experimental group students in business programs are compared to general population students in business programs. The graduation data are categorical and are simply recorded as "fail" or "pass."

The 437 students in the general population graduated at the rate of 45.1% which was lower than the graduation rate of 69.8% for the experimental group. Thus, 24.7% more experimental group students graduated when compared to the entire general population of students. A Chi-square test of significance of differences for graduation rates indicates this to be a significantly higher graduation rate.

The 222 students in the technology general population

Table 6

Summary of t-Tests of Significance of Differences
Between Means for Grade 12 Averages of the
Experimental Group and the General Population

All Students						
	<u>N</u>	<u>Mean (%)</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Experimental Group	43	73.50	8.53	.86	109	.40
Gen Population Sample	68	72.12	8.10			

Technology Students						
	<u>N</u>	<u>Mean (%)</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Experimental Group	17	73.23	8.96	.50	49	.62
Gen Population Sample	34	72.04	7.46			

Business Students						
	<u>N</u>	<u>Mean (%)</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Experimental Group	26	73.67	8.41	.65	58	.52
Gen Population Sample	34	72.21	8.80			

Males						
	<u>N</u>	<u>Mean (%)</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Experimental Group	19	68.41	6.57	-1.05	60	.30
Gen Population Sample	43	70.67	8.30			

Females						
	<u>N</u>	<u>Mean (%)</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Experimental Group	24	77.52	7.80	1.36	47	.18
Gen Population Sample	25	74.61	7.24			

graduated at the rate of 41.9% which was lower than the graduation rate of 58.8% for the technology experimental group. Thus, 16.9% more technology experimental group students graduated when compared to the technology general population students. This difference was not significant.

The 215 students in the business general population graduated at the rate of 48.4% which was lower than the graduation rate of 76.9% for the business experimental group. A Chi-square test of significance of differences indicates that this is a significantly higher number of graduates.

Table 7

Results of 2 X 2 Chi-Square Tests of Significance of Differences for Graduation Rates among the Experimental Group and the General Population

	<u>Fail</u>	<u>Pass</u>	<u>N</u>	<u>Chi-Square Value</u>	<u>df</u>	<u>Sig</u>
Experimental Group Percentage*	13 30.2	30 69.8	43	9.57	1	.00
General Population Percentage*	240 54.9	197 45.1	437			
Technology Students						
Experimental Group Percentage*	7 41.2	10 58.8	17	1.85	1	.17
General Population Percentage*	129 58.1	93 41.9	222			
Business Students						
Experimental Group Percentage*	6 23.1	20 76.9	26	7.57	1	.01
General Population Percentage*	111 51.6	104 48.4	215			

* based on row totals

Table 8 contains the self-efficacy results for the experimental group. The higher the score on the Self-Efficacy Scale the higher the perceived self-efficacy. The general self-efficacy posttest scores were higher than the pretest scores for the experimental group; although, this difference was not significant. The social self-efficacy posttest scores were higher than the pretest scores for the experimental group; although, this difference was not significant. The remainder of Table 8 shows the experimental group self-efficacy results for the technology students, business students, males, and females; all of these results showed no significant differences.

Table 9 illustrates the locus of control results for the experimental group. The experimental group had a pretest raw score of 10.16 with a standard deviation of 3.42 and had a post-test raw score of 9.49 with a standard deviation of 3.58. The lower the score on the Rotter I-E Scale the higher the internal locus of control. The experimental group posttest scores were lower than the pretest scores; although, this difference was not significant. Rotter (1982) cited several studies which determined the mean locus of control scores for four groups of university students. The following are the mean scores and standard deviations for these four groups: Ohio State University (N=1,180) 8.29 and 3.97; Kansas State University (N=113) 7.73 and 3.82; University of Connecticut (N=303) 9.22 and 3.88; and Florida State University (N=116)

Table 8

Summary of t-Tests of Significance for the Self-Efficacy Scale
Experimental Group (N=43)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
General Pretest	64.35	10.30	.50	42	.62
General Posttest	64.98	8.51			
Social Pretest	18.84	4.35	1.00	42	.32
Social Posttest	19.33	3.80			

Experimental Group Technology (N=17)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
General Pretest	63.76	11.77	.93	16	.37
General Posttest	66.18	9.20			
Social Pretest	18.06	4.91	1.28	16	.22
Social Posttest	19.18	3.75			

Experimental Group Business (N=26)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
General Pretest	64.73	9.44	-.45	25	.66
General Posttest	64.19	8.12			
Social Pretest	19.35	3.97	.14	25	.89
Social Posttest	19.42	3.91			

Experimental Group Males (N=19)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
General Pretest	64.63	10.04	-.38	18	.71
General Posttest	64.16	8.80			
Social Pretest	19.58	4.31	-.29	18	.77
Social Posttest	19.42	3.92			

Experimental Group Females (N=24)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
General Pretest	64.13	10.71	.74	23	.47
General Posttest	65.63	8.41			
Social Pretest	18.25	4.39	1.33	23	.20
Social Posttest	19.25	3.79			

Table 9

Summary of t-Tests for the Locus of Control
Measured by the Rotter I-E Scale

Experimental Group (N=43)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Pretest	10.16	3.42	-1.57	42	.13
Posttest	9.49	3.58			

Experimental Group Technology (N=17)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Pretest	9.82	3.88	-1.35	16	.20
Posttest	8.94	3.38			

Experimental Group Business (N=26)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Pretest	10.38	3.15	-.93	25	.36
Posttest	9.85	3.73			

Experimental Group Males (N=19)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Pretest	9.26	4.00	-.42	18	.68
Posttest	9.00	3.46			

Experimental Group Females (N=24)

	<u>Mean</u>	<u>S.D.</u>	<u>t</u>	<u>df</u>	<u>Sig.</u>
Pretest	10.88	2.77	-1.67	23	.11
Posttest	9.88	3.70			

9.05 and 3.66. These mean scores are slightly lower than the mean scores of the experimental group; this indicates that the experimental group was higher in external locus of control than these other college students. The remainder of Table 9 shows the experimental group locus of control results for the technology students, business students, males, and females. All of these results showed no significant differences in terms of locus of control.

Additional Findings

The gender differences in graduation rates among the experimental group and the general population are shown in Table 10. The 19 experimental group males graduated at a rate of 57.9% which was 14.1% higher than the 43.8% graduation rate of the males in the general population. This difference was not statistically significant. The 24 experimental group females graduated at a rate of 79.2% which was 31.6% higher than the 47.6% graduation rate of the general population females. A Chi-square test of significance of differences for graduation rates indicated that this difference was statistically significant.

Table 10

Results of 2 X 2 Chi-Square Tests of Significance of Differences for Graduation Rates among Males and Females

<u>Males</u>	<u>Fail</u>	<u>Pass</u>	<u>N</u>	<u>Chi-Square Value</u>	<u>df</u>	<u>Sig</u>
Experimental Group	8	11	19			
Percentage*	42.1	57.9		1.44	1	.23
General Population	163	127	290			
Percentage*	56.2	43.8				
<u>Females</u>	<u>Fail</u>	<u>Pass</u>	<u>N</u>	<u>Chi-Square Value</u>	<u>df</u>	<u>Sig</u>
Experimental Group	5	19	24			
Percentage*	20.8	79.2		8.23	1	.00
General Population	77	70	147			
Percentage*	52.4	47.6				

* based on row totals

CHAPTER V

DISCUSSION AND CONCLUSIONS

The main focus of this study was to investigate the effects of a student success course on graduation rates for students in technology and business programs at a post-secondary technical institute. The findings indicate that the student success course does improve graduation rates significantly. This result gives further support to the growing body of evidence which indicates that student success courses improve graduation rates.

The student success course included instruction and discussion of several issues of concern to the study habits of post-secondary students: goal setting, motivation, critical thinking, campus resources, note taking, memory, reading, time management, writing, self-esteem, handling money, career planning, examination writing, community resources, stress management, health, and relationships. The studies in the literature review also contained these issues as a part of their study skills courses; however, each of the studies only investigated some of them. According to the literature review, these areas seemed to be the important ones in terms of student retention rates. The findings of this study are in general agreement with the findings in the literature (Cuseo, 1991; Dixon & Gudan, 1994; Fidler, 1991; Glass & Garrett, 1995; Hoff et al., 1996; Lipsky & Ender, 1990; Petrie & Helmcamp, 1998).

It appears that any student who undertakes a course that teaches basic study skills will have a much higher chance of graduation. The research indicated that the student success course, if completed, appears to be very effective for most students in terms of enhanced graduation rates; it also appears to be effective for female students and for business students. The strong relationship between a student success course and higher graduation rates is likely due to the students using newly acquired methods of learning and storing information. The acquisition of information is crucial to success at post-secondary school; thus, students who have taken a success course would likely have an advantage in this regard. The other advantage of such a course might be improved examination writing skills. This skill is certainly essential to the success of any post-secondary student particularly in classes where achievement is observed with written examinations. In other words, the student success course does nothing to increase a student's level of intelligence; however, it does help students to work more efficiently in terms of effective time management, preparation for classes, writing examinations, and studying generally.

Student motivation is another significant factor for success in post-secondary studies. Some argue that students who voluntarily take student success courses are the students who are already highly motivated to succeed; thus, these students would likely succeed regardless of a student success

course. Motivation could be a factor in the significantly higher graduation rates of the experimental group if these students were more highly motivated. High school averages of the experimental group and the general population were compared; there was no significant difference between the mean scores of the groups. There is some evidence that the motivation level was similar for both groups in spite of the fact that higher achievement and increased motivation tend to be directly related.

The business students did have a significantly higher graduation rate while the technology students did not. This would appear to support the general attitude of post-secondary students that science programs are more difficult in content than commerce programs; in other words, the business students who had enhanced study skills would have an even greater chance for graduation while the technology students with enhanced study skills still graduated at the same rate as technology students without enhanced study skills. It would appear that even good study skills will not help students learn some concepts. It must be noted that the technology students from the success course did graduate at a higher rate than the general population, even though the difference was not statistically significant and the sample of technology students in the success course was small (N=17).

There was a slight increase in general self-efficacy scores for the experimental group, the technology students,

and the females while the business students and the males had a slight decrease in general self-efficacy scores; however, none of these results were significant. This could be explained by the short treatment period which provided insufficient time for the students to develop higher self-efficacy. It appears to take more than the five days of the student success course to develop higher perceptions of their abilities to succeed.

There was a slight increase in internal locus of control scores for the experimental group, the technology students, the business students, the males, and the females; however, this was not a significant increase. The student success course might have a significant positive effect on internal locus of control if the students were given more time to apply their new study skills.

The student success course results indicate females and business students had a significantly higher graduation rate than did the general population females and technology students. This result is very important to colleges which have a high female enrollment as well as a high enrollment in business programs. One issue is the possible bias resulting from the uneven gender mix in the experimental group. Further studies with gender balanced experimental groups are clearly needed.

Implications

The findings of this study support and justify the implementation of a permanent student success course at post-secondary institutes which are similar to the institute where this study was done. There are many positive aspects of such courses beyond the mere increase in graduation rates.

Approximately 25% more students in the group who took the success course graduated than did students from the general population. The annual intake of technology and business students at the institute where the research occurred is approximately 500 students (260 technology students and 240 business students). This study showed that 45.1% of the general population graduated; thus, 226 students from the general population would graduate. This study showed that 69.8% of student success course students graduated. Thus, 349 students would graduate if all 500 students took the success course. This is an increase of 123 students who may remain until graduation. At the time of the study, the final semester tuition at the institute where the research occurred was approximately \$800; thus, there is an increased tuition revenue of \$98,400 in the final semester alone from these additional 123 students. There would also be increased tuition revenues for each of the earlier semesters. The technology programs consist of five semesters; the business programs require four semesters. This increased tuition revenue would start during the first academic year because in

Canadian post-secondary programs "the most dramatic drop-out rate is during and after the first year, when between 30 and 40 percent of students discontinue their studies" (Gardner et al., 1995, p. 2).

The students who attend the student success course are better prepared to succeed in post-secondary studies. They receive a good set of skills as a result of the student success course. These skills will help them succeed in their studies.

The students who attend the student success course have a better chance at developing good relationships with the teachers who teach the student success course. This improved relationship will help the student who might be looking for help on whatever issue. Such a student would likely visit a teacher whom he/she feels would help them; the student can meet such teachers at the student success course. This initial relationship building for the students can be very helpful in many aspects of post-secondary life.

Meeting new friends at school is sometimes difficult for new students, especially if he/she has recently moved to the city in which the school is located. Friends and family might be left behind when students attend college, especially if the college is in a new city. The students at the student success course soon realize that they have many things in common with the other students in the course. Students who develop good peer support networks will have many people to support them

during post-secondary studies.

Students who attend the student success course tend to have a good self-concept and a strong feeling of being prepared to tackle post-secondary studies. This general feeling of being prepared might help students overcome a possible fear of failure which they might have had prior to the student success course.

Future Research

Further research into the issues surrounding student success courses and their impact on retention is needed.

1. A study of the effects of a student success course offered on a timetable of one hour per week across the entire first year of studies would allow for a better indication of the impact the success course has on retention.
2. Research into a success course which is compulsory in certain programs would eliminate the issue of volunteers and the possible higher motivation of volunteers.
3. Research is needed in the area of student motivation behind the decision to take a student success course.
4. The effects of student success courses on self-efficacy and locus of control need further study as these are important motivational variables with a significant impact on student success and failure.
5. Reasons why the business students and the females seemed to be more affected by the success course should be studied.

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APPENDIX A
Research Ethics Approval



UNIVERSITY OF REGINA

OFFICE OF ASSOCIATE VICE-PRESIDENT AND DEAN
FACULTY OF GRADUATE STUDIES AND RESEARCH

TO: John Frederick McWilliams

FROM: Dr. G.W. Maslany, Chair
Research Ethics Review Committee

DATE: September 27, 1994

Re: The Effects of a College Survival Course on Achievements and Selected Personality Variables.

Please be advised that the committee has considered this proposal and has agreed that it is:

- 1. Acceptable as submitted.
(Note: Only those applications designated in this way have ethical approval for the research on which they are based to proceed).
- 2. Acceptable subject to the following changes and precautions:
(Note: These changes must be resubmitted to the Committee and deemed acceptable by it prior to the initiation of the research. Once the changes are regarded as acceptable a new approval form will be sent out indicating it is acceptable as submitted.)
- 3. Unacceptable to the Committee as submitted. Please contact the Chair for advise on whether or how the project proposal might be revised to become acceptable (ext. 4161/5186).

/sm

c: Applicant
Academic Unit Head
(Ethics1.Doc)



APPENDIX B

Letter of Permission (Mark Sherer)

The Institute for Rehabilitation and Research (TIIR)

1333 Moursund, Houston, Texas 77030-3405
In the Texas Medical Center
Telephone (713) 799-5000, 797-5790 (TDD)
Fax (713) 799-7095



August 24, 1994

Mr. John McWilliams
Saskatchewan Institute of Applied Science & Technology
Box 1420
Moose Jaw, Saskatchewan
Canada S6H 4R4

Dear Mr. McWilliams:

Enclosed please find a copy of the Self-efficacy Scale for your review, as well as another copy that is marked with scoring instructions. This letter will serve as my formal permission allowing you to use the Self-efficacy Scale in your research if you decide to do so.

Thank you for your interest. I hope these materials are helpful to you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Sherer'.

Mark Sherer, Ph.D., ABPP
Director of Neuropsychology

APPENDIX C
Self-Efficacy Scale

Self-Efficacy Scale

1. Enter your participant number in the Identification Number section on Side Two of the Answer Sheet.
2. Your answers are to be recorded on the General Purpose - NCS - Answer Sheet.
3. This questionnaire is a series of statements about your personal attitudes and traits. Each statement represents a commonly held belief. Read each statement and decide to what extent it describes you. There are no right or wrong answers. You will probably agree with some of the statements and disagree with others. Please indicate your own personal feelings about each statement below by marking the letter that best describes your attitude or feeling. Please be very truthful and describe yourself as you really are, not as you would like to be.

A = Disagree Strongly
B = Disagree Moderately
C = Neither Agree Nor Disagree
D = Agree Moderately
E = Agree Strongly

Self-Efficacy Scale (continued)

1. I like to grow house plants.
2. When I make plans, I am certain I can make them work.
3. One of my problems is that I cannot get down to work when I should.
4. If I can't do a job the first time, I keep trying until I can.
5. Heredity plays the major role in determining one's personality.
6. It is difficult for me to make new friends.
7. When I set important goals for myself, I rarely achieve them.
8. I give up on things before completing them.
9. I like to cook.
10. If I see someone I would like to meet, I go to that person instead of waiting for him or her to come to me.
11. I avoid facing difficulties.
12. If something looks too complicated, I will not even bother to try it.
13. There is some good in everybody.
14. If I meet someone interesting who is very hard to make friends with, I'll soon stop trying to make friends with that person.
15. When I have something unpleasant to do, I stick to it until I finish it.
16. When I decide to do something, I go right to work on it.
17. I like science.
18. When trying to learn something new, I soon give up if I am not initially successful.
19. When I'm trying to become friends with someone who seems uninterested at first, I don't give up very easily.
20. When unexpected problems occur, I don't handle them well.
21. If I were an artist, I would like to draw children.
22. I avoid trying to learn new things when they look too difficult for me.
23. Failure just makes me try harder.
24. I do not handle myself well in social gatherings.
25. I very much like to ride horses.
26. I feel insecure about my ability to do things.
27. I am a self-reliant person.
28. I have acquired my friends through my personal abilities at making friends.
29. I give up easily.
30. I do not seem capable of dealing with most problems that come up in my life.

Self-Efficacy Scale Scoring Key

Seven items (1, 5, 9, 13, 17, 21, 25) are filler items and are not scored. After items presented in a negative fashion (3, 6, 7, 8, 11, 14, 18, 20, 22, 24, 26, 29, 30) are reverse scored, the scores for all items are summed. Before reverse scoring, the answers are keyed as follows: A = 1, B = 2, C = 3, D = 4, E = 5. The higher the score, the higher the self-efficacy expectations.

Seventeen items (2, 3, 4, 7, 8, 11, 12, 15, 16, 18, 20, 22, 23, 26, 27, 29, and 30) are summed to give The General Self-Efficacy Subscale score.

Six items (6, 10, 14, 19, 24, and 28) are summed to give The Social Self-Efficacy Subscale score.

(Corcoran & Fischer, 1987, p. 294)

APPENDIX D

Letter of Permission (Julian B. Rotter)

CONNECTICUT

THE COLLEGE OF LIBERAL ARTS AND SCIENCES
Department of Psychology

August 19, 1994

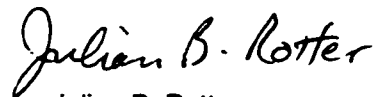
John F. McWilliams
Palliser Institute
Saskatchewan St. & 6th Avenue, NW
PO Box 1420
Moose Jaw, Saskatchewan S6H 4R4

Dear Mr. McWilliams:

You have my permission to reproduce and use the I-E Scale for your master's degree research.

You may also reproduce the Scale in the Appendix of your thesis.

Very truly yours,



Julian B. Rotter
Professor of Psychology



An Equal Opportunity Employer

APPENDIX E
Rotter I-E Scale

Rotter I-E Scale

1. This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers.
2. Your answers to the items on this inventory are to be recorded on the General Purpose - NCS - Answer Sheet.
3. Enter your participant number in the Identification Number section on Side Two of the Answer Sheet.
4. Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Find the number of the item on the answer sheet and fill in either the a or b blank (depending upon which you choose as the statement which is more true).
5. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

Rotter I-E Scale (continued)

1. a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he/she tries.
5. a. The idea that teachers are unfair to students is nonsense.
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.
b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.
b. It is one's experiences in life which determine what they're like.
9. a. I have often found that what is going to happen will happen.
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

Rotter I-E Scale (continued)

11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b. Getting a good job depends mainly on being in the right place at the right time.
12. a. The average citizen can have an influence in government decisions.
b. This world is run by the few people in power, and there is not much the little guy can do about it.
13. a. When I make plans, I am almost certain that I can make them work.
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. There are certain people who are just no good.
b. There is some good in everybody.
15. a. In my case getting what I want has little or nothing to do with luck.
b. Many times we might just as well decide what to do by flipping a coin.
16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.
18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
b. There really is no such thing as "luck."
19. a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.
20. a. It is hard to know whether or not a person really likes you.
b. How many friends you have depends upon how nice a person you are.

Rotter I-E Scale (continued)

21. a. In the long run the bad things that happen to us are balanced by the good ones.
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. a. With enough effort we can wipe out political corruption.
b. It is difficult for people to have much control over the things politicians do in office.
23. a. Sometimes I can't understand how teachers arrive at the grades they give.
b. There is a direct connection between how I study and the grades I get.
24. a. A good leader expects people to decide for themselves what they should do.
b. A good leader makes it clear to everybody what their jobs are.
25. a. Many times I feel that I have little influence over the things that happen to me.
b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a. People are lonely because they don't try to be friendly.
b. There's not much use in trying too hard to please people, if they like you, they like you.
27. a. There is too much emphasis on athletics in high school.
b. Team sports are an excellent way to build character.
28. a. What happens to me is my own doing.
b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a. Most of the time I can't understand why politicians behave the way they do.
b. In the long run the people are responsible for bad government on a national as well as on a local level.

Rotter I-E Scale Scoring Key

The score is the total number of external choices.

Thus, the higher the score the higher the external locus of control.

Also, the lower the score the higher the internal locus of control.

1. filler (not scored)	16. a
2. a	17. a
3. b	18. a
4. b	19. filler (not scored)
5. b	20. a
6. a	21. a
7. a	22. b
8. filler (not scored)	23. a
9. a	24. filler (not scored)
10. b	25. a
11. b	26. b
12. b	27. filler (not scored)
13. b	28. b
14. filler (not scored)	29. a
15. b	

(Rotter, 1982, p. 185)

APPENDIX F

Topics in the College Survival Workshop

COLLEGE SURVIVAL WORKSHOP**Monday, August 29, 1994 (Macoun Lounge)**

- 08:30 to 09:30 - - - General Introduction
09:30 to 10:30 - - - Session #1 (Goals, Motivation)
11:00 to 12:00 - - - Session #2 (Discovery Wheel)
13:30 to 14:30 - - - Session #3 (Critical Thinking)
14:45 to 16:00 - - - Session #4 (Campus Resources)

Tuesday, August 30, 1994 (Quiet Study Lounge)

- 08:30 to 09:45 - - - Session #5 (Former Student Testimonial)
10:15 to 11:30 - - - Session #6 (Taking Notes)
13:00 to 14:15 - - - Session #7 (Memory/Reading)
14:45 to 16:00 - - - Session #8 (Time Management)

Wednesday, August 31, 1994 (Macoun Lounge)

- 08:30 to 09:45 - - - Session #9 (Writing)
10:15 to 11:30 - - - Session #10 (Diversity)
13:00 to 14:15 - - - Session #11 (Self-Esteem)
14:45 to 16:00 - - - Session #12 (Handling Money)

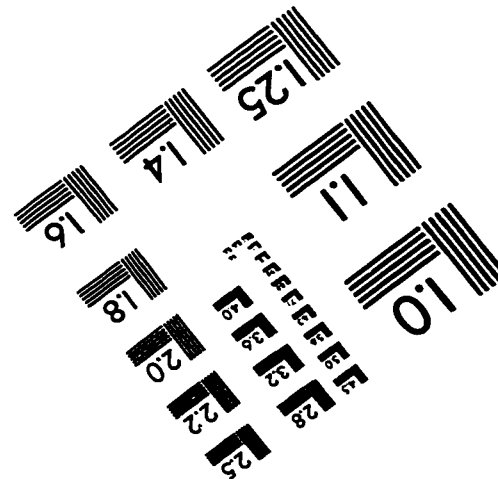
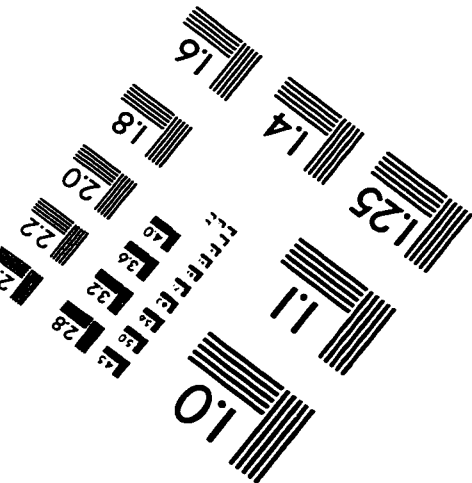
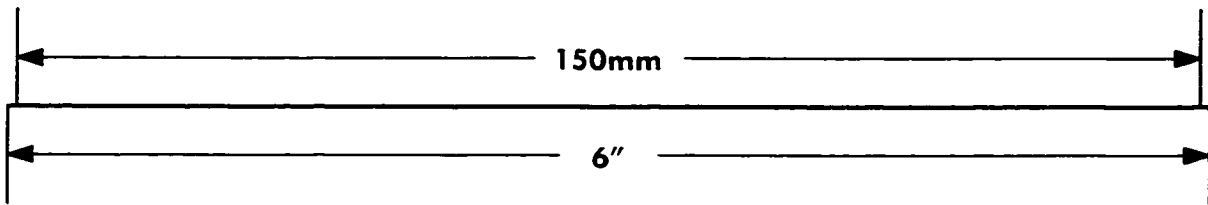
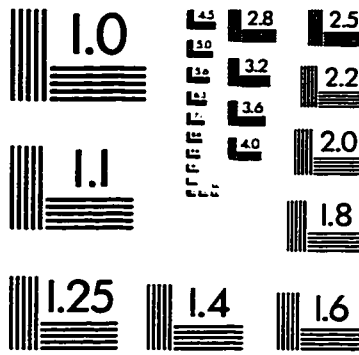
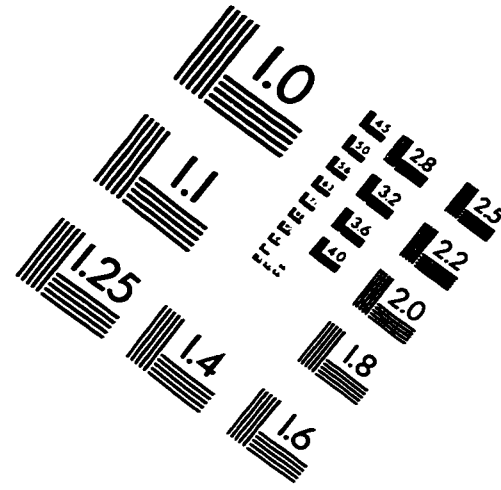
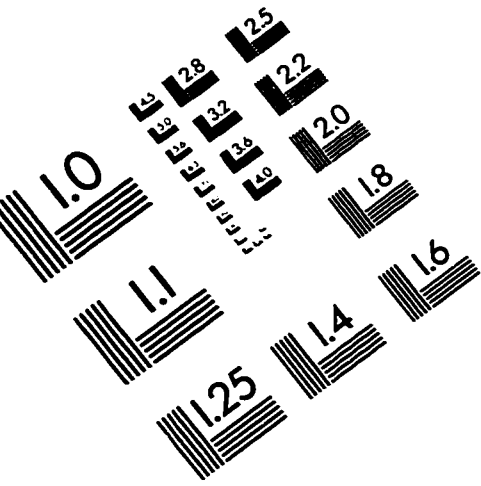
Thursday, September 1, 1994 (Macoun Lounge)

- 08:30 to 09:45 - - - Session #13 (Mock Lectures)
10:15 to 11:30 - - - Session #14 (Career Planning)
13:00 to 14:15 - - - Session #15 (Writing Examinations)
14:45 to 16:00 - - - Session #16 (Community Resources)

Friday, September 2, 1994 (Macoun Lounge)

- 08:30 to 09:45 - - - Session #17 (Stress Management)
10:15 to 11:30 - - - Session #18 (Wellness/Health)
13:00 to 14:15 - - - Session #19 (Relationships)

IMAGE EVALUATION TEST TARGET (QA-3)



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