LEADERSHIP DEVELOPMENT AT UNIVERSITY: COMPARING STUDENT LEADERS WITH DIFFERENT LEVELS OF INVOLVEMENT IN A LEADERSHIP EDUCATION PROGRAM

by

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ABSTRACT

This study examined how students' leadership behaviours are related to both their personal leadership experience and their involvement in a leadership education program. The context of the study was the University of Guelph's Certificate in Leadership program. The Student Leadership Practices Inventory (LPI) was administered to 33 student leaders who did not participate in the Leadership Certificate and 14 students who were at various levels of completion of the Certificate. No significant difference in Student LPI scores was found between students in the program and those not in the program; between student leaders with over one year of leadership experience and those with less than one year of experience; and between students at different levels of completion of the Leadership Certificate. However, students who were doing or had completed their leadership practicum as part of the Certificate had significantly higher Student LPI scores than those who had not.

Keywords: Student, leadership, development

Subject Terms: leadership development, leadership education, student leader, Student Leadership Practices Inventory

DEDICATION

To my husband, Geoff, for his unfaltering support. I know you missed my company as much as I desperately missed yours. I was only able to accomplish this feat because you are a brilliant daddy and a true partner. To my children, Elliot and Anne, for your patience and understanding, and your fantastic ability to take long naps!

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CHAPTER 1: INTRODUCTION

General statement of problem

Since their inception, one of the key roles of universities has been the development of leaders for society (Roberts & Ullom, 1989; Connaughton, Lawrence, & Ruben, 2003). The last decade has seen a rapid growth in leadership development initiatives on university campuses across North America. Leadership development is taking the form of academic courses, extra-curricular programs, as well as increased opportunities for students to serve in a leadership role on campus. However, the review of the literature for this study evidenced that very little research has been conducted to prove the effectiveness of these initiatives. A bounty of anecdotal evidence suggests that students who participate in leadership roles and/or programming on their campuses increase their leadership knowledge and abilities, but there remains a need for empirical research to explore the relationship between participation in leadership education and students' leadership behaviour.

Significance of the study

Three groups will benefit from this study; administrators, students, and the higher education research community. The benefit of this study to educational administrators in general is that it will provide stepping-stones for the improvement and evaluation of leadership education programs offered by universities. Student participants in this study stand to benefit because filling out the survey instrument is a self-reflection exercise. Students will learn about the leadership behaviours they use and be able to reflect on how the university experience, the leadership education program, and/or their own

leadership roles have helped shape these behaviours. Student participants in this study and future students will benefit in the long term from an improved leadership education program. The study will also provide insight into the relationship between students' leadership behaviours, leadership education programs, and leadership experience; adding to the limited research that addresses the impact of leadership programs.

Research purpose and hypothesis

The purpose of this study was to explore the relationship between leadership experience, participation in a leadership education program, and students' self-reported leadership behaviours. The goal of the study was to examine how students' leadership behaviours are related to both their personal leadership experience and their involvement in a leadership education program. Because leadership experience is integral to the leadership development process, all students in the study had leadership experience. The study compared students who participated in the leadership education program with those who did not.

The research questions guiding the study are:

1. Do students who participate in the University of Guelph's Leadership Certificate report the use of transformational leadership behaviours at a higher rate than students who do not participate?
2. Do students who have experience as a student leader on campus for over one year report the use of transformational leadership behaviours at a higher rate than students who have experience as a student leader on campus for under one year?

3. To what degree do the various levels of completion of the Certificate program and leadership experience influence the reported rate of transformational leadership behaviours?

Theoretical background for the research

Introduction

One of the leading scholars in leadership explained the paradox of the study of leadership best as "leadership is one of the most observed and least understood phenomena on earth" (Burns, 1978, p.2). Leadership theory has evolved from the study of traits or characteristics of a particular leader to the study of the context of leadership practice to the exploration of change as motivated by a leader or group of leaders. Leadership continues to evolve and ten years from now, a new focus may emerge. This study uses transformational leadership as the lens for analysis of the research. What follows is an explanation of the theoretical background of the research beginning with a brief summary of leadership theories leading to transformational leadership. The discussion will then turn to transformational leadership in detail. I will conclude by describing the two main leadership theories that have been developed exclusively for university students.

Evolution of leadership theory

Goethals, Sorenson, and Burns (2004) in an all encompassing work called "The Encyclopaedia of Leadership" summarize the evolution of leadership theory in four phases: trait, behavioural, situational/contingency, and transformational. The trait approach to leadership focuses on the leader regardless of context. The leader is carefully selected by an organization for a set of characteristics with which he or she is likely born. These characteristics may be improved over time, but trait theory suggests

that a leader needs a base level of natural talent or gifts in order to be a leader. Trait theory gave way to behavioural theory when the notion that leadership capability can be learned, rather than being inherent, challenged the status quo. Behavioural theorists studied successful leaders to determine effective leadership behaviours and styles. Building on the idea of leadership styles, situational/contingency theories emerged combining the characteristics and behaviours of individual leaders with the context in which they were leading. Fiedler's (1967) contingency theory stated that groups were effective when the leader's style was matched with the situation of the group. This theory assumed that the leader's style was fixed and therefore if there was a mismatch, the leader was ineffective and unable to lead. Hersey and Blanchard (1969) followed with situational theory that was similar but allowed for the leader to react and adapt to followers and change their leadership behaviours depending on context. Finally, transformational leadership theories focus neither on leader characteristics, nor leadership context, but instead on the relationship between leaders and followers. Leaders are defined as agents of change who work with, and for, followers rather than directing them. Leadership theory continues to evolve and in time a fifth phase of leadership theory may be added to this list.

Another method for categorizing the plethora of leadership literature is to divide it into two distinct paradigms. Rost (1993) did just that and classified all leadership thought into either industrial or post-industrial. Theories that were dominant for most of the twentieth century are industrial and focus on the individual as leader. Leadership in this paradigm is about power, control, and authority. Rational thinking and management are central to the industrial concept of leadership. In contrast, theories that emerged in the late 1980's up until today are classified as post-industrial. This paradigm is grounded in relationships, shared responsibility, and goals. Post-industrial leadership is focussed on

the process of leadership and assumes that leadership is value laden. Much of the post-industrial concept of leadership is concerned with the transformative nature of leadership and its effectiveness (Dugan, 2006).

Transformational leadership

This study is grounded in transformational leadership as described by Burns (1978), Bass and Avolio (1994), Kouzes and Posner (1987; 2002) and others. Although Burns introduced the term 'transformational', his original theory of leadership has been expanded and updated such that 'transformational leadership' is now used in the literature as a category of leadership theories. Change is the focus of all of the leadership theories discussed below.

Bass and Avolio's (1994) Full Range Model of Leadership is hierarchical in nature and composed of three levels of leadership. It describes leadership behaviours ranging from non-leadership, to transactional leadership, to transformational leadership (see Figure 1). The first level, laissez-faire leadership, represents a lack of leadership and is perhaps not true leadership behaviour as laissez-faire leaders are avoidant and passive. The next two levels are based on the work of Burns (1978) who coined the terms 'transactional' and 'transformational' leadership. Transactional leadership is described by Burns as "the reciprocal process of mobilizing, by persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realize goals independently or mutually held by both leaders and followers" (Burns, 1978, p. 425). Transactional leadership is characterized by the exchange "of valued things" (Burns, 1978, p. 17). Transformational leadership, according to Burns, "occurs when one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and

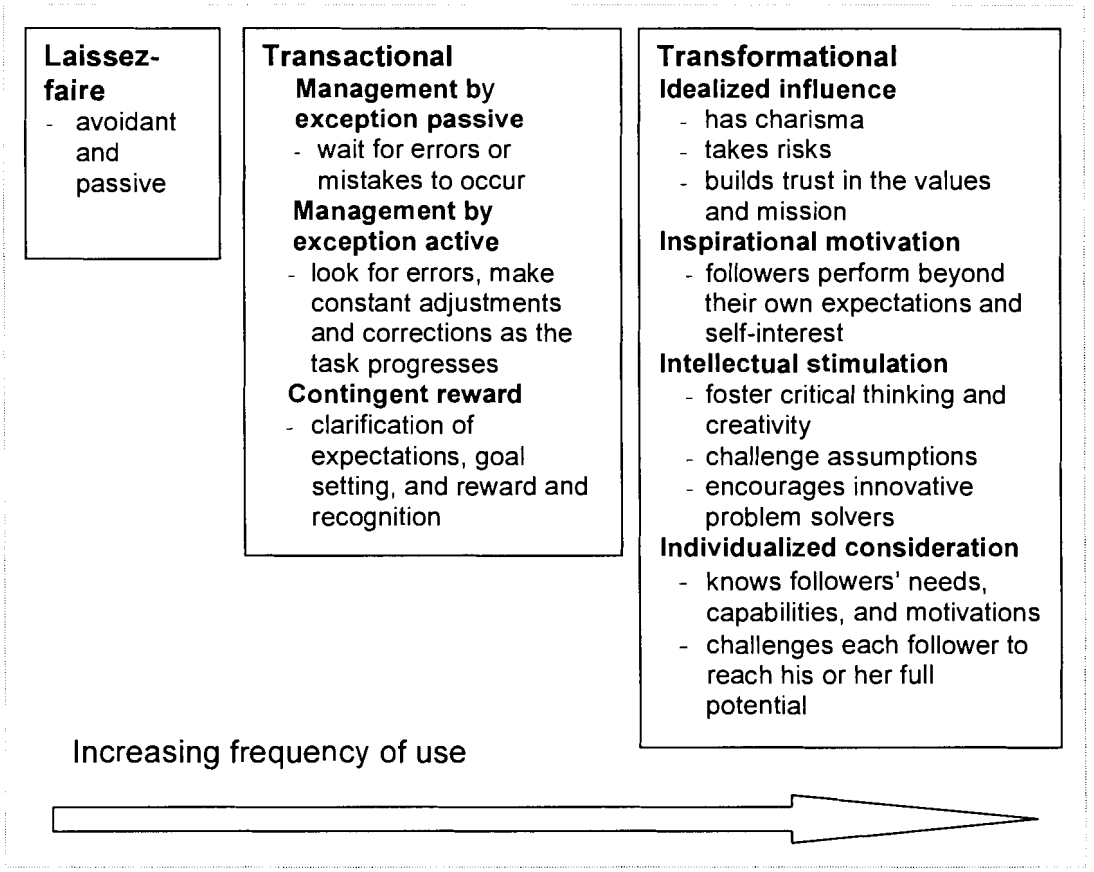
morality" (Burns, 1978, p. 20). In short, transactional leadership is about exchange, and transformational leadership is about change.

The Full Range Model of Leadership, summarized in Figure 1, is best explained by looking closely at each of the seven types or styles of leadership that compose the three levels of the hierarchy. The first type, laissez-faire, has been described above and is by itself the first level. The second level, or transactional leadership, is composed of two leadership styles: management-by-exception and contingent reward. Management-by-exception is characterized by leaders who are either passive and wait for errors or mistakes to occur before taking action, or actively seek errors and make constant adjustments and corrections as the task progresses. Contingent reward refers to the use of clarification of expectations, goal setting, and reward and recognition in order to accomplish tasks.

The third level of the Full Range Model contains four transformational leadership styles. "Idealized influence", initially labelled charisma, describes behaviour by the leader that induces followers to trust, respect, emulate, and identify with him/her. Leaders often build idealized influence by taking risks and being successful with those risks. Idealized influence also includes building confidence and trust in the values and mission of the organization and working toward a common good. "Individualized consideration" includes all those transformational leader behaviours that allow him or her to personally know and understand his or her followers. Leaders spend time getting to know the needs, capabilities, and motivations of followers and challenge each follower to reach his or her full potential. "Intellectual stimulation" describes transformational behaviours that foster critical thinking and creativity in followers, and encourages followers to challenge assumptions and current models to become effective, innovative problem solvers. "Inspiring motivation", the last transformational leadership style, includes leader

behaviours that encourage followers to perform beyond their own expectations and self-interest; leaders using this style stimulate enthusiasm with emotional appeals and optimistic talk of the future (Bass & Avolio, 1994).

Figure 1: Full Range Model of Leadership



The Full Range Model of Leadership allows for leaders to access a number of leadership styles and behaviours contingent upon the situation, and effective leaders use the three levels of the model with increasing frequency (Avolio, 2005). Possessing a range of leadership behaviours allows effective leaders to adapt and flow with different situations (Bass & Avolio, 1994). The authors of the model consider the three levels of leadership in hierarchical order with laissez-faire leadership being the least effective and transformational leadership being the most effective. Transactional leadership does

enable a leader to accomplish tasks, but transformational leadership takes an organization to the next level allowing a leader to make significant changes as well as make real progress in an organization. Therefore, an effective leader rarely uses laissez-faire leadership, and uses transactional types of leadership less often than transformational types of leadership (Avolio, 2005).

Kouzes and Posner (1987; 2002) popularized the notion of transformational leadership with a bestselling book and survey instrument. The Leadership Challenge (Kouzes & Posner, 2002) and the Leadership Practices Inventory (Kouzes & Posner, 2006a) are both commonly used in corporate and post-secondary leadership education programs. James Kouzes and Barry Posner (1987) conducted over 1000 interviews with business leaders who discussed their best experiences as leaders. What emerged from the research was what Kouzes and Posner refer to as "the Five Practices of Exemplary Leadership". The Five Practices are not so much a theory of a leadership as a prescription for leaders to follow in order to have a transforming effect on their organizations and on their followers. The model is "about the practices leaders use to transform values into actions, visions into realities, obstacles into innovations, separateness into solidarity, and risks into rewards" (Kouzes & Posner, 2006c, para. 2). The Five Practices are summarized in Figure 2 as: Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart (Kouzes & Posner, 2002). I will discuss the meaning of the elements of the Five Practices of Exemplary Leadership model in this introductory chapter; the development of the Leadership Practices Inventory, used to measure these practices is described in detail in chapter three.

Modeling the way involves not only modelling expected behaviour and setting an example for followers, but also possessing and demonstrating clear values and

principles. Leaders who inspire a shared vision look to the future and incorporate the follower's hopes and aspirations into the organization's overall mission and vision. Challenging the process involves taking risks, being a pioneer, and embracing innovation and change. Exemplary leaders enable others to act by acknowledging that leadership involves building and then trusting a team. These leaders work to make followers feel good about themselves, the organization and the task at hand. Lastly, encouraging the heart involves keeping spirits up, re-energizing followers, acknowledging contributions, and generally being aware of the needs of followers.

Figure 2: The Five Practices of Exemplary Leadership

1. **Modeling the Way**
   - modelling expected behaviour and setting an example for followers
   - demonstrating clear values and principles
2. **Inspiring a Shared Vision**
   - look to the future
   - incorporate the follower's hopes and aspirations into the organization's overall mission and vision
3. **Challenging the process**
   - taking risks
   - being a pioneer
   - embracing innovation and change
4. **Enabling other to Act**
   - acknowledging that leadership involves building and then trusting a team
   - make followers feel good about themselves, the organization and the task at hand
5. **Encouraging the Heart**
   - keeping spirits up
   - reenergizing followers
   - acknowledging contributions
   - being aware of the needs of followers

Adapted from Kouzes and Posner, 2002

Other leadership scholars also hold a view of leadership as transformational. These theories focus on using the leader's relationship with followers as tool for creating change. House's (1977) theory of charismatic leadership discussed how leaders use the follower's beliefs and values to create a vision that emotionally motivates people to

accomplish goals. Servant leadership (Greenleaf, 1977) is another theory that emphasises a leader's relationship to his or her followers. A servant-leader puts the interests of the group before him (her) self and collaborates with followers to achieve ends. Gardner's (1990) nine tasks of leadership also include a sense of working together with followers. He states that leaders are responsible for envisioning goals based on shared values, achieving unity, and renewing the organization by giving followers an opportunity to reflect and change past mistakes. The relational leadership theory of Komives, Lucas & McMahon (1998) views leadership as an inclusive process empowering followers to accomplish purposeful, ethical social change.

Avolio (2005) states that leadership is "influencing people to achieve some particular targeted objective". Stogdill and Bass expand on Avolio's view:

> Leadership is the interaction between members of a group. Leaders are agents of change, persons whose acts affect other people more than other people's acts affect them. Leadership occurs when one group member modifies the motivations or competencies of others in the group (Stodgill and Bass, 1981, p.16).

John Gardner's definition is in the same vain: "Leadership is the process of persuasion or example by which an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leaders and his or her followers" (Gardner, 1990, p. 1). Designers of the University of Guelph leadership program, that provided the context of this study, reference the definition of leadership proposed by Susan Komives and colleagues: "a relational process of people together attempting to accomplish change or make a difference to benefit the common good" (Komives, Lucas & McMahon, 1998, p. 21). These definitions share three key concepts: relationships, influence, and change. I have combined these concepts for a working definition of leadership to be used for the purpose of this study: **Leadership is the process of relationship building used to influence others in order to bring about change.**

Leadership models developed for university students

The majority of leadership literature comes from the corporate world. Studying leadership in the context of higher education and student leaders is a development of recent decades. Two models in particular are useful to this study. Both models use a transformative approach to leadership. The Bases of Competence Model is a skill-based model developed specially for teaching students to be active citizens and leaders in their work and community lives. The Social Change Model was also developed exclusively for university students and emphasizes the creation of leaders motivated to contribute to and change society for the better.

The Bases of Competence Model presents the "general skills higher education graduates use in corporate employment" (Evers, Rush, & Berdrow, 1998, p. xix). It is included in a discussion of models of leadership because it outlines in detail the specific skills students will need to be effective workers and leaders in their organizations. The authors of the model believe that students will need leadership savvy in order to be successful in a rapidly changing workplace. This model is useful because it delineates concrete skills that can be taught to students. Evers and Rush (1996) created the Bases of Competence model, in order to provide a link between higher education and employers by giving the people who work with students a common language for the general skills needed for employability.

The four bases of competence, summarized in Figure 3, are: 1) mobilizing innovation and change, 2) managing people and tasks, 3) communicating, and 4) managing self. Skills needed to master the first competency (mobilizing innovation and change) include the ability to conceptualize the future, create a vision and the ability to

take risks. Also needed in this competency is the ability to adapt to and/or initiate change and to seek out novel ideas and solutions to problems. The second competency, managing people and tasks, describes the skills necessary to accomplish tasks. The skills of the second competence include coordinating, effective decision making, delegation, conflict management and planning and organization. The third competence encompasses skills related to communication such as understanding follower or co-worker needs, possessing empathy, and active listening. The last of the four competencies, managing self, includes a multitude of practices and commitments aimed at improving one's "ability to control one's own behaviour and solve problems" (Evers & Rush, 1996, p. 285). Students who master this competency can internalize the drive to perform beyond expectations and therefore become leaders who are able to motivate others to do so in turn. The four bases have been described separately above, but they are not discreet competencies and are dependent on one another.

Figure 3: The Bases of Competence

1. **Mobilizing innovation and change**
   - Ability to integrate and apply information
   - Ability to adapt to and/or initiate change
   - Taking risks and looking for alternative paths
   - visioning
2. **Managing people and tasks**
   - Coordinating
   - Effective decision making
   - Delegate, motivate and direct
   - Manage conflict
   - Plan and organize
3. **Communicating**
   - Understanding needs, being sympathetic
   - having effective interpersonal relationships
   - Active listener
   - Oral and written communications skills
4. **Managing self**
   - Ability to be an ongoing learner
   - Multitasking, project management
   - managing the personal
   - being positive, energetic, independent, managing stress, etc.
   - being a problem solver

Adapted from Evers, Rush and Berdrow, 1998

The Social Change Model of Leadership (HERI, 1996) was developed as an application of transformative leadership to higher education (Astin & Astin, 2000, p. viii). The underlying belief of the model is that higher education is the best environment for recruiting and developing society's leaders. The model makes five assumptions about leadership: 1) Leadership is concerned with effecting change on behalf of others and society; 2) Leadership is collaborative; 3) Leadership is a process rather than a position; 3) Leadership should be value based; 4) All students are potential leaders, therefore leadership is inclusive; 5) Service is a powerful vehicle for developing students' leadership skills (HERI, 1996). The Social Change Model has three main objectives: to bring about self-knowledge through reflections and active participation; to increase

leadership competence; and to bring about positive social change (Outcalt, Faris, & McMahon, 2001).

The Social Change Model consists of seven core values of change divided into individual, group, and societal values. The individual values support the functioning of the group and are: consciousness of self, congruence and commitment. Consciousness of self includes being aware of the beliefs, values, attitudes, and emotions that motivate oneself to action. Behaving with consistency, genuineness, authenticity, and honesty toward others is the value of congruence. Commitment involves passion, intensity and duration. This value drives the efforts of the individual. The three core values which constitute group values are: collaboration, common purpose, and controversy with civility. Collaboration is built on trusting others to work in conjunction with oneself towards the desired social change. Common purpose means that the group is working with a shared vision and have articulated their values and goals together. Controversy with civility recognizes the reality of group conflict and works towards dealing with it openly and with respect and consideration. The last of the seven core values of change is the societal value of citizenship. Citizenship is the process of connection between the individual, the group, and the community. A good citizen works for positive change on behalf of the greater good.

Change is the eighth core value that is at the hub of the model, bringing meaning and purpose to all the other values. The seven core values are interconnected around the concept of change. Individual qualities are enhanced by feedback from the group, while the group can only function if its members possess the individual values. For example, consciousness of self is needed before one can help develop a common purpose and congruence is an essential element in controversy with civility. "Collaboration and common purpose serve to strengthen consciousness of self,

congruence and commitment, creating a continual feedback loop" (HERI, 1996, p. 22). When individuals function well, the group functions well, and when the group is thriving, responsible and useful citizens are produced. It is these responsible citizens, functioning in groups that can move positive social change forward (H. Astin, 1996).

Incorporation of the theories and summary

The Full Range Model of Leadership and the Five Practices of Exemplary Leadership as well as the two leadership models designed for university students (Bases of Competence and the Social Change Model) all share four common themes; management skills, relationship skills, an ability to use influence and motivation, and finally, an aptitude and a desire for change. These are the same themes that emerged in the definition of leadership used for my research. The four models are all grounded in transformational leadership as described by Bass (1985). The Full Range Model of Leadership (Bass & Avolio, 1994) and the Bases of Competence (Evers, Rush & Bedrow, 1998) both discuss the importance of using transactional and transformational leadership in conjunction in order for leaders to be effective. The Five Practices of Exemplary Leadership (Kouzes & Posner, 2002) stress the importance of transformational leadership, but the Leadership Practices Inventory created using this model has been shown to measure both transactional and transformational leadership (Fields & Herold, 1997). As noted above, the Social Change Model was developed as an application of transformative leadership to higher education (Astin & Astin, 2000).

All four models share a similar conceptualization of leadership explicitly focusing on the transformative nature of leaders. Bass (1985) started with the definitions of transactional and transformational leadership first defined by Burns (1978) and used them to develop a theory of transformational leadership. Bass was looking for a way to explain how leaders created major change in organizations (Bass, 1985). He did not

view transactional and transformational leadership as polar opposites as did Burns. Instead, he proposed that leaders needed to use both forms of leadership in order to be effective. His original work did not focus on transactional leadership as he considered this a lower form of leadership and related it to management where a large body of literature already existed (Bass, 1985). Bass saw the transformational leader as "one who motivates us to do more than we originally expected to do" (Bass, 1985, p. 20). Two aspects of Bass's work made it ground breaking. First was his suggestion that leaders were able to transform followers on a personal level. Second was his focus on the follower and his or her key role in the leadership process. He was one of the first to examine the dynamic relationship between leader and follower. Following the original work, Bass paired with Bruce Avolio to produce the Full Range Leadership Model (Bass & Avolio, 1994).

The authors of the Bases of Competence Model attribute two of the four bases to Bass's work. In the discussion of the skill set for the Managing People and Tasks competence, the authors state that: "this type of leadership closely approximates Bass's (1985) notion of transactional leadership, characterized by an exchange or bargain with followers" (Evers, Rush, & Berdrow, 1998, p. 102). It is important for students to master this competence as all workers in an organization are expected to manage not only themselves, but often others as well (Evers, Rush, & Berdrow, 1998). "The competence of Mobilizing Innovation and Change is conceptually related to Bass's (1985) notion of transformational leadership" (Evers, Rush& Berdrow, 1998, p. 117). Evers et al. (1998) express the need for students to embrace innovation and change because they will work in environments that are always evolving. Those who can move beyond their own self-interest and identify for themselves their unique role in and contribution to the

organization will not only survive at work, they will succeed and go on to lead (Evers, Rush, & Berdrow, 1998).

The Student Leadership Practices Inventory (Kouzes & Posner, 2006a) based on the Five Practices of Exemplary Leadership (Kouzes & Posner, 2002) also appears to have its foundation in a transformational theory of leadership. While the authors themselves do not use the term 'transformational leadership' in explaining their work, they are often quoted in the research literature as theorists on transformational leadership. In a study exploring the different relationships between leaders and followers in Australia and China, Casimir, Waldman, Bartram, and Yang (2006) quote Kouzes and Posner twice in a discussion of the features of transformational leadership.

> There are several reasons why transformational leadership facilitates the development of trust in the leader. First leaders may need to be perceived as credible if they are to gain the trust of their followers (Kouzes & Posner, 1993; Shamir 1995). ... When asked to define credibility in behavioural terms, most people responded that credible leaders 'walk the talk' and 'practice what they preach' (Kouzes & Posner, 1993) (Casimir et. al, 2006, p. 71-72).

When Parry and Proctor-Thomson (2002) explored the perceived integrity of transformational leaders and concluded that further empirical research could be conducted on this topic, they specifically suggest the Leadership Practices Inventory as a measure of transformational leadership. "Included within this need is the requirement to use measures of leadership other than Bass and Avolio's measure of transformational leadership. .... Kouzes and Posner's LPI (1990) are other relevant measures" (Parry & Proctor-Thomson, 2002, p.91). Tucker (2001) appears to agree with Parry and Proctor-Thomson because he used the inventory in his thesis dissertation that investigated the "public presence, behaviour, and interactions" of a transformational leader by doing a biographical study (p.1). Tucker (2001) states: "Bass and Avolio's Multifactor Leadership Questionnaire and Kouzes and Posner's Leadership Practices Inventory served as

quantitative analytic instruments to ascertain [the leader's] visible transformational skills" (p.1). Carless (1998) is another researcher who supports the view that the Five Practices model of Kouzes and Posner is a model of transformational leadership. In her examination of gender differences in transformational leadership she not only calls the Five Practices a transformational theory, she also identifies the Leadership Practices Inventory as "an assessment of the full range of transformational leadership" (Carless, 1998, p.889). Perhaps the strongest evidence that the Kouzes and Posner Five Practices model is in fact based in transformational leadership theory comes from Bass himself in a paper discussing contingent-reward behaviour and charismatic leadership.

> Besides making a distinction between transactional and transformational leadership, other theorists have proposed that they are somewhat complementary and both can potentially be displayed by the same leader (Bass, 1985; Conger & Kanugo, 1988; Kouzes & Posner, 1988; Kuhnert & Lewis, 1987). (Waldman, Bass, & Yammarino, 1990, p. 382).

Fields and Herold (1997) conducted a study on the Leadership Practices Inventory (LPI) to find out if the inventory could be used to measure transactional and transformational leadership. The results of the study showed that "assessments made using the LPI also can be used to measure transformational and transactional leadership" (Fields & Herold, 1997, p. 576). The authors suggested that the study can be interpreted to mean that the concepts of transformational and transactional leadership are underlying dimensions of the LPI (Fields & Herold, 1997). More specifically, the study linked three of Bass and Avolio's (1994) transformational leadership styles with three of the five practices of the Kouzes and Posner (2002) model. "Challenging the Process" corresponded with "Intellectual stimulation"; "Inspiring a Shared Vision" matched with "Idealized influence", and "Encouraging the Heart" was connected with "Individual consideration" (Fields & Herold, 1997). The authors also connected several transactional leader behaviours with "Enabling other to Act" (Fields & Herold, 1997). The

other two practices, "Encouraging the Heart" and "Modelling the Way" were correlated to both transformational and transactional behaviours (Fields & Herold, 1997).

In the seminal work on leadership education in higher education, *Leadership Reconsidered: Engaging Higher Education in Social Change*, editors Astin and Astin (2000) examine the role of higher education in creating leaders "... committed to the belief that leadership holds the key to transforming our institutions, our students, and our society ...." (p.v). The authors state that "effective leadership is an essential ingredient of positive social change" (Astin & Astin, 2000, p.iv). Because the book is grounded in leadership as change, the entire second chapter is dedicated to the principles of transformative leadership. The authors then use the seven core values of the Social Change Model to fully describe transformative leadership. Dugan (2005) also describes the Social Change Model as transformative in nature in a study of the differences in male and female leadership development across the seven core values of the Social Change Model.

I have set out the comparison of the four models in Table 1. The top row of Table 1 delineates the four common themes of the models; management, relationships, an ability to use influence and motivation, and finally, an aptitude for dealing with change. The management theme, shown in the second column of Table 1, discusses transactional leadership behaviours. All the models emphasize the importance of expectations; leaders may use clarification, delegation, direction or modelling to communicate these expectations. The second theme focuses on relationships and is shown in the third column of Table 1. The three models stress the importance of using interpersonal communication skills in order to know and understand followers' needs. The fourth column of Table 1, motivation and influence, is about vision. The models require leaders to create support for the organization's vision using a positive and

futuristic outlook. Lastly, all the models find it crucial for leaders to possess an ability to not only manage but also to change. In all models, leaders are described as those who challenge the status quo and look for innovative solutions.

Table 1: Major Themes of the Four Models of Leadership

	Management	Relationships	Influence and motivation	Change
Full Range Leadership Model	- make adjustments and corrections - clarify expectations - set goals - use reward and recognition	- know followers on a personal level - understand needs, capabilities, & motivations - charismatic tendencies	- has a vision and builds trust in it - talks of the future optimistically - develops follower's critical thinking skills and creativity - encourages performance beyond expectations	- takes risks - challenges assumptions and models - encourages innovative problem solving
Five Practices of Exemplary Leadership	- keeping sprits up and re-energizing - model expected behaviour	- builds and trusts a team - aware of follower's needs	- demonstrates clear values and principles - looks to the future - acknowledges contributions - incorporates follower's desires into mission	- takes risks - is a pioneer - embraces innovation and change
Bases of Competence Model	- Coordinate, plan and organize - Delegate and direct - Manage conflict - Effective decision making	- effective interpersonal relationships - attentive and responsive listener - effective oral and written communications skills	- motivate - ability to create and support a vision - is positive and energetic - ability to conceptualize and then act	- takes risks - looks for alternative paths - is a problem solver - ability to adapt to and initiate change
Social Change Model	- handles controversy with civility - shows respect for others, a willingness to hear each others' views	- behaves with consistency, genuineness, authenticity, and honesty toward others - works with others in a common effort	- is aware of own beliefs, values, and motivations - works with shared aims and values	- possesses commitment, passion, intensity - works for positive change on behalf of others and the community

General methodology

This study was conducted to explore the relationship between participation in a leadership education program and self-reported transformational leadership behaviours as measured by students' mean score on the Student Leadership Practices Inventory (LPI). The study was conducted in the context of the Leadership Certificate Program at the University of Guelph. Participants in this study completed the Student Leadership Practices Inventory online. Student LPI scores of the students who were in the Leadership Certificate program were compared with those of students who were not in the program. The independent variable under study was participation in the Leadership Certificate program. The dependent variable of transformational leadership behaviours was measured by a Student Leadership Practices Inventory (SLPI) score. A second independent variable (control variable) used as a covariate in the research was student leadership experience.

Organization of thesis

This thesis is organized in five chapters. An introduction to the study's purpose and background theory as well as general methodology constitutes chapter one. The second chapter is a review of the literature relevant to this research. Empirical studies exploring students' development in higher education, frameworks and methods of evaluation, the impact of leadership experience, and evaluations of leadership education programs were reviewed and analysed. Chapter three delineates the methodology of the study. The details regarding the research context and participants, the instrument used, as well as statistical methods used for analyses are given in this chapter. The fourth chapter discusses the results of the online survey, while the final chapter draws conclusions and makes suggestions for further research.

CHAPTER 2: REVIEW OF THE LITERATURE

> "The nature of both leadership and college student development complicates the issue of evaluating programs because individual development occurs over a period of time and is influenced by a variety of factors: it is difficult to isolate the change, growth or development derived from a given leadership development effort" (Chambers & Phelps, 1994, p. 226).

An extensive review of the research literature in student leadership development reveals that Chambers' comment, although over fifteen years old, has much value today. My literature search began with a general survey of periodical databases using the terms 'student leaders' and 'student leadership'. However, these terms returned very few results. By expanding to 'leadership development in higher education', I was able to find journal articles, but very little empirical research. Most of what I found was either a description of a specific leadership development program or an editorial asking for more research to be done on student leadership. However, these initial articles contained useful references from which I was able to truly begin my search. Research into the effectiveness of leadership programs on university campuses was found almost exclusively within graduate dissertations. Again, I was able to use the references in these works to generate more literature for my review. Several key authors (i.e. Astin, Komives, Chambers) and journals (Journal of College Student Development, New Directions in Student Services, NASPA Journal, Journal of Leadership Studies) surfaced in many of the dissertations and articles I was reading, so I began to look for more research by author and/or journal. The lack of published articles reporting on research into the effectiveness of leadership development programs caused me to expand my

search beyond evaluations of programs into other areas such as assessment of student leaders, general student development, and student leadership experience.

In searching through the literature, I looked for quantitative research conducted in the past three decades that shared a transformative or post-industrial theoretical model of leadership. With the exception of one study by Kuh (1995), all of the studies reviewed were quantitative. I excluded some qualitative studies because of small sample sizes and I did not think the results could be generalized or compared to any I could generate in this study. While I briefly report the results from a few studies from the seventies, I restricted my search to recent research. This was done because leadership theory and leadership development have evolved in the past thirty years to such a degree that earlier research would not be comparable to the research I planned to conduct. I also excluded studies where the focus of the leadership program was actually management instead of leadership. Lastly, I included research studies that used a well-validated instrument which had been proven to be theoretically based in transformational leadership. By establishing such criteria, I attempted to limit the literature review to research that could be compared to the data this study generated.

Before beginning the review, it is important that I make clear the terminology used in the literature. Firstly, American researchers use 'college' and 'university' interchangeably to mean four year degree granting institution. The Canadian hierarchy of the two types of institutions is not as apparent in the United States. Since much of the literature I review is from the United States, I have followed suit. I also use the terms freshman, sophomore, junior and senior to reflect the first, second, third and final years of university. Three terms commonly used interchangeably (and sometimes incorrectly) in both popular and research literature are, 'leadership development', 'leadership education' and 'leadership training'. I will be using these terms as Brungardt (1996)

defines them. Leadership development is the most encompassing term and includes all growth and development throughout the life cycle that contributes to one's leadership potential. One aspect of leadership development is leadership education, which includes only those learning activities that are purposefully intended to increase leadership capabilities such as academic classes, retreats, or leadership practicum. Continuing from encompassing to specific is leadership training: one aspect of leadership education. This term refers to learning activities directed at one specific leadership role (Brungardt, 1996), such as training to be a resident assistant.

This literature review falls into four sections that relate to Brungardt's terminology. The sections are: 1) the general development of students (leadership or otherwise) as framed in a discussion of the general impact of higher education on students; 2) methods for evaluating both leadership development in general and leadership education specifically; 3) the impact of direct leadership experience on students' leadership development independent of leadership education or training; and 4) how students' leadership conceptions, skills and abilities change (or remain the same) after a leadership education experience has occurred.

Student development in higher education

How students develop during their post-secondary experience seems to be treated differently by researchers depending on the country where the students are attending college or university. The major American works of Kuh (1995), Astin (1985), and Pascarella and Terenzini (1991) as well as others active in the field of student affairs write about student involvement out-of-class and in the campus environment. These researchers are interested in student development as it occurs throughout the entire university experience. The mainly Australian and English-language European literature (i.e. Barrie, 2004; Bennett, Dunne & Carré, 1999; Bowden, Hart, King, Trigwell, & Watts,

2000) examines the generic skills students develop at university. This literature focuses on the attributes a university graduate possesses as he or she enters the world of work. An assumption running through much of this literature is that skill acquisition occurs exclusively in the domains of the classroom or the workplace.

Two major theories of student development guide much of the research in the United States. Arthur W. Chickering (1969) conceived of student development as a journey involving seven vectors that students can travel along at different speeds and in different orders. Updated and revised in 1993, Chickering's seven vectors of student development in college include: 1) developing competence, 2) managing emotions, 3) moving through autonomy toward interdependence, 4) developing mature interpersonal relationships, 5) establishing identity, 6) developing purpose, and 7) developing integrity (Chickering & Reisser, 1993). Chickering (1969) stated that the purpose of establishing a theory of student development was to help college educators and administrators in the development of institutional objectives, fostering appropriate student-faculty relationships, structuring the curriculum in a holistic manner, and ultimately, creating educational institutions that are successful at precipitating true learning on a comprehensive scale. When Chickering's theory was first constructed in 1969, the research to support it was done largely on resident males. The resulting theory was hierarchical in nature and students were said to fully experience one vector before moving onto the next. In the updated version of the theory (Chickering & Reisser, 1993), the research was conducted on a more diverse range of students and resulted in modifications to the initial theory. The seven vectors are now said to occur in a different order depending on the student. For example, women tend to incorporate interpersonal relationships before men.

The second student development theory attempting to explain change in students as they experience college is Alexander Astin's theory of involvement where he frames an Inputs-Environment-Outputs model. Astin (1985) examined the environmental origins of change in students and summed up his theory as "students learn by becoming involved" (p133). Inputs refer to the characteristics of the student at the time of initial entry to the institution; environment refers to the various programs, policies, faculty, peers, and educational experiences to which the student is exposed; and outcomes refers to the student's characteristics after exposure to the environment. Change or growth in the student during college is determined by comparing outcome characteristics with input characteristics. The basic purpose of the model is to assess the impact of various environmental experiences by determining whether students grow or change differently under varying environmental conditions (Astin, 1993). Astin's research had two major, rather surprising, conclusions. First, the student's peer group is the single most potent source of influence on growth and development during the undergraduate years. Second, next to the peer group, "the faculty represents the most significant aspect of the student's undergraduate development" (Astin, 1993, pg 410).

There are other developmental theories that influence the research on college impact. Tinto's (1975) theory of student departure from college stated that college students are more likely to drop out if they are insufficiently integrated into the college community or if they are not committed to the values and culture of the institution they are attending. Pascarella (1985) built on Tinto's work and studied the interrelationship between the institution's characteristics, the students' efforts at involvement while in school, and college outcomes. His generalised causal model to assess college impact includes measures of institutional features as well as quality of student effort. Finally, Pace (1987) used the College Student Experiences Questionnaire (CSEQ) to develop a

model where both the frequency and consistency of effort are required from students in order for them to benefit from what the college has to offer. The researchers

> ... concur that university education is a matter of causing student growth and development .... They also recognise that for universities to make an impact, it requires the provision of an environment that is conducive to student learning and development, as well as the quality and amount of effort expended by students to engage themselves in campus activities (Tam, 2002, p.217).

Moving from theory to practice, the research demonstrates that student involvement in activities, organizations and agencies outside of the classroom, especially those that include interaction with other students, is related to enhanced student learning; leadership development; and persistence in higher education (Astin, 1993; Kuh, 1993; Pascarella & Terenzini, 1991). Pascarella and Terenzini (1991) documented over 1500 studies examining how higher education affects students. The findings include intellectual and cognitive growth and subject matter competence as well as psychosocial changes, maturity of attitudes and values, and moral development. The authors echo Astin's summary regarding involvement when they state that the "impact of college is largely determined by the individuals' quality of effort and level of involvement" (Pascarella & Terenzini, 1991). In Pascarella and Terenzini's (1991) meta- analysis of the research, the authors found that graduated students reported that their out-of-class experiences significantly enhanced their interpersonal and leadership skills. Conducting a qualitative study, Kuh (1993) concluded that it was students' out-of-class experiences which developed skills such as working with others, team work, leadership, assertiveness, communication, flexibility, tolerance and respect for others from diverse backgrounds, and an interest in the welfare of others.

While the American literature on the impact of college on students focuses largely on how students develop in college and what experiences cause this

development, the English-language European researchers seem to be far more concerned with exactly how development should be defined. Specifically, they want to define what skills, values, attributes, and characterises students should leave university with upon degree completion. In one of the most comprehensive and cited works on generic skills, Bowden et al. (2000) state that:

> Graduate attributes are the qualities, skills and understandings a university community agrees its students should develop during their time with the institution and consequently shape the contribution they are able to make to their profession and society. ... They are qualities that also prepare graduates as agents of social good in an unknown future. (para. 1)

More specifically, terms used to define generic skills include communication, team working, self-skills, analytic ability (Leckey & McGuigan, 1997), management of self, others, information and task (Bennett et al, 1999), problem solving, ability to plan one's work, and confidence in tackling new situations (Lizzio, Wilson, & Simons, 2002), and finally, research inquiry and information literacy, personal intellectual autonomy, and ethical, social and professional understanding (Barrie, 2004).

The English-language European literature that I reviewed contains vast amounts of information on the types and descriptions of generic skills and attributes that students may develop over the course of their university career. However, the research is less specific about the circumstances that create opportunities for growth and development. Several studies in the literature hinted at areas for growth. Research results from Arnold et al. (1999) suggest that the increasing use of case-studies, group work, and projects has the potential to increase the extent to which higher education develops students' interpersonal, communication, team working, and problem solving skills. Crebert et al. (2004) discuss three locations where generic skills can be developed; namely the university, during work placement, and in employment. Smart, Ethington, Riggs, &

Thompson (2002) suggests that competencies result from a complex interaction of students' personal attributes, their academic major, and the priorities of their campuses in creating a student development oriented climate.

Other works suggest that the provision of generic skill is not "requiring an additional curriculum, rather, they are outcomes that can be reasonably expected from the usual higher education experience" (Barrie, 2004, p. 263). Lucas, Cox, Croudace, and Milford (2004) saw skill development as a tacit process. In their study, Lucas et al. (2004) captured students' lack of awareness of the developmental process in comments transcribed from interviews. Student comments included that skill development is "part of one's personality" or "just picked up over time" (Lucas et al., 2004). Lizzio and Wilson (2004) purposely designed their study so that in participating in the research project, students underwent a self assessment of their own capabilities. The authors argue that the more students perceive various skills as relevant to success in their studies or work context, the more motivated they are to work towards acquiring those skills. (Lizzio & Wilson, 2004).

Another apparent contrast in the literature is that American researchers seem to have spent much time examining out-of-class experiences, whereas researchers from Australia and the United Kingdom have focused much more on classroom experiences. There is general agreement among key researchers that generic skill development should take place within the context of a subject discipline (Bowden et al., 2000; Leckey & McGuigan, 1997; Barrie, 2004). Bennett, Dunne and Carre (1999) distinguish between core (discipline specific) and generic (non-specific discipline) skills in their study, but when the authors describe six hierarchical patterns of skill provision in university, the highest level pattern is one where both core and generic skills are utilized and developed within the context of discipline specific work experience. Emphasis is given to curriculum

development as a means of fostering generic skills (Leckey & McGuigan, 1997). The focus of Barrie's (2004) work was Australian university teachers and their nearly exclusive role in providing generic skills. There is however, change coming on the horizon. The concept of student engagement as defined mainly in the United States was introduced in the recent work of Coates (2005). He argues for more study "of what students are actually doing" (Coates, 2005, p.26) in order to truly assess the impact of the Australian university experience.

The National Survey of Student Engagement (NSSE) is an American research tool aimed at assessing what students are 'doing' in college. It is designed to assess the extent to which students are engaged in good educational practices and what they gain from their post-secondary experience (Kuh, 2001). The survey explores student engagement both in the classroom (i.e. asking questions in class, e-mailing instructors, working with others during class time) and out of the classroom (i.e. attending athletic events, volunteering, and joining student clubs). The main content of the NSSE is a collection of student behaviours that are highly correlated with the learning and personal development outcomes of higher education. The NSSE has been administered since 2000. Over 500 schools across Canada and the United States participated in the NSSE in 2006. The data created by the NSSE is used to create benchmarks for institutions to use for the improvement of student learning and personal development while in university. (National Survey of Student Engagement, 2007)

Knowledge of how the general university experience impacts the overall development of students is crucial to the study of leadership development because the two concepts are intertwined. Theories of student development contribute meaning to the study of student leadership. Chickering's theory helps explain some of the results discussed in a latter section of this review where students are said to gain interpersonal

skills from leadership experience. His theory also discusses identity and competence development which are key issues in leadership, as a leader needs knowledge of self and certain practical competences to be successful. Astin's finding that students gain most from interaction with other peers is interesting in light of the fact that leadership education programs place students of similar ilk together. This engagement with peers could play a role in leadership development. As all of the student development theorists attest to, student effort is a key factor in development and since participation in leadership education or experience requires much effort on the part of the students, it could be inferred that leadership development occurs simply because of the students' determination to be involved.

The American research into the impact of college on students' development that I reviewed stands united in the idea that it is the student who must exert the effort to become an involved, active participant in her or his development. It is interesting that the English language European literature makes note of the fact that students may not be aware of their own development or what processes are contributing to that development. This finding creates a paradox because if a student is unaware of his or her own development he or she may or may not put forth the effort required to cause such development. Therefore the challenge in assessing development of students as a whole and leadership development specifically is capturing what the students' know about the process of growth they are undergoing.

Researchers must design instruments that will distinguish between what students are gaining from simply going to classes, acquiring new knowledge, and participating in campus life and what they are gaining specifically from a leadership education program or leadership experience. The next section of the literature review will focus on

frameworks and instruments used for evaluation of leadership development interventions in order to begin to address this challenge.

Frameworks and methods of evaluation

Despite calls from researchers as far back as fifteen years ago (Chambers, 1992), I could find no standard framework for the assessment and evaluation of student leadership in higher education. What is more, there does not appear to be one commonly used research instrument to study student leaders. However, as discussed in this section of the literature review, the process of evaluation used in the different studies I reviewed does have some common elements. The frameworks for assessment and evaluation seek to understand and analyse the content and structure of leadership experience and/or leadership education programs as well as the change in students' learning and behaviour caused by leadership experience and/or leadership education programs. The research instruments often measure students' perceptions of their leadership abilities but differ in whether they ask students what they are currently doing or what they think they should be doing. This next section of the literature review will cover suggested frameworks for evaluation, several instruments used in the research (results of which will be discussed in the latter two sections), and finally, national surveys from three different countries which are often used to consider student leadership.

Roberts and Ullom (1989) designed a model for leadership education programs with the hope that one model could be used to unify those in higher education wishing to produce the next generation of leaders. Their work is not a framework for evaluation, but their model does include evaluation as one of four pillars that each and every leadership program should be built upon. The four pillars of their model are: core beliefs (mission and goals), underlying principles (planning and organizing), thought and action (academic and experiential areas), and outcomes assessment and program evaluation.

Roberts and Ullom (1989) call for collaboration across the campus community for support and integration, but do not detail how an evaluation should be undertaken. Specifics for a comprehensive evaluation process would have to wait for the work of Tony Chambers.

Frustrated with the fact that there were leadership programs in over 300 US college campuses, but no research to examine how effective these institutions had been in the area of developing young leaders, Chambers (1992) used the Delphi approach to develop criteria to evaluate the development and outcomes of college student leadership programs. His goal was to have a standard set of criteria applied to evaluations of any leadership education program in higher education. His research produced four evaluation categories; program structuring (objectives, planning), methodology (design, input of those affected by program), program administration (management, control), and consequences (degree of goal attainment for program and participants) (Chambers, 1992).

Brungardt and Crawford (1996) argue that a framework for assessment and evaluation should be founded on a multi-method and longitudinal philosophy. They suggest that the framework be focussed on both student and program elements where both the student's learning and the value of the program are measured. Kirkpatrick's (1976) four methods for evaluation are used. *Reaction* is measured after each course and program component using course evaluations, instructor interviews and an attitude survey. *Knowledge* is evaluated using a comprehensive pre/post test before the program begins and after the final core course is completed. *Behaviour* is quantified using the Self version of Kouzes and Posner's Leadership Practices Inventory three times; before the program, after the final core course, and after program completion. Lastly, *results* are measured using a results survey after the final core course, after program completion,

and two to four years post graduation. The holistic and longitudinal nature of the Brungardt and Crawford (1996) framework allow for continual assessment and evaluation that can accommodate changes in both the nature of students and the nature of the leadership education program.

While Zimmerman-Oster and Burkhardt (1999) did not set out to create a framework for assessment and evaluation of leadership education programs, their work is one of the most comprehensive efforts to evaluate leadership education programs throughout American colleges and universities. It is instructive to examine how they structured the measurement of outcomes for so many different programs. Their findings will be discussed in section four of the literature review along with other empirical evaluations of leadership education programs.

Between 1990 and 1998, the W.K. Kellogg Foundation funded 31 projects focused on leadership development in college-age young adults (Zimmerman-Oster & Burkhardt, 1999). The purpose of the research was to identify potential models, methods, and themes of effective leadership education, and then disseminate the information. The researchers examined four different aspects of leadership education programs; program characteristics, individual outcomes, institutional outcomes, and community outcomes. Similar to Brungardt and Crawford, the authors took a comprehensive, multi-method, long term approach to their assessment and evaluation. The research had four steps. First, an understanding of each leadership program was sought using archival data, a quantitative survey of programs' characteristics, outcomes, and activities, a qualitative interview process and content analysis, and site visits to selected projects. Next a review of each program's self appraisals was conducted. Thirdly, the short-term impact on students was explored using pre/post tests at selected schools. Finally, the long term impact of leadership education on students was examined

using data from the Freshman Norms survey and comparing it to a follow up College Student Survey conducted three years later assessing students' educational and personal development.

It has been fifteen years since Chambers (1992) first expressed a need for a comprehensive evaluation and assessment framework that could be used for leadership education programs in higher education. My review of the literature has found no such nationally common framework for evaluating leadership education programs or leadership development in general. The four previously cited works do offer some lessons for one looking to evaluate leadership education in higher education. Successful evaluation and assessment needs to focus on two separate, yet equally important aspects of the educational experience; namely, the program itself and the students in the program. First, it is critical to understand the leadership education program as a whole. This means exploring the belief structures and shared principles (Roberts & Ullom, 1989; Chambers & Phelps, 1994) that form the foundation of the program. It also means studying the administrative structure and the design of the curriculum (Brungradt & Crawford, 1996; Chambers & Phelps, 1994).Once the program itself has been analysed, the next step in a comprehensive evaluation is to assess what the students have learned and how their actual behaviour has changed (Brungradt & Crawford, 1996). It is important to note the distinction between students' content learning and students' behavioural change. Content learning is easily measured with course administered or standardized tests. Behavioural change, however, can only be measured through a complex process of self-reflection and other-observation.

The authors of the four works cited above also emphasize the importance of long term study of the impact of leadership education on students. This is also challenging as students graduate and assessment three to four years after the

educational experience is often impossible to undertake. Although the frameworks for evaluation of Roberts and Ullom (1989), Chambers (1992, 1994) and Kirkpatrick (1976) are often referenced, individual schools, if they are performing any assessment at all, are often doing only one aspect of the full evaluations recommended. The difficulties mentioned above together with cost considerations make evaluation a difficult task for most universities to undertake. One solution for schools has been to focus on student leaders and their experience and/or participation in leadership education programs. A survey of the research literature has revealed several instruments that are commonly used in the assessment of the student's learning as well as their behavioural change during leadership education programs.

One of the first instruments designed exclusively for post secondary students to measure their leadership behaviours was the Student Leadership Practices Inventory (LPI). The Student LPI (Posner & Brodsky, 1992) is an adaptation of the Leadership Practices Inventory that is theoretically based on the five practices of exemplary leadership of Kouzes and Posner (1987). The instrument is a thirty item questionnaire consisting of six items for each of the five practices: Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart (Kouzes & Posner, 2002). The five practices were discussed in detail in the introductory chapter. The Student LPI has two versions, both of which were designed to measure the current self-reported leadership practices or behaviours of student leaders. The Self version of the inventory asks students to reflect on their own behaviour in the context of their current involvement in one organization. The Observer version asks supervisors, peers and/or subordinates of the students to comment on the students' behaviour in the same context. The authors envisioned the Student LPI to be used

before and after leadership education programs both as an assessment of and as a tool for reflection on one's current leadership ability (Posner, 2004).

The Student LPI focuses on the behaviour of students. Grounded in the transformative nature of leadership, the Student LPI seeks to measure the frequency of certain leadership practices. It is an appropriate instrument only when studying leadership education that is also based in transformative leadership practices. Many leadership education programs are teaching management skills such as conflict resolution, delegation, and communication. The Student LPI will not measure these behaviours. Instead it asks students about their ability to create and share a vision, modeling desired behaviour, encouraging others to take on leadership roles, and other practices related to the five practices of exemplary leadership (Kouzes & Posner, 2002). The Student LPI is the only instrument I found in the literature that augments students' perceptions of their current leadership practices with another persons judgements of their actual behaviour.

The Leadership Attitudes and Beliefs Scale (LABS), developed by Wielkiewicz (2000), is an instrument examining post-secondary students' thinking about leadership processes and how they expect leaders to function. The instrument is grounded in the principles of ecology and systems theory (Allen, Stelzner, and Wielkiewicz, 1998) and assumes that organizations exist in a complex and changing environment where no one leader can possibly manage the flow of information sufficiently enough to adapt as necessary for survival. The author created the instrument because he felt that existing tools, such as the Student LPI, were inappropriate for students who did not see themselves in a specific position of leadership. The LABS instrument was intended to measure students' "attitudes and beliefs about leadership in college students and others" (Wielkiewicz, 2000, p.337). The original research with the LABS was conducted on

different groups of students (psychology students, students participating in leadership activities, and students from a random collection of classes) in order to gage their thinking regarding leadership. The LAB Scale consisted of 28 items chosen to represent systemic thinking (ST) and hierarchical thinking (HT). Systemic thinking included six dimensions of leadership (relationship orientation, ethics, learning orientation, change centred, systemic thinking, cooperative leadership process), while hierarchical thinking included two dimensions (authority, positional leader dependence) (Wielkiewicz, 2000). Individuals are not simply categorized into either systems or hierarchical thinking. They could be classified in one of four ways; high HS-high ST, high HS-low ST, low HS-high ST, low HS-low ST.

In contrast to the Student LPI, the LAB Scale seeks to measure students' perceptions of leadership. Rather than examining what students and observers report they are doing, the LAB Scale studies what students think they and other leaders should be doing. The theoretical foundation of the LAB Scale is also different from the Student LPI. Although focussed on change similar to transformative leadership, the LAB Scale is based in leadership theory developed from systems thinking and ecology theory. The LAB scale is an interesting tool to investigate how students conceptualize leadership, but it does not investigate actual leadership behaviours and therefore may not be a useful instrument for measuring the behavioural change in students from the beginning of university to end or from before a leadership education experience to after. There is also no evidence, with the LAB Scale, linking a student's thinking about leadership to how they actually report practicing it. For example, a student may score high on the systemic thinking scale, but still find it difficult to delegate tasks or involve others in decision-making.

The Student LPI and LAB Scale were the two most often cited instruments in the literature I reviewed. Four other surveys are discussed here because they are used in research discussed in the next two sections of the literature review. Arens (2004) created the Leadership Skills Assessment Questionnaire (LSAQ) for his doctoral degree because he observed a need for an improved measure of student leadership skills. He argues that neither the LAB Scale nor the Student LPI, despite being the only two instruments in existence designed specifically to measure the leadership skills of post-secondary students, were sufficient for his research. He found the Student LPI to be difficult to score and he thought the business world derived categories of leadership were too theoretical for practical assessment of students' abilities. Arens (2004) critiqued the LAB Scale as being too ambiguous and failing to "focus on the individual leadership skills of students" (p. 41).

The LSAQ is based on the writings of John Maxwell whose ten qualities of a potential leader are: "character, influence, positive attitude, excellent people skills, evident gifts, proven track-record, confidence, self-discipline, effective communication skills, and discontent with the status quo" (Maxwell as cited in Arens, 2004, p. 49). The instrument was designed to assess development of leadership skills (not necessarily the skills themselves) and consisted of multiple items for each of Maxwell's leader qualities as well as questions regarding demographics, leadership interventions and leadership experiences. Two qualitative questions asking students to identify significant contributors to their development were also included. Current student leaders were asked about their leadership skills within the context of their organization. Results of research studies that employed the LSAQ will be discussed in the evaluations of leadership experiences section of this literature review.

The LSAQ focussed on neither students' behaviour, nor students' conceptualizations of leadership, but instead, on the process of development of leadership. Because student development is a tacit process (Lucas et al., 2004), it is not known how accurate students are in recognizing their own developmental process. Arens (2004) chose the writings of John Maxwell as the theoretical framework for his instrument. While Maxwell was a prolific and popular author, he did not use scientific research to support his leadership model. Arens described several other leadership theories in his thesis, stating that each influenced the creation of the LSAQ. He described servant leadership (Greenleaf, 1977), relational leadership (Komives, Lucas & McMahon, 1998) and a social change model of leadership (Higher Education Research Institute, 1996) as being the dominant leadership theories relevant to his research. His instrument remains largely untested and therefore may not be appropriate for use in evaluating leadership education programs.

Hall-Yanessa & Forrester (2004) used Crowder's Student Leadership Skills Inventory. The inventory had five factors: personal skills, communication skills, group process/group management skills, goal setting and attainment skills, and technical skills. The survey focussed on the transactional or managerial nature of leadership (see Bass, 1985) examining how students manage groups and tasks. This inventory was useful in measuring concrete skills such as ability to delegate tasks, follow a budget, manage time, but may not effectively measure students shift in attitudes regarding leadership or their aptitude for transformational leadership.

Quinn's Competing Values Self Assessment has been used to study student leaders, although it was not intended for this population. Robert Quinn's (1988, as cited in Buckner & Williams, 1995) competing values framework argues that leaders must be effective in several roles that appear to be contradictory. Leaders must find a balance

between an internal and an external focus as well as between flexibility and control. He described four types of organizations whose leaders are focussed on a different set of values which fall into one of four quadrants. The cooperative team has a high degree flexibility with an internal focus and its leaders are likely to value openness, shared participation and consensus building. The responsive adhocracy has a high degree of flexibility and an external focus. Leaders in the organization are agreeable to innovation and change and good at creative problem solving. Documentation, information management, and responsibility are cornerstones of the stable hierarchy which has a high degree of control paired with an internal focus. Lastly, the rational firm, with an external focus and high degree of control has leaders who focus on goals, productivity and analysis. The Competing Values Self Assessment tool places students in one of the four quadrants based on their values regarding leadership.

The Competing Values Self Assessment is difficult to use with students for several reasons. Derived from the business model of leadership, the four quadrants may not correspond well to students' experiences. The model works from a positional leadership perspective, assuming students have a leadership role where they can exercise influence over an organization. This is most often not the case with student leaders, who may either have no formal position of leadership, or who may not be in a position long enough to influence the organization completely. Finally, the Competing Values Self Assessment is largely tied to organizations. Student leaders may or may not be involved with organizations. In order to understand the assessment, I believe students would need a firm understanding of organizational theory and its role in leadership.

Lastly, the ACT College Outcomes Survey is an instrument that was not specifically designed to measure leadership skills or abilities; however it is included here

because it was used in such a manner in the research. Survey items included areas such as personal values and responsibilities, understanding self and others, tolerance, emotions, leadership skills, interests, social and civic responsibilities, and moral and religious development. The survey distinguished between the students' perceptions of their own personal growth and how much the college experience contributed to that growth by asking students to rate themselves separately on these two dimensions. Students were asked to reflect on an area of growth and indicate first their level of growth (regardless of the colleges' contribution) and secondly on the colleges' contribution (regardless of the level of growth). This is an interesting method as it takes into account student reported growth caused by influences outside of school such as maturity, work, parental or peer influence.

The five instruments designed specifically to measure aspects of leadership development in post-secondary students and the ACT College Outcomes Survey all have divergent approaches to leadership. They each measure a different aspect of student leadership, be it students perceptions of their skills and abilities, students' reported behaviours, or students' conceptualizations of leadership. The appropriateness of each instrument will depend on the goal of the research.

In addition to the six instruments discussed above, universities in Canada, Australia and the United States have conducted large scale national student surveys for the past decade. These surveys do not measure leadership skill, ability or development precisely, but they do provide some insight into the level of ability with which students begin post secondary education, their thoughts on their experiences while in higher education, and their assessment of their own development. The national surveys have also been used in the research literature to justify leadership programs as well as to learn about students' leadership development. The surveys can provide useful baseline

measures and create a picture of the students currently in the higher education system in each country. The design of each national survey and relevant results are discussed below.

I found the Canadian research on student leadership was extremely limited. However, result of an annual survey of Canadian students was useful to my literature review. In 2003, the Canadian University Survey Consortium (CUSC) conducted a study of over 11,000 graduating university students at 26 different universities. The survey asked students to reflect on their growth and development in sixteen academic experiences and eighteen non-academic experiences. The survey also listed 28 skills and asked students to grade their university in terms of its contribution to the development of each skill. The study found that few students took advantage of extra-curricular activities and therefore did not see these activities as having an impact on their growth and development. Those students who did participate in extra-curricular activities did report that these activities had an impact. The most highly rated activities were: international exchanges, interactions with other students, living on campus, volunteer activity, and peer advising. Just over half (56%) of the students reported that the university did a good or excellent job in contributing to the development of their leadership skills (Canadian Undergraduate Survey Consortium, 2003). This rating falls in the middle of the list of skills with tolerance for other cultures and interpersonal skills rated higher and dealing with personal crisis rated much lower. In 2000, slightly more students (59%) attributed the development of their leadership skill to their university experience (Canadian Undergraduate Survey Consortium, 2000).

Universities in Australia have been administering the course experience questionnaire (CEQ) annually since 1993 to students recently graduated from university. The survey examines students' perceptions of the quality of teaching they received. One

of the scales of the instrument is the generic skills scale that studies the "problem-solving, analytic skills, teamwork, confidence in tackling unfamiliar situations, ability to plan work and written communication skills" of students (Wilson, Lizzio &, Ramsden, 1997). On the 2000 survey (the latest survey for which results are available), 87% of graduating students either agreed or strongly agreed that their post secondary experience did encourage and develop these generic skills (Australian Government, Department of Education, Science and Training, 2005).

In the United States, the Cooperative Institutional Research Program (CIRP) of the Higher Education Research Institute (HERI) has been conducting a large scale survey of first year American college students for 39 years called the Freshman Norms Survey. This annual longitudinal study showed a very clear trend regarding students' perceptions of their leadership ability. When asked to rate themselves on their own leadership ability in 1971, 44% of men and 35% of women rated themselves as above average or in the highest 10% compared to other people their own age. The number of students who rated themselves highly has grown steadily over the years. In 2001, 64% of men and 56% of women rated themselves as above average or in the highest 10% (Sax, Lindholm, Astin, Korn, & Mahoney, 2002). The original question asked students to rate themselves on 19 items ranging from academic ability to creativity to spirituality. Of the 18 other items in this question on the survey, no other item came close to having a 20% increase from the initial surveys to the present.

In addition to examining the trends among freshman students over a thirty year period, the annual Freshman Norms Survey is also used as a baseline measurement for the College Student Survey (CSS). The CSS is an annual survey also administered by the Cooperative Institutional Research Program. It is most often used as an exit survey, given to graduating students. The two instruments are often used in conjunction to form

longitudinal data. Researchers in the past have used the CSS to study the impact of service-learning, leadership development, and faculty mentoring. A few of the key studies explored in the last section of this literature review used the CSS is just this way. Results of studies that employed the Freshman Norms Survey and the CSS will be discussed in the last section of the review.

The national surveys provide interesting information on the influence a particular university can have on students' perceptions of their leadership abilities or their generic skills. They are also useful tools for exploring national trends in student characteristics or providing a baseline for study. However, caution must be used when interpreting the national surveys for information on how students gain leadership skills. Because leadership was not the initial purpose of the surveys, care must be used in assigning meaning to answers that students may not have shared when filling out the surveys. A second caution with these surveys is that participation is optional and it is likely that those students with very positive or very negative experiences will respond more often than those in the middle.

This second section of the literature review concentrated on assessment and evaluation of student leaders as they progress through university as well as their leadership experiences and student leadership education programs. Despite suggestions from leading scholars in student development for rigorous evaluation of leadership development efforts in higher education, few schools in North America have conducted large scale assessments. While frameworks for evaluation have been suggested, Canadian schools do not currently have a common framework for assessment and evaluation of leadership development in university. Empirical instruments used to study leadership development of post-secondary students are also few in number. Of those that have been used in the past, the Student Leadership

Practices Inventory is the only one that attempts to get at student behaviour. Lastly, national surveys of university students in Canada, Australia and the United States provide interesting information and baseline data on the characteristics of a these country's post secondary students.

If the picture of leadership development assessment and evaluation seems bleak at the macro level, there is promise in the form of a multitude of micro-level studies on student leadership. The next two sections of the literature review will describe studies that examine development as derived from student leadership experiences and leadership education programs.

Impact of leadership experience

Separating the effect of leadership experiences from leadership education programs and other life influences is a very difficult task as Pascarella and Terenzini (1991) pointed out: "The effects of specific within-college programs, conditions, or experiences consistently appear to be smaller than the overall net effect of college. This is no surprise since it is probably unreasonable to expect any single experience to be a significant determinant of change (p.655)." This next section of the literature review discusses what the empirical research has revealed regarding students' involvement in leadership roles on campus. I would characterise the studies reviewed in the following paragraphs as describing three general lessons about the student leadership experience. The first lesson concerns the nature of the skills gained. Researchers have discovered what specific skills students attribute to their leadership experiences. Secondly, there is the observation in the research that senior students, or those with more leadership experiences tend to score lower on leadership assessment measures than younger students or those new to their leadership position. Lastly, the research indicates that men and women experience the leadership development process

differently. The reasoning behind each lesson is described in the following section of the literature review.

Impact of leadership experience: skills gained

Kuh (1995) interviewed 149 students at twelve colleges inquiring about the students' out-of-class experiences and how the students' saw these experiences as contributing to their development. The most frequently mentioned source of personal change were interactions with peers (22 percent) followed closely by leadership responsibilities (21 percent). The students attributed the development of what Kuh (1995) terms 'Practical Competence' to their various leadership roles. This type of competence includes decision-making ability, organizational skills, budgeting, and dealing with systems and bureaucracies. The students also claimed that leadership roles influenced the development of their interpersonal competence. Oddly, a set of skills Kuh labelled 'Social Competence', which included working with others, teamwork, and leadership was not specifically noted by students as having been improved with leadership experience.

Hall-Yannessa & Forrester (2004) performed a study that also focussed on the more practical side of leadership. Using the Student Leadership Skills Inventory, they surveyed sport club executives once soon after they assumed their elected position and again at the end of their eight month term of office. Similar to Kuh's findings, the students reported gaining skills of an interpersonal nature. Students reported the highest gains in respecting others' rights, being sensitive to those who are different, understanding the consequences of their actions, working with the opposite gender, and identifying their personal values.

Graham & Cockriel (1996) used the ACT College Outcomes Survey to evaluate the college experience and assess students' perceptions of their growth. Factor analysis was conducted and four factors emerged. One of the four was social leadership and development. This factor contained items associated with "becoming an effective team member, considering differing points of view, developing abilities to relate to others, interacting with people of different cultures, participation in volunteer work, coping with change, developing leadership skills, and learning to be adaptable and tolerant" (Graham & Cockriel, 1996, p.508). Students ranked their social leadership and development second of the four factors. The first factor was intra-personal development, followed in third place by civic involvement and awareness and last was personal valuing and moral development. Graham and Cockriel's (1996) study demonstrates that students do attribute their general college experience to the development of leadership skills, regardless of specific leadership experiences or education programs. Unlike the studies of Kuh (1995) and Hall-Yannessa & Forrester (2004) who specified the skills involved in leadership, the authors do not define leadership skills. Thus, it is unclear exactly what aspects of leadership the students are indicating they gained from the college experience.

Studying the executive members of student organizations using the Competing Values Self Assessment, Buckner and Williams (1995) found that students saw themselves most often as mentors and least often as brokers to outside organizations. Research using the Student Leadership Practices Inventory (Posner & Rosenberger, 1998; Posner, 2004) both supports and contradicts these findings. Students completing the Student LPI consistently ranked the advocacy role (termed Challenging the Process on the Student LPI) last among the five leadership practices. It could be that students either see little need to perform the broker role or feel that there is little opportunity to

exert upward influence (Buckner and Williams, 1995). In agreement with Buckner and Williams, the Student LPI research consistently shows 'Enabling Others to Act' as ranking first on the five practises of leadership (Posner & Brodsky, 1992; Posner & Rosenberger, 1998; Posner, 2004). The enabling leadership practice does include aspects of mentoring such as encouraging others and making others feel good about themselves and the task at hand. However, the second lowest ranking leadership practice, 'Modelling the Way' also includes aspects of mentoring (i.e. modelling expected behaviour, setting an example, demonstrating values and principles). It is unclear from this research how students conceptualize their mentoring roles or their mentorship skills.

When the empirical research on college student leadership experiences is reviewed as a group, I would categorize the skills gained by students as either practical or interpersonal. Researchers have found that students are able to learn from practice and, through their roles on campus, they do gain skills that would help them as transactional leaders (making decisions, delegating, goal setting, etc.). The relationships built while students serve as campus leaders appear to help them gain skills of an interpersonal nature. The studies demonstrate that students gain competence in communication, sensitivity to others, working in a team, etc. While both transactional skills and interpersonal skills are necessary for a leader to be successful, perhaps the role of leadership education programs is to help students go one step further and acquire the knowledge, skills, and attitude needed to be transformational leaders, who can facilitate change.

Impact of leadership experience: lower scores for more experienced student leaders

Although a number of studies indicated that students reported gaining leadership skills through their leadership experience while in university, Hall-Yannessa and

Forrester (2004) and Arens (2004) both discovered a paradoxical result in their research. Hall-Yannessa and Forrester (2004) found that pre-test averages were higher than post test averages in some areas measured by the Student Leadership Skills Inventory. Arens (2004) reported that being a resident assistant, camp counsellor, or club secretary predicted a lower score on his leadership skills questionnaire. Both researchers offer several reasons for the decreased perception of leadership ability. Students may have higher confidence in their abilities at the beginning of their leadership role because of their newly won election and previous leadership experience, but a few months into the job, students find they are not adequately prepared (Hall-Yannessa & Forrester, 2004). Students may also experience difficulty transferring the skills learned in a specific campus experience to their current organizational environment (Arens, 2004). The self-report nature of the inventories used makes a definitive explanation for this finding difficult.

Studies using the Student LPI, which went beyond self-report and included the perceptions of others about a student, produced conflicting results regarding more experienced students having lower perceptions of their leadership ability. In a study of orientation leaders, new students rated their orientation leaders higher in the five leadership practices than the orientation leaders rated themselves (Posner & Rosenberger, 1998). Studying residence assistants, Rand (2004) found no differences in the self reported leadership practices of residence assistants versus the observer reports of supervisors and peers of the residence assistants. Adams and Keim (2000) found that male fraternity presidents rated themselves higher in the five practices of leadership than the members of their organizations rated them. In a summary of several empirical studies using the Student LPI, Posner (2004) reports that overall, Student LPI – Self versions tend to have lower scores than Student LPI – Observer versions. A

possible explanation is that students are more critical of their abilities than those who observe them. It could also be possible that students are unaware of the development of their leadership practice and do not perceive themselves as having mastered certain behaviours.

Impact of leadership experience: male versus female

The research literature is inconsistent in regards to the different self perceptions of male and female student leaders. Working with longitudinal data from the Freshman Norms Survey and the College Student Survey, Kezar and Moriarity (2000) found women ranked themselves lower than men in perceived leadership ability and leadership related skills. Over the course of their college career, both men and women experienced positive change, but women remained lower than men. In contrast to these findings, Buckner and Williams (1995) found that women saw themselves in a mentor role much more than men. Using the Student LPI, Adams and Keim (2000) support both of the above findings because they found that women ranked higher in some aspects of leadership and men ranked higher in others. Women had higher scores in the Enabling Others to Act and Challenging the Process categories. However, men presidents' self-perceptions on Inspiring a Vision and on Modeling the Way were higher than women presidents' self-perceptions (Adams & Keim, 2000). After an examination of the internal reliability coefficients of nine different empirical studies using the Student LPI, Posner (2004) claims that the Student LPI is "relatively independent of various demographic variables (e.g., gender...)" (p. 450).

Interestingly, although on some indices women perceived themselves as having less leadership ability than men, Adams and Keim (2000) found that sorority women rated their chapter presidents higher than men did, and also felt more strongly that their presidents were effective leaders. As a group, male presidents rated themselves much

higher than their executive council and general members rated them, which seems to indicate a difference in perceived leadership between men leaders and their followers, at least in this context of sororities. Adams and Keim (2000) make an interesting suggestion, namely that there should be a slightly different training emphasis for men and women. Self-confidence building exercises should be stressed for women, and feedback generating mechanisms should be employed with men.

Impact of leadership experience: summary

Arens (2004) found that prior and current leadership experiences resulted in higher self perceptions of leadership ability for the majority of leadership experiences. His finding provides a simple summary for all of the research reviewed regarding the impact of leadership experiences on leadership development. That is, students who hold a leadership role on campus perceived themselves to have gained more leadership skills and capabilities as compared to those who did not hold leadership positions. The research on student leaders uses a number of different instruments, as outlined in the second section of the literature review. However, it is interesting to note that similar leadership skills are found to emerge from leadership experience, despite using different means to measure these skills. The skills learned tend to be of an interpersonal or practical nature. Some research found that students in their last years of college as well as those with leadership experience reported lower perceptions of their leadership ability. Lastly, in some contexts, women rate themselves as having lower leadership ability than men, but women rate their leaders, in some contexts, as having higher ability than men rate their leaders.

The finding by Cress, Astin, Zimmerman-Oster, and Burkhardt (2001) that "students who volunteer, intern or work collaboratively in class are more likely to develop their leadership potential whether or not they participate in a formal leadership program"

(p. 23) highlights the paradox stated by Pascarella and Terenzini in the introduction to this section. Studies have demonstrated that students gain leadership ability through experience and have defined what these skills and abilities are. However, there remains no explicit causal link between leadership experience and the development of leadership skills. It is possible that leadership skills are gained outside of the leadership experience. Extracting what is learned from leadership experience versus the general college experience or normal physical and emotional development or increased course content knowledge is a nearly impossible task.

However, the study of the nature of the skills acquired from leadership experience leads to some interesting observations regarding leadership education and training. In Hall-Yannessa & Forrester's (2004) study, the top five skills that the students reported having gained during their leadership experience were not topics covered at targeted leadership education or training programs. Thus, students attributed their skill improvement specifically to their experience and not an intentional training session. Three of the lowest ranked five skills are common leadership education topics: delegating, providing feedback, and stress management. Hall-Yannessa & Forrester (2004) suggest that students need to develop more confidence in these areas through a combination of experience and training. Rand (2004) also notes the importance of combining experience with training. Her research found that although selected residence assistants received more leadership training than elected residence assistants, both groups had the same scores on the Student LPI (Rand, 2004). This result could mean the leadership training was ineffective, but it could also mean that leadership experience plays a very large role in the development of student leaders. Kuh's (1995) results also imply that both education and experience are needed for the development of student leaders. Kuh found that students reported gaining leadership skills from out-of-class

experiences, but the skills were of a transactional or managerial nature. Perhaps specific leadership education programs are needed to develop students' higher order or transformational leadership skills. By this I mean that leadership education programs could build on the practical skills learned through leadership experience by focussing on leadership as change and inspiration. These specific programs in the form of leadership education programs are the subject of the final section of this literature review.

Evaluations of student leadership education programs

University students are participating in leadership education programs at a high rate. According to one American study, far more than half (62%) have undergone some form of short term leadership program such as a workshop, retreat or conference (Komives & Dugan, 2006). Somewhat fewer, but still a significant amount (43%) have committed to longer programs such as a single course or a series of workshops and/or retreats (Komives & Dugan, 2006). Almost one quarter (22%) of university students have undergone long-term training in leadership, participating in such things as certificate programs or living-learning programs or completing a major or minor in leadership (Komives & Dugan, 2006). Despite the high number of available leadership programs and the numbers of students who participate in them, there is relatively little research that investigates the effectiveness of these programs. In a decade old review of the research in leadership development, Brungardt (1996) noted that although there is a large amount of data regarding the structure, management and content of post-secondary leadership education programs, there is a "lack of scientific research on evaluating the effectiveness of [leadership education] programs" (p.89). Astin and Cress (1998) lamented the fact that "few articles focus on developing college students' leadership ability and still fewer have actually evaluated the success of leadership development efforts on college campuses" (p.4). Komives and Dugan (2006) echo this

sentiment today and have called for more research to better understand the influence of the college environment on leadership development outcomes. The last section of this literature review covers the limited research on the effectiveness of leadership education programs in higher education. The sources are largely American with some Canadian studies, and most of the research has been conducted as part of a masters or doctoral dissertation indicating that this type of research is still not a priority in the post-secondary community. This section will begin with general, large scale evaluations covering several programs at a number of institutions. Next, the earlier research into leadership education programs will be summarized briefly before examining more closely the last five years of research.

Evaluations: large scale reviews

Zimmerman-Oster and Burkhardt (1999) conducted a large-scale review of post secondary institutions that received funding between 1990 and 1998 from the Kellogg foundation for projects focused on leadership development. The focus of their investigation was to identify best practices used by successful leadership education and training programs by exploring the effectiveness of these programs. Reviewing self-appraisals from all of the institutions, Zimmerman-Oster and Burkhardt (1999) reported that the top three items students' perceived themselves as gaining from leadership programs are civic/social/political awareness, commitment to volunteerism, and communication skills. A study of the effects of a short term leadership education program found that students reported an increase in visioning ability and other transformational leadership skills (Zimmerman-Oster and Burkhardt, 1999). A second study of the long term effects of leadership education programs was conducted by Christine Cress and Helen Astin of the Higher Education Research Institute for the purpose of the review. Cress and Astin (1998) evaluated whether leadership education

and training has any direct effect on students' educational and personal development using the CIRP Freshman Norms Survey from 1994 as baseline measure and then followed up in 1997/98 with HERI's College Student Survey. Eight hundred and seventy-five students from ten schools with Kellogg leadership funding were compared to students from schools without funding. It was found that participants in leadership education programs at funded schools "reported changes since college entry that were statistically greater than changes for non-participants in the development of social and personal values, leadership ability and skills, civic responsibility, multicultural awareness and community orientation and leadership understanding and commitment" (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001, pg. 19) "In summary, this study provides empirical evidence that college students who participate in leadership education and training develop knowledge, skills, and values that are consistent with the objectives of these programs" (Zimmerman-Oster & Burkhardt, 1999, pg. 14).

Results from the review of Kellogg Foundation funded schools are positive and speak well to the strength of leadership education and training programs on college campuses. However, much care must be taken in interpreting the results. The major study conducted as part of the review used two surveys that were not designed to study leadership. Both the Freshman National Norms and College Student Survey were designed to capture the general student experience. Leadership is a concept that is not explicitly defined on either survey. A second major concern is that the evaluation is not specific enough to formal leadership education or training programs. Leadership 'programs' included in the study consisted of everything from volunteering or community service to peer mentoring to being an elected student leader to attending alternative spring breaks to attending leadership workshops (Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001). Therefore the study confuses leadership experience and leadership

education. Finally, the instruments used were based on student self-reports. While admittedly it is difficult to collect any other type of data, findings reported as cause-effect (i.e. the program caused the results) are not generally appropriate.

A second large scale review of leadership development that informs this research comes from the business world. The study did not include any post secondary institutions, but it is useful because it is a meta-analysis covering twenty years of studies on the effectiveness of leadership education and training programs. Collins & Holton (2004) integrated the results of eighty-three studies of formal leadership interventions from 1982 to 2001. The analysis had contradictory findings; some programs were found to be effective, and others ineffective. The studies were organized into type of study based on methodology (pre/post-test versus post-test only with a control group) as well as on what was being examined (learning versus behaviour). The studies which explored the learning of participants showed that participants gained significant knowledge of leadership through a development program. Studies examining behavioural change were either inconclusive or showed only moderate effectiveness. Collins & Holton (2004) suggest that behaviour is much harder to capture on surveys and other empirical methods because of difficulties measuring participant perceptions and supervisor observations. Often baseline measures for participants are unavailable or supervisors do not work closely enough with participants to fully monitor a change in behaviour.

Similar to Hall-Yannessa & Forrester's (2004) and Arens' (2004) findings that students with more leadership experience rated themselves as having less leadership ability, Collins & Holton (2004) found that objective ratings (those by supervisors and peers) were higher than subjective ratings (self-reports). The authors suggest that it is

possible that self-raters do not see change in themselves as quickly as supervisors or subordinates do.

Collins & Holton (2004) state that "the current research shows there is an emerging trend of transformational leadership, but little training and reporting of results exists in this important area of managerial leadership development" (p.239). The authors offer several reasons for this gap. The competencies required to be an accomplished transformational leader are complex and overlapping and a full range of leadership development experiences includes mentoring, job assignments, feedback systems, on-the-job experiences, exposure to senior executives, leader/follower relationships, and formal training. Not all of these factors can be objectively tested and measured. Also, as Chambers (1992) noted regarding higher education, there seems, in business, to be a lack of a common evaluation model that adequately measures the effect of the leadership education on performance.

At the time of writing this thesis, a study of leadership development at fifty-seven institutions of higher education is being undertaken by Komives and Dugan (2006). This exciting new study, grounded in Astin's college impact model is using the Socially Responsible Leadership Scale (Tyree, 1998), an 85-item instrument designed to measure leadership development across the eight values associated with the social change model of leadership. The researchers are seeking to discover the environmental factors which contribute to higher scores across leadership outcomes by both institutional type and program elements. Initial results using student self reports from over 50,000 random sample responses and over 6500 comparative sample responses showed positive results for the leadership outcomes of: working as a team, organizing group tasks, leading others, and taking initiative to improve something. It will be interesting to see the final results and interpretations of this large scale study.

In summary, large scale, multi-program research into the effect of leadership education has provided three key results. The perceptions of participants do change after a leadership education program in that participants do feel their leadership skills and abilities have improved. Participants do show an increased knowledge and understanding of the concepts and theories of leadership after completing a leadership education program. Finally, the self-reported behaviour of participants in leadership education programs has not been proven to change to a large degree after completion of a program.

Evaluations: individual leadership programs – 1983 to 1997

I now move from larger studies which cover a number of leadership development initiatives, to a review of studies which focus on individual leadership programs. Bass (1990) found that a "meta-analyses of available evaluative studies have provided evidence that leadership and management training, education, and development are usually effective" (p.856). A sample of studies from 1983 to 1997 demonstrate that Bass' statement is generally true regarding program effectiveness, however the detailed findings tend to be contradictory and there are a number of limitations in the way the research was undertaken in terms of the claims that can be made. I will discuss these limitations in a later section.

In agreement with Bass, several early studies reported that leadership education or training was indeed effective. Liggett (1983) used both self reports and supervisor feedback in a study which found corporate managers who underwent training in leadership styles reported an increased ability to adapt their leadership style to different situations. The findings were true for males and females and across managerial levels. Administering a pre/post-test to a group of community college students who underwent a three day leadership training retreat, Lamoureaux (1984) found that the students felt

they had improved their skills in communication, conflict management, decision making and problem solving. Using a similar research methodology, Vaughans (1985) reported that all students demonstrated positive outcomes from training, but that females showed a larger improvement and received higher ratings from their followers. Shandley (1988) confirmed this finding in a similar study which looked at both student self-perceptions and those of the student leader's followers. Again, females showed more improvement in skills after training than males and had higher marks from their followers. Shandley (1988) also reported that males had a higher self perception of their effectiveness. Finally, yet another study using student self reports confirmed the finding that leadership programs are effective. The study found that students who participated in some aspect of a leadership development program that included a class, workshops series, retreat and conference had higher Student LPI scores at the end of a year than those who did not; what is more, those students who participated in more than one leadership development activity had even higher scores (Binard & Brungardt, 1997). However, in contrast to Vaughans and Shandley, these authors found that male test scores changed more than female test scores did.

A number of studies using students' self perceptions contradict Bass and have found that leadership education and training is ineffective. Vale and Riker (1979) studied a residence hall training program that sought to increase students' self awareness, regard for others and group communication skills. The study found no difference in the reported perceptions between students who received the training and those who did not. No differences in attitudes towards leadership were found in high school students who either did or did not attend a leadership workshop (Kelly, 1980). A similar result was found using pre/post tests when Conner (1992) found no differences in participants'

perceptions of their leadership effectiveness after a 40 hour training course in a computer corporation.

McKimmy (1996) conducted a study comparing the Student LPI scores of students who took a leadership education program with those who did not. He used only student self-reports and did not use the Observer version of the Inventory. No differences were found between the self-reported Student LPI scores of the two groups of students, but the researcher was able to make some interesting observations. Students who were in the leadership program had higher pre-test scores than the control group suggesting that leadership education programs attract a certain type of student who may be more prone to leadership development. Both groups of students showed positive change in their Student LPI scores suggesting that either the college experience, basic maturity, a leadership education program, or any combination thereof can lead to an increased propensity for leadership in university students. Juniors exhibited less frequent leadership practices than both freshman and seniors. This finding seems to agree with other researchers discussed above (Arens, Hall-Yannessa & Forrester, Collins & Holton) who found younger students had high self ratings, and older students were more critical of themselves.

McKimmy's study used a popular research tool (the Student LPI) but failed to find significant changes in students' leadership practices. One possible explanation is the small sample used for the post-test. Despite having over 39 students in each category for the pre-test, some groups for the post test consisted of less than 10 students. Also, the researcher changed the instructions for the Student LPI from the original and allowed students to think of any leadership context or a combination of contexts in which to base their answers. The original instructions on the Student LPI ask respondents to consider

one organization where they have a leadership role and answer the inventory based on that organization.

One last study that found no differences in students' perceptions of their leadership ability after an education program was conducted by Faulkner (1997). This study was a controlled experiment where 250 students were divided into three categories and administered pre/post tests of the Self version of the Student LPI. Like McKimmy, Faulkner did not use the Observer version of the Student LPI in his research. The first group of students were leaders of student organizations who received a six hour leadership training treatment, but the members of their student organization did not. The second group were student leaders and the members they led in student organizations who both received the treatment. The last group were student leaders and their members who received no treatment at all. No significant differences in self-reported Student LPI scores were found regardless of experimental condition. Faulkner (1997) concludes that participation in training has little or no effect on leader behaviours when compared to those who received no training. However, Faulkner also admits that the content, delivery or timing of training could be the reason no differences in leadership practices were found.

Evaluations: individual leadership programs – 2000 to 2006

More recent research on the effectiveness of leadership education programs has been positive; with all of the studies I found demonstrating that students did indeed experience a positive shift in their perception of their leadership abilities. However, interpretation of results is once again difficult as different instruments were used and each study had a slightly different research focus. Endress (2000) was exploring students' self efficacy for leadership, while Gibson and Pason (2003) were primarily interested in students' desire for community service after an education program. Pugh (2000), Arens (2004), and

Steen (2005) all took a more traditional approach studying change in students' perception of their leadership ability after a leadership education program. What each study had in common is the focus on student change as a direct result of leadership programming.

Endress (2000) modified the Student LPI to ask students about the strength of their belief to be able to use the five leadership practices (which she terms 'self-efficacy for leadership'). Because she was asking students about their own beliefs, only the Self version of the Student LPI was used. No data was taken from supervisors or peers of the participants. She changed the language of the questions from "I do" to "I can do". Administering pre/post-tests over a 16 week semester to students who had taken part in a leadership class as well as those who had not, Endress (2000) found that students in the leadership class had higher Student LPI scores for all leadership practices except challenging the process. The results were not significant on a multivariate level, but significant on univariate level and the effect size was small, so perhaps the instrument failed to truly measure students' self efficacy. Similar to McKimmy (1996), Endress also found that students enrolled in the leadership class had higher pre-test LPI scores which could reflect bias as students interested in or having leadership experience choose the class. In contrast to Kezar and Moriarity (2000), but supporting the work of Adams and Keim (2000), Endress also found that women had higher pre-test LPI scores than men.

Pugh (2000) administered the Self version of the Student LPI to students before and after a six day intensive leadership education program. No measures of student behaviours were taken from peers or supervisors using the Observer version of the Student LPI. Significant changes in student self perception as measured by Student LPI scores in three of the five practices were found. No significant change was found for Enabling Others to Act or Modeling the Way. Pugh found no difference in results based

on gender, race, Greek affiliation, class standing, or grade point average. It should be noted that students apply to be part of program and are selected (55 out of 94 applicants) to participate. As with McKimmy's and Endress' studies, the students in this program could be more open to leadership development than average students. Another caution regarding this study; Pugh's methodology required students to complete the post-test before they had a chance to put into use the information from the leadership education program. Therefore, the students could have been answering questions on the Student LPI based on what they think they should practice or that they plan to do now that they have new knowledge from the program instead of their actual behaviours.

Gibson and Pason (2003) conducted a pre/post test using the Community Service Interest and Preference Inventory to asses whether changes occurred in attitudes towards service among students in a leadership education program. The authors found that "students who completed [leadership] course work and had extensive exposure to service concepts exhibited several differences when compared with those students who did not" (pg. 26). The students had showed a deeper understanding of leadership as well as a greater sense of complex issues surrounding contemporary leadership. The authors reached their conclusion that the leadership program made a difference because freshman scored at a lower level on the instrument than did students who had completed the capstone course.

Similar to the research I conducted, Arens (2004) examined students' development after both leadership experiences and leadership education programs. Using the Leadership Skills Assessment Questionnaire, Arens (2004) found that leadership interventions did affect student's leadership development. The six interventions studied were: parental encouragement, leadership class, leadership book, leadership seminar, wilderness experience, or discipleship program. Of the six, the

students rated the leadership seminars and classes as most important in affecting their leadership development. This study focused not on actual leadership behaviours, but on students' perceptions of where they saw their leadership ability being developed. It is an interesting finding that students attribute leadership education programs to development, whether actual development occurred or not.

The last study to explore the effectiveness of a leadership development program was conducted by Steen (2005) who looked at a four year extra-curricular program that combined both study and practice. After conducting an organizational document review, administering a survey questionnaire and interviewing students, Steen (2005) found that over ninety per cent of the students thought the program was effective or very effective in developing their understanding and personal growth around the topic of leadership. Over eighty per cent felt the program was effective or very effective in increasing their skill level and confidence around the concepts of leadership.

There are a few problems with Steen's study. She did not ask about leadership practice or behavioural change, but focused on whether students felt they had better knowledge and skills. Students may have felt they had better knowledge and skills, but the study did not ask for examples of how the students put these new concepts into practice. It is impossible to tell from the line of questioning used in the study whether students actually changed their leadership behaviours as a result of the program. The research also failed to define what effective means and therefore this concept could have been highly subjective for participants.

Evaluations: individual leadership programs – Summary

In the seventeen years that have passed since Bass (1990) performed a meta-analysis of studies of leadership development, the majority of research has supported his

conclusion that leadership education and training is effective. Caution must be taken in drawing conclusions from all of the studies reviewed because of the number of different leadership education programs, different conceptualizations of leadership, and different research instruments used. The most one can infer from this group of studies are general trends in the research. Most of the studies focused on students' self-perceptions of their leadership skills, abilities, and/or behaviours. Those studies which examined students' perceptions found students increased their confidence and belief in themselves as capable leaders. The students were also found to have an increased desire for service and an increased belief that they were in fact effective as leaders. Certainly all of this positive self-esteem in regards to leadership enhances ones ability to lead.

Limitations of the research on leadership development in higher education

How college students develop their leadership skills, behaviours and beliefs is a complex process that is influenced by, among other factors, the general college experience, taking on positional leadership roles while in university, as well as participating in leadership education and training programs. Researchers examining student leadership development in university face four critical challenges in their pursuits. First, as Chambers & Phelps (1994) noted, it is difficult to attribute leadership development to one isolated event or program. A second challenge is that leadership development is difficult to accurately measure given that students' self-perceptions are generally what researchers are studying. Thirdly, the concept of leadership is poorly understood and often subjectively, or at least differently, defined. Lastly, making generalizations across programs is difficult because of the variation in program structure. Despite these four difficulties, the study of leadership development in students has provided several results.

Limitations – Extraneous factors

The empirical studies examined in this literature review use a variety of methods to isolate the change occurring in students. Methodology of the research, use of statistical procedures and careful instrument design are all ways researchers attempt to control for peripheral factors in leadership development.

The majority of researchers use a pre/post test design such that the students' perceptions or behaviours can be measured before a leadership experience or educational program and this baseline can be compared with results after the leadership experience or educational program. A few researchers have used experimental methods or done comparison studies where students involved in leadership development activities are measured against those who are not. Both methods have advantages and disadvantages. If a study is conducted using a pre-test at the beginning of a semester long leadership course paired with a post-test upon course completion, there is no method for controlling what else happened in the students' lives during one particular semester. The content knowledge gained in an unrelated course, a personal traumatic experience, being a residence assistant or vice-president of a student club that semester, or any number of student experiences could have affected the self perceptions reported on the post-test. Some researchers have shortened the time period between pre and post test by administering the surveys immediately before and after a short term leadership education program. However, students may or may not have had time to incorporate their new knowledge into practice. In the case of studies involving the Student LPI, students may not be not reporting on actual behaviours, but instead on the new behaviours they believe they should be using as a result of their educational program. In comparative studies, again, it is hard to control for the other factors in students' lives. Researchers may place students in a group who have not received

leadership training at university, but that does not rule out leadership training off campus or in high school. Accounting for the numerous activities of students while in college that may enhance leadership capability can be done partially through careful statistical analysis.

The empirical studies reviewed in this chapter have used a number of statistical methods to account for gender, age, experience, GPA and other factors. Most often, researchers rely on analysis of variance, with most reporting ANOVA or MANOVA results. A number of studies use multivariate correlational methods, usually, multiple regression or factor analysis.

Careful design of the survey instruments assists researchers in accounting for the various aspects of student lives. In addition to the survey items explained in detail in the second section of this literature review, most researchers have added several demographic and background items. The Student LPI is usually administered in addition to a researcher created supplement asking students for demographic information as well as questions about leadership education or training in environments outside of campus and prior and current leadership experiences. One difficulty I have found is that these supplemental survey items are untested and vary from study to study. Consistency is an issue when comparing studies trying to find which independent variables were involved in leadership development.

Limitations – Self perceptions

Students' leadership development is difficult to measure. Researchers have relied heavily on students' self perceptions of their leadership abilities. The various survey instruments used have attempted to simplify the reflection process for students by asking them to focus on their gained knowledge of leadership theory and practice, their

actual leadership behaviours, or their attitudes and beliefs regarding ideal leadership. As I have already commented on, students often confuse what is their behaviour with what they think their behaviour should be. Studies have shown that supervisors and peers of student leaders rate them higher than they rate themselves. Gathering data from observers is a good method for balancing student self reports.

Limitations – Defining leadership

The third challenge in the study of student leaders and their development is the definition of leadership itself. Some of the research reviewed here (i.e. Cress et. al, 2001; Kuh, 1995) is problematic because it does not objectively define leadership for students. Therefore it is unclear what skills students report gaining when they indicate that a certain experience or program has helped them gain 'leadership skills'. There is also a disconnect in some of the research between what the leadership education program is trying to accomplish and what the leadership study is trying to measure. Leadership programs can help improve students' skills, attitudes or behaviours, or a combination of all three.

Despite the challenges with definitions and mismatch of program and survey, some useful results have been produced regarding the leadership skills gained in university. Students most often report gaining interpersonal skills from their leadership experiences and or education programs. This finding bodes well for universities wishing to impart transformational leadership ideals to its students, as interpersonal skills are invaluable in dealing with change, one of the main goals of a transformational leader. Several studies also report that students gain practical, transactional leadership skills while in college. This is also a positive finding as mastering transactional leadership is key to achieving transformational leadership. Studies using the Student LPI did show

that leadership education increases students' scores on several of the five leadership practices which are based on transformational leadership.

Limitations – Generalizations

It is with great caution that I attempt to create generalizations about students' leadership development while in college. This literature review has covered a large number of studies; however the structure of the leadership education and training programs in each study has been different. Program length varies between studies, with some programs being as short as a one hour workshop and others being as long several years. The amount of effort required by students to participate in a leadership development program also varies. Some programs consist of a lecture style skill specific workshop series while others are a one day retreat while others require academic course work combined with practicum. The focus of the leadership development program also varies between studies. Some programs train students to perform specific leadership roles, while others aim to alter values and develop students' overall ability to lead. Comparisons between studies are further challenged because different measures are used to define effectiveness of the leadership education programs. The different studies focus on either students' perceptions of their learning, their behaviour, and in some cases, their confidence in their ability to lead.

Conclusion

The study of leadership development in higher education faces many challenges in that it is difficult to separate the causes of development, to measure the development itself, and to define leadership clearly for research participants. However, several significant results have been produced from the research in light of these challenges. Overall, leadership education programs in higher education do have a positive affect on students.

Students reported bolstered self esteem regarding their ability to lead. Students reported learning several practical leadership tools from education programs and experience. Students perceived themselves as increasing their knowledge of leadership theory and practice. And finally, students felt they were beginning to use certain leadership practices more frequently after a leadership education program. Men and women both benefit from leadership education, although the research does not come to an agreement on several issues regarding gender. Studies reported that both men and women showed more change after leadership education programs. Women perceived themselves as having less overall leadership ability on generalized surveys, but when asked about specific skills or behaviours, women reported higher scores in some areas (interpersonal skills, mentoring, and challenging status quo) than men. Lastly, the research has shown that leadership education programs attract a certain type of student. These students showed an increased desire for development and often started the programs with prior leadership knowledge and experience. Students definitely gained skills in leadership by going to college and taking on leadership roles and participating in leadership education programs. More research needs to be done to fully understand the complexities around how and why these programs work.

As discussed in the second section of this literature review, a true comprehensive evaluation of a leadership education program needs a holistic approach. Four key elements of the program should be researched; a measure of change in student knowledge, a measure of change in student behaviour, a review of program content and structure, and lastly, a measure of the results achieved by students post-program. This study began to address one of the four key elements by attempting to measure self reported student behaviour comparing students in a leadership development program with those not in a program. The studies covered in this literature

review have examined the relationship between a student's ability to lead and either their leadership experience (i.e. Rand, Hall-Yannessa & Forrester, Graham & Cockriel) or their participation in leadership development opportunities (i.e. Arendt, Faulkner, Pugh).

This study attempted to isolate leadership experience from participation in a leadership education program by comparing two groups of student leaders; those in a leadership education program and those who were not. The reviewed studies showed that leadership education and training is both effective and ineffective, and this study adds to the literature by contributing more data to the debate over whether leadership education programs are effective or not. Many studies I reviewed focussed on short term leadership programs. This study contributes to the literature because it was focused on a long term leadership education program. In addition, this study further explored the curious finding of Hall-Yannessa & Forrester (2004), Arens (2004) and others who found that students with more experience in college and in a leadership role perceived themselves as having lower leadership abilities.

This study attempted to address the limitations of previous studies. The study compared students in a leadership education program with those not in a program as well as compared students within the various levels of the leadership education program. Using a comparative design rather than a pre/post test reduced the possibility of extraneous factors confusing the data. The student groups used for comparison were carefully selected so as to isolate the leadership education program as a variable. An analysis of covariance statistical technique was used to account for leadership experience. All subjects in the study were student leaders. The student leaders were drawn from a limited group (elected representatives) so that the students would have a similar concept of leadership.

CHAPTER 3: RESEARCH METHODOLOGY

The goal of this study was to learn more about the transformational leadership behaviours gained by students who participated in a leadership education program compared to students who did not participate. In order to account for leadership experience, all students involved in the research were student leaders. The context for this study was the Leadership Certificate Program at the University of Guelph. This chapter will begin with the research questions that guide the study as well as explain the methods used in designing the research and choosing a sample. The research instrument will be described in detail as well as issues of validity and reliability relevant to this instrument. Methods for data collection and analysis will be described.

Research questions

The research questions providing guidance and direction for this study are:

1. Do students who participate in the University of Guelph's Leadership Certificate report the use of transformational leadership behaviours at a higher rate than students who do not participate?
2. Do students who have experience as a student leader on campus for over one year report the use of transformational leadership behaviours at a higher rate than students who have experience as a student leader on campus for under one year?
3. To what degree do the various levels of completion of the Certificate program and leadership experience influence the reported rate of transformational leadership behaviours?

These questions translate into the following null hypotheses.

i) There will be no difference in the mean Student LPI scores of students who have taken part in the University of Guelph's Certificate in Leadership and students who have not taken part in the Certificate in Leadership.

ii) There will be no difference in the mean Student LPI scores of students who have one year or more of experience as a student leader and students who have less than one year of experience as a student leader.

iii) There will be no difference in the mean Student LPI scores of students who have completed either the fourth or fifth courses required for the Certificate in Leadership and students who have completed only the first, second or third courses of the Certificate in Leadership.

Methodology

Research context. The University of Guelph's Certificate in Leadership combines five undergraduate courses with 120 hours of placement in a situation where leadership can be practiced. According to Lauire Schnarr, one of the program's developers, the Certificate in Leadership was created for two reasons. The first was to provide undergraduates with an opportunity to explore leadership as preparation for possible further study in a Master's of Arts in Leadership that was being developed at the same time the Certificate was conceived. The second motivation for the program creation was a response to "involved students who were lamenting the fact that there was no tangible way for them to apply what they were doing within the classroom" (L. Schnarr, personal communication March 1, 2006). According to the program's web site, the Certificate in Leadership is important for students because "in today's workplace, leadership is shared

and as university graduates, [students] are expected to exercise leadership in [their] organization" (Certificate in Leadership website, no date).

The Bases of Competence Model (Evers, Rush & Berdrow, 1998) was used as the underlying theoretical foundation for the Certificate in Leadership program (L. Schnarr, personal communication March 1, 2006). As discussed in chapter one of this thesis, this model is rooted in transformational leadership. Fred Evers, author of the model and professor in sociology at the University of Guelph, designed the Foundations of Leadership and Capstone courses. The four main areas of the Certificate in Leadership that are based on the Bases of Competence are the foundations course, the skills portfolio, the capstone course and the leadership practicum. The ethics course and elective leadership courses "are not the purview of the Certificate program" (L. Schnarr, personal communication March 1, 2006), and therefore may not share the same theoretical foundation of the rest of the program. The additional courses do, however, add to the leadership knowledge base of the students in the program.

Students enrolled in the Guelph Certificate in Leadership are introduced to leadership theories and practices in the "Foundations of Leadership" introductory undergraduate course. In this first course of the five required undergraduate courses, the students are introduced to the four Bases of Competence and asked to build a portfolio of their own skills. Once the Foundations course is completed students need to complete an ethics course as well as two elective courses related to leadership. Students have a total of sixteen courses to choose from in areas such as psychology, philosophy, political science, business, and environmental design and rural development. Before their fifth and final course, the "Leadership Capstone Course", is completed, students must complete 120 hours in a leadership practicum. The placement of each student is approved only once the student has proven that she or he will actively develop and/or

strengthen skills within the context of the four Bases of Competence. A detailed plan as to how each skill will be developed is presented by the students on the application form for the practicum.

Once the student successfully completes all 120 hours of placement, the student may enrol in the final Leadership Capstone Course. The purpose of the course is to examine the relationships between leadership theory and practice. Students are asked to reflect on their experiences in previous courses as well as in their practicum placement. The final stage of the course requires students to complete the Bases of Competence Skills Portfolio which they began in the Foundations course. The Certificate in Leadership is awarded when the student has successfully completed all course and placement requirements.

Research participants. Undergraduate students at the University of Guelph served as the population for this research. The University of Guelph is a mid-sized Canadian research institution (18 000 undergraduates) granting Bachelor, Master and Doctor of Philosophy degrees in six colleges; Social and Applied Human Sciences, Arts, Biological Science, Physical and Engineering Science, Agriculture, and Veterinary Medicine.

Participants for the study were drawn from two different groups. The first group of students were those participating in the Leadership Certificate Program. All students who had been given credit for UNIV 2000 (the first course students take in the program) on their transcript were considered as having participated in the Leadership Certificate Program. The second group of students were those who held a position of leadership on campus. Leadership positions were limited to elected student government officials as well as presidents and vice-presidents of student organizations. The study would have been enhanced with the inclusion of a third group of students; those who did not

participate in the Leadership Certificate and who did not hold a position of leadership, however contacting these students proved to be beyond the resources of the researcher.

Research design. This study used a causal-comparative research design. The independent variable under study was participation in the Leadership Certificate program. Students were placed into two nominal categories, either in the Leadership Certificate, or not. The dependent variable of transformational leadership behaviours was measured by a Student Leadership Practices Inventory (LPI) score. The Student LPI score represents a mean score of five behavioural categories and has a minimum value of 6 and a maximum value of 30. A second independent variable (control variable) used as a covariate in the research was student leadership experience. Students were asked several demographic questions in addition to the items on the Student LPI to help determine a level of leadership experience. Students were classified on an ordinal scale as to their level of experience (none at the university level, up to one year of experience at the university level, one year or more of experience at the university level). Two other ordinal variables were used as covariates in the study in order to more closely examine the group of students participating in the Leadership Certificate. Students were classified according to their level of progress in the Leadership Certificate (currently enrolled in or have completed the first, second or third courses, or currently enrolled in or have completed the fourth or fifth courses). Finally, students were classified according to their level of progress through the Leadership practicum segment of the Leadership Certificate (not started the leadership practicum or currently completing or have completed leadership practicum).

The Student LPI is an appropriate survey for this study because its theoretical foundation, the five practices of exemplary leadership, is a transformational leadership theory. Chapter one gave a detailed explanation of the relationship between

transformational leadership theory, the bases of competence model, and the five practices of exemplary leadership.

Much of the research I review in chapter two used a pre/post test design with the Student Leadership Practices Inventory (i.e. Endress, 2000; Faulkner, 1997; McKimmy, 1996; Pugh, 2000). However, my research did not use a pre/post test design for several reasons. As noted in the literature review, often the post tests were delivered so soon after the leadership education experience that students did not really have a chance to put into practice what they had learned. Therefore the Student LPI was not necessarily measuring behaviours produced by the education program. A second reason for using a post-test only design was purely resource based. Testing students before entry into the Leadership Certificate and then again after completion of five academic courses and 120 hours of leadership practicum was simply not feasible for the researcher.

Other studies reviewed in chapter two support using a post-test only static group comparison research design. Similar to Adams and Keim (2000) the goal of this study was to gauge and then compare student leadership behaviours among two groups of students; those with leadership education and those without. Posner and Rosenberger (1997) also used static group comparison to further understand student behaviour. Reviewing 82 studies of leadership development, Collins and Holton (2004) concluded that while single group pre/post test studies were the most effective in measuring change in participants, post-test only with a control group studies were also moderately effective research designs for this purpose. In this study, the instrument was administered only once to each student and the mean Student LPI scores of different groups of students were compared in order to examine the correlation between participation in the Leadership Certificate program and the self-reported leadership behaviours. Two main groups of students were compared; those enrolled in the

Leadership Certificate, and those who were not. However, several other groups of students were created using data collected in the demographic section of the survey. For example, the mean Student LPI scores of students with less than one year of experience as a student leader were compared with those students who had one year or more of student leader experience. I also compared the students who were in the beginning of the Certificate program with those who were in its final stages.

The Student Leadership Practices Inventory has two versions; the Self and the Observer. Students use the self version to report the frequency with which they make use of each leadership practice. The observer version is completed by peers and/or supervisors (up to five per student) who report on the frequency of each leadership practice that they observe the student using. The purpose of the observer version of the Student LPI is two fold. First, the observer inventories serve as feedback for students. Second, the data from the observer versions is used to determine the reliability and accuracy of student self-reports. Matching a self version of the Student LPI to its observer counterpart for each student measures how accurately students are gauging their own behaviour. Several studies (Posner & Brodsky, 1992; Rand, 2004; Posner & Rosenberger, 1997) found that observer Student LPI scores were slightly higher than self Student LPI scores, but that the differences were small enough to be able to claim that the student self report is as an accurate measure of leadership behaviour. Several other studies (Arendt, 2004; McKimmy, 1996; Faulkner, 1997) make use of the Student LPI using the self version alone. I did not use the observer version of the Student Leadership Practices Inventory based on limited resources. However, I have confidence given evidence from other research that the student self-reporting was a reasonable measure of student leadership behaviour, at least as reported by observers close to the student.

Instrumentation. The Student Leadership Practices Inventory (SLPI) was introduced in chapter two in the context of the views of leadership upon which it was developed. I will discuss the structure and development of the actual instrument here. The instrument is an adaptation of the Leadership Practices Inventory (LPI) developed by Kouzes and Posner (1987; 2002). The instrument is a thirty item questionnaire consisting of six items for each of the five practices of exemplary leadership: Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart (Kouzes & Posner, 2002). The five practices were discussed in detail in the introductory chapter.

Several years after the LPI was introduced, a graduate student working with one of the original authors modified the instrument. The modification of the LPI into an instrument for post secondary students was conducted in three parts: 1) changing the leadership model to reflect students' experiences, 2) pilot testing the adapted LPI, and 3) "validating the relationship between leadership practices and effectiveness" (Posner & Brodsky, 1992, pg. 231). The findings of the first two parts of the study showed that the leadership practices as reported in the original Leadership Practices Inventory are relevant to the post-secondary student experience. A majority of the thirty items (23) were modified, however the changes were "very slight alterations in wording to obtain appropriate terminology and language or concept" (Posner & Brodsky, 1992, p. 232). In the third part of the study, the data confirmed the hypothesis of the study, "namely that effective versus less effective student leaders vary in their leadership practices as measured by the Student LPI" (Posner & Brodsky, 1992, pg. 236).

In 2004, the Student LPI was revised and its psychometric properties tested by administering the survey to 604 chapter officers of the same national fraternity studied in the original empirical study of the Student LPI (Posner, 2004). The results were

compatible with those found in previous studies making use of the Student LPI. Cronbach's alpha was used to measure internal reliability coefficients in both the 1992 and 2004 studies, which in both cases were above 0.62 (Posner & Brodsky, 1992; Posner, 2004). Psychometric properties of the Leadership Practices Inventory (the version not adapted for students) are reported by Kouzes and Posner on their web site as follows.

> Internal reliability, as measured by Cronbach's Alpha, continues to be strong, with all scales above the .75 level. This is true for the Self version as well as for all Observers and for each Observer category" (Kouzes & Posner, 2000, para. 3).

In an unpublished doctoral dissertation, Young (2004) found that the LPI had an overall Cronbach's alpha reliability coefficient of .91 and that the distribution of scores from the sample population was similar to those of the normative population, indicating some evidence of construct validity.

In addition to the items on the Student LPI, students were asked ten demographic questions. The purpose of these questions was to categorize the students on the ordinal scales of progress through the Leadership Certificate and amount of leadership experience. Students were asked their gender, age, and highest level of education attained. Appendix A lists the demographic questions asked.

Data collection

Data was collected from October to February of the 2006/2007 academic year. The two groups of students targeted (those in the Leadership Certificate and student leaders) were contacted using different methods. The first group, students in the Leadership Certificate, were initially contacted via an e-mail distributed by the University of Guelph's Registrarial Services. Those receiving the e-mail were currently enrolled in or had completed UNIV 2000, the Leadership Certificate's first of five required courses.

Although Registrarial Services generated a list of 85 students in or with credit in UNIV 2000, only 39 were sent the e-mail because only these students were currently registered at the university. The university has a policy whereby students not currently registered can not be contacted nor have their personal data released to a third party. In order to ensure as many of these 39 students responded to my survey as possible, further measures to contact the students were taken. Registrarial Services re-sent an e-mail request for participation in January at the start of new semester to remind those who first received an e-mail in the Fall semester and to include students who may not have been registered in the Fall semester. Dr. Fred Evers, a founder of the program and the current instructor for the final course, UNIV 4000, personally e-mailed the students he knew to be nearing the end of the Certificate. He carbon copied me on the e-mail and I followed up his request with one of my own. Dr. Bill DeMarco, the instructor of the initial course, UNIV 2000, e-mailed his class to request their participation. Laurie Schnarr, who supervised all of the students completing the Leadership Practice component of the program, e-mailed all those students who had proposals or were currently completing the Practice. I went to the Guelph campus and made a request for participation in person to students in classes which are electives of the Leadership Certificate. Classes where I addressed the students included; PHIL 2100, PHIL 2120, PHIL 2600, POLS 2250, POLS 3440, and HTM 3000. Finally, when numbers of respondents, especially for students in the Leadership Certificate, was still low, I e-mailed all of the students who had participated in my survey and asked that they send my request for participation to their friends who were either in the Leadership Certificate or were student leaders. This final measure yielded numerous responses. In total, 50 surveys were collected from students at the University of Guelph; 15 of which were in the Leadership Certificate.

The second group targeted for the study, student leaders, were contacted by the Leadership Education and Development (LEAD) Advisor who works in University of Guelph's Student Life office. Jennifer Maddock is the advisor to elected students and executives of student organizations. I composed an e-mail requesting participation in my study, and she sent it out from her e-mail address. Response from the initial e-mail was positive and two more e-mails were sent as reminders. In January, a flyer requesting participation was handed to all executives at their annual meeting and Jennifer made a verbal request on my behalf.

Both groups of students indicated their desire to participate in the research by sending me an e-mail. I replied to their e-mail with a link to the online survey as well as an identification code. By e-mailing me an indication of their willingness to participate, I had a written copy of each participant's voluntary desire for participation. The e-mail from the students also allowed me to bypass many automatic e-mail filters because my address had been added to their e-mail programs. Each student was assigned a code so I would be able to provide each student with the detailed report of their Student Leadership Practices Inventory score. Students who had e-mailed me with a desire to participate, but had not filled in the survey after one week, were sent a reminder e-mail. A second reminder e-mail was sent two weeks after the students' initial e-mail to me. Of the 59 students who e-mailed me requesting a link to the online survey, 50 completed the survey.

The Student LPI was administered online using Simon Fraser University's web survey tool. Each participant spent approximately twenty minutes completing the inventory as well as the demographic questions. The author of the inventory, Barry Posner, granted permission to use the survey for this study and to use it in an online format (See Appendix B). Data was stored on a secure university server until the web

survey was closed. Data was then downloaded onto my personal computer and stored safely on a compact disk.

The research was conducted using proper ethics protocols. Research ethics review boards at both the University of Guelph and Simon Fraser University approved the research (see Appendix C). Responses provided by participants were coded so as to ensure confidentiality. A third party was not able to identify a respondent from his or her data.

Data analysis

The Student Leadership Practice Inventory was scored using "Student LPI Scoring" software, version 3.3. The student's responses to the thirty items of the Student LPI were manually entered into the software. The program calculated a score for each of the five categories of leadership behaviours. A student's score could have had a minimum value of 6 and a maximum value of 30 in each category. The scores of each of the five categories were entered manually into SPSS software.

The remaining data from the ten demographic questions was downloaded from the web survey into an excel document. The excel document was used to create a data set in the SPSS statistics software program. A mean score of all five leadership categories, known as the mean Student LPI score was calculated and added as a variable in the SPSS program. Descriptive statistics were computed for student demographic information, progress through the leadership certificate, student leadership experience, progress through the leadership practicum, and scores for each of the five behavioural categories, as well as mean Student LPI scores.

Data were analysed using a two-way analysis of covariance (ANCOVA). Gall, Gall and Borg (2003) describe ANCOVA as "a procedure for determining whether the

difference between the mean scores of two or more groups on one or more dependent variables is statistically significant, after controlling for initial differences between groups on one or more extraneous variables" (pg. 618). This study used a between groups design rather than a repeated measures design. I compared the mean Student LPI scores (dependent variable) of two different groups of subjects (those who are in the Leadership Certificate and those who are not) while controlling for leadership experience (referred to as the extraneous variable in the definition above). The non-parametric Mann Whitney U test was used to compare the mean Student LPI scores of students with different levels of leadership experience.

Time line for the research

January 2006	• Interview with Laurie Schnarr – administrator and co-founder
January – March 2006	• Ethics review process
May 2006	• Receive ethics approval
August 2006	• Contact Guelph registrar to begin process of bulk e-mail sent to students with credit in UNIV 2000 • Contact Student Life office to begin process of contacting student leaders
Late September 2006	• Begin recruitment of respondents, survey is online
February 2007	• Survey offline and data analysis begins
February to April 2007	• Results tabulated and thesis written
August 2007	• Share generic results with Guelph's Student life office, share individual student results with students

CHAPTER 4: RESULTS

Overview

The number of student leadership education initiatives in Canada has grown rapidly. However, there has been little research into the effectiveness of these initiatives. How leadership education programs and leadership experience may influence leadership behaviours reported by students is not a common topic of research. This study attempted to fill a need for empirical research to explore the relationship between participation in leadership education and student leadership behaviours. It is hoped that the results will be useful to the Certificate in Leadership program at the University of Guelph, as well as provide a template for exploring other university leadership programs.

This chapter will reveal the results of statistical analyses of the responses to the online survey which was composed of the Student Leadership Practices Inventory and ten demographic questions. The findings based on the demographic questions are presented first followed by the findings associated with each of the three research questions.

Respondent demographics

An attempt was made to contact all students with credit in the first course of the Leadership Certificate (n=85) as well as all elected student representatives (n=95). Not all of the Leadership Certificate students could be contacted directly. In the end, students in the Leadership Certificate completed 15 surveys. In addition, the comparison group, students who served in elected student leadership roles, completed 35 surveys. A total of 50 surveys were completed. Of these 50 responses, three were not included in

the study. One response was rejected because the respondent marked a '5' for all of the leadership practices. Two more responses were rejected because the respondents indicated that they had neither leadership experience, nor were participating in the Certificate in Leadership. This was confusing to the researcher since only students in positions of leadership or with credit in Leadership Certificate courses were invited to take part in the study. Therefore, the analysis was completed on a data set containing responses from 47 students.

The gender of respondents was not balanced with 61.7% (29) being female and 38.3% (18) being male. However, this breakdown of genders accurately reflected the student body at Guelph. The 2003/04 statistics showed that the Guelph main campus was composed of 62.5% women and 37.5% men[1]. The majority of respondents (74.5%) were aged 17 to 22. The breakdown of respondent's age is shown in Table 2. Almost all respondents were pursuing their bachelor's degree. Forty-one (87.2%) indicated that a high school diploma was their highest level of education. The remaining six respondents had either completed a bachelor's degree (3 people) or completed a master's degree (3 people).

[1] Numbers taken from the University of Guelph's 2003/4 Annual Statistical Report available online at http://www.uoguelph.ca/analysis_planning/contents0304.shtml

Table 2: Age of Respondents

Age Range	Number of Respondents	Percentage of Respondents
17 to19	7	14.9%
20 to 22	28	59.6%
23 to 25	0	0%
26 to 28	8	17%
29 to 31	2	4.3%
32 and 35	1	2.1%
over 36	1	2.1%

Fourteen (29.8%) students (out of the total sample of 47) were seeking the Certificate in Leadership and were at different levels of completion of the Certificate. The Certificate in Leadership consists of five academic courses and 120 hours of Leadership practicum. The first course is UNIV 2000 and the second course is a choice of three ethics courses. The third and fourth courses are a choice of two of twelve elective courses on various aspects of leadership. The final course is UNIV 4000. The 120 hours of Leadership practicum can be started at any time while the student is seeking the Certificate in Leadership. However, the Leadership practicum must be complete before the final course can be taken. Progress through the Certificate was difficult to track as students' progress was marked by both the number of courses taken and their level of achievement in the Leadership practicum. Four students were currently in or had completed UNIV 2000. Five students had completed UNIV 2000 plus one of the two electives. Two students had completed both electives and UNIV 2000. The final three students were currently in or had completed UNIV 4000, the final course in the program. For the sake of statistical analysis, the Leadership Certificate students were compacted into two categories; having completed one of the first three courses, or having completed the fourth or fifth course. Eight students had not completed their Leadership practicum,

while six students were in the process of completion or had already completed their Leadership practicum.

All of the respondents had some leadership experience at the university level. Leadership experience was defined in the survey as having served in one of the following roles: elected student representative, executive member of a registered student group, residence assistant, or orientation advisor. All but five students selected one or more of these four roles. Of the five students who selected the "other" option, two had experience as coaches, one served as coordinator for the on-campus food bank program, one was a team leader in her co-op placement and one was an off campus connections facilitator (similar role to an orientation advisor). Just under half (22 or 46.8%) had up to one year of experience. Twenty-five (53.2%) students indicated they had one or more years of experience as a student leader. The leadership experience of the students was further broken down according to participation in the Leadership Certificate as seen in Table 3.

Table 3: Leadership Experience by Involvement in Certificate

Leadership Experience	Seeking Certificate in leadership	N
Up to one year of experience at the university level	Yes	6
	No	16
	Total	22
One year or more of experience at the university level	Yes	8
	No	17
	Total	25
	Total	47

One of the ten demographic questions in the survey asked students to indicate what type of student leader role they currently play. Students were permitted multiple responses. Almost all respondents (38 out of 47) were elected student representatives. Seven respondents were executive members of their student club (appointed or elected), five respondents were residence assistants, and two respondents were orientation assistants. Respondents were also able to indicate if they filled other leadership positions. The category of "other" leadership positions had a wide variety of descriptions from peer helper to teaching assistant to coach. Of the 47 respondents, 18 indicated that they currently held more than one leadership role on campus.

Null Hypothesis One: Involvement in the Leadership Certificate

H_o: There will be no difference in the mean Student LPI scores of students who have taken part in the University of Guelph's Certificate in Leadership and students who have not taken part in the Certificate in Leadership.

Table 4: Mean LPI Scores of All Students

Seeking Certificate in leadership	Mean	N	Std. Deviation
No	24.27	33	2.80253
Yes	24.21	14	2.38000
Total	24.25	47	2.65804

The raw data for all students is shown in Table 4. A one-way analysis of covariance (ANCOVA) was conducted in order to examine the difference in the mean Student LPI scores of the two groups of students. The independent variable, involvement in the Leadership Certificate had two categories: seeking the Leadership Certificate or not seeking the Leadership Certificate. The dependent variable was the students' mean Student LPI scores and the covariate was the students' leadership

experience. A preliminary analysis evaluating the homogeneity-of-regression (slopes) assumption indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variable, $F(1, 43) = .520$, $p = .475$. Levene's test was used to test for homogeneity of the data. A p value of 0.497 indicated the data was homogeneous. The ANCOVA was not significant, $F(1, 44) = 0.03$, $p = .86$ (See Table 5). Since alpha was set at 0.05, the null hypothesis could not be rejected.

Table 5: Analysis of Covariance for Mean LPI Score by Leadership Certificate Involvement

Source	SS	df	MS	F	p
Leadership Experience	30.78	1	30.78	4.60	.04*
Seeking the Leadership Certificate	.20	1	.20	.03	.86
Error	294.19	44	6.87		
Total	27966.36	47			

*p <0.05

A second look at the data considered whether the individual five leadership practice categories of the Student LPI would be significantly different for students involved in the Leadership Certificate than for those students not involved. The five practices, outlined in chapter one, are Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart. Table 6 shows the mean Student LPI scores for each category for both groups. The mean scores of leadership practices of Challenge, Enable, and Encourage for the two groups are almost the same. Students involved in the Leadership Certificate have a slightly lower mean score for Model and a slightly higher score for Inspire. The mean scores are not normally distributed; therefore, parametric tests could not be performed. Non-parametric tests, such as the Mann Whitney U test, are not able to use leadership experience as a

covariate. No statistical tests of significance were completed, thus no conclusions can be drawn regarding the difference in mean scores of the five leadership practices between students involved in the Leadership Certificate and those who are not involved.

Table 6: Mean Scores of Five Leadership Practices by Leadership Certificate Involvement

		N	Mean	Std. Deviation
Model	Yes	14	22.29	3.4514
	No	33	23.58	3.1428
Inspire	Yes	14	24.50	2.5646
	No	33	23.67	3.3417
Challenge	Yes	14	24.64	2.6197
	No	33	24.24	3.6915
Enable	Yes	14	25.50	2.5944
	No	33	25.49	3.2989
Encourage	Yes	14	24.14	3.5051
	No	33	24.36	3.5691

Yes= Seeking the Leadership Certificate
No=Not seeking the Leadership Certificate

Null Hypothesis Two: Leadership experience

H_o: There will be no difference in the mean Student LPI scores of students who have one year or more of experience as a student leader and students who have less than one year of experience as a student leader.

When a one way ANOVA test (see Table 7) was conducted using all of the data, the results were significant (p=0.036) and the null hypothesis could be rejected. However, the data was complicated by the fact that some students are involved in the Leadership Certificate. Therefore, in order to address this hypothesis, the mean Student

LPI scores of only the student leader data set were used for analysis in order to eliminate the possibility of influence of the Leadership Certificate.

Table 7: ANOVA: Mean LPI Score of all Respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	30.601	1	30.601	4.677	.036*
Within Groups	294.397	45	6.542		
Total	324.997	46			

*p <0.05

After removing the fourteen students involved in the Leadership Certificate from the data set, 33 students remain. The mean Student LPI scores for the remaining 33 students were not normally distributed and therefore violated the assumptions of the ANOVA test. Thus, a Mann-Whitney U test was used. Although, students with one year or more years of leadership experience have a higher mean LPI score (24.88) than students with less than one year of leadership experience (23.61), no significant difference (p = .256) was found between the mean scores of the two groups (see Table 8). Thus, the null hypothesis could not be rejected.

Table 8: Mann-Whitney U Test Statistics for Leadership Practices Scores Grouped by Leadership Experience

	Model	Inspire	Challenge	Enable	Encourage	Mean LPI Score
Mann-Whitney U	113.000	101.500	102.000	134.500	109.500	104.500
Z	-.835	-1.250	-1.234	-.055	-.962	-1.136
Asymp. Sig. (2-tailed)	.404	.211	.217	.956	.336	.256
Exact Sig. [2*(1-tailed Sig.)]	.423(a)	.217(a)	.231(a)	.958(a)	.345(a)	.260(a)

a Not corrected for ties.
b Grouping Variable: Leadership Experience

A second analysis was performed in order to look more closely at the five leadership practices, which make up the Student Leadership Practices Inventory. The descriptive statistics (see Table 9) indicate that the students with one year or more of leadership experience have higher mean scores on all five of the leadership practices. The students' mean scores for each of the five practices were not normally distributed; therefore, the non-parametric Mann Whitney U test was utilized. Although the practices of Challenge and Encourage have larger differences in means than the other categories, these differences were found to be negligible. No significant difference was found for any of the five leadership practices.

Table 9: Descriptive Statistics of Five Leadership Practices for Student Leaders

Leadership Experience	Leadership Practice	Mean	Std. Deviation
Up to one year of experience at the university level (n = 16)	Mean LPI Score	23.61	3.56985
	Model	23.06	3.5491
	Inspire	22.81	3.9195
	Challenge	23.44	4.3200
	Enable	25.13	3.8101
	Encourage	23.63	4.4102
One year or more of experience at the university level (n = 17)	Mean LPI Score	24.88	1.71181
	Model	24.06	2.7265
	Inspire	24.47	2.5524
	Challenge	25.00	2.9155
	Enable	25.82	2.8115
	Encourage	25.06	2.4867

Null Hypothesis Three: Level of involvement in Leadership Certificate

H_o: There will be no difference in the mean Student LPI scores of students who have completed either the fourth or fifth courses required for the Certificate in Leadership and students who have completed only the first, second or third courses of the Certificate in Leadership.

The descriptive statistics (see table 10) showed an interesting pattern in mean Student LPI scores for the students involved in the Leadership Certificate. Leadership Certificate students who completed one of the first three courses of the program reported lower mean Student LPI scores than students in the last two courses of the

program. These students also reported lower Student LPI scores than students not involved in the Leadership Certificate.

Table 10: Progress through Academic Courses of the Leadership Certificate

Progress through Leadership Certificate	Mean LPI Score	N	Std. Deviation
Not seeking LC	24.27	33	2.80253
Enrolled in or completed first, second or third course	23.78	9	2.00859
Enrolled in or completed fourth or fifth course	25.00	5	3.02324
Total	24.25	47	2.65804

The Kruskal-Wallis test was used to examine the differences in mean LPI scores between students not seeking the leadership certificate, those completing one of its first three courses, and those completing one of the final two courses. Differences between mean scores for the individual leadership practices were also tested. The non-parametric Kruskal-Wallis test was selected because the assumptions of the ANOVA were violated. Although the descriptive statistics showed an interesting pattern, the differences were found to be negligible (see Table 11). No significant difference was found for mean LPI scores, or for any of the five leadership practices. The null hypothesis could not be rejected.

Table 11: Kruskal-Wallis Test Using Progress through the Leadership Cetificate as a Grouping Variable

	Model	Inspire	Challenge	Enable	Encourage	Mean LPI Score
Chi-Square	1.603	1.650	.374	2.675	.300	1.174
df	2	2	2	2	2	2
Asymp. Sig.	.449	.438	.829	.263	.861	.556

The structure of the University of Guelph's Certificate in Leadership program is such that students progress in two ways: by completing the five required academic courses and by completing 120 hours of leadership practicum. Course work and practicum work can be done in tandem or separately, and the practicum can proceed, go in between, or follow the first four courses. Given the diversity of paths students may follow towards achieving the Leadership Certificate, creating an accurate measure of progress through the program as a whole was difficult. The null hypothesis only addressed the first of the two methods for progress through the Leadership Certificate; therefore further statistical tests were done to examine the second method of progression.

The descriptive statistics for progress through the 120 hours of leadership practicum showed the same trend was seen with progress through the coursework. Those students in the program who had not completed their leadership practicum reported lower mean Student LPI scores than both students not in the program and students in the program who had completed their leadership practicum. This pattern was consistent for all scores for all five leadership practices.

Table 122: Progress through Leadership Practicum of the Leadership Certificate

Leadership Practicum progress	Mean LPI Score	N	Std. Deviation
Not seeking LC	24.2667	33	2.80253
Not begun Leadership Practice	23.0000	8	1.20475
Currently completing or have completed Leadership Practice	25.8333	6	2.68154
Total	24.2511	47	2.65804

The Kruskal-Wallis test was also used to examine the differences in mean LPI scores between students not seeking the leadership certificate, those who had not yet begun their leadership practicum, and those completing or finished their leadership practicum. The difference between the mean LPI scores for the three groups of students was found to be significant to a p value of 0.05 (see Table 13). The mean scores of the leadership practices of Model and Encourage were also found to be significantly different.

Table 13: Kruskal-Wallis Test Using Progress through the Leadership Practicum as a Grouping Variable

	Model	Inspire	Challenge	Enable	Encourage	Mean LPI Score
Chi-Square	6.444	1.733	1.358	3.374	6.430	6.198
df	2	2	2	2	2	2
Asymp. Sig.	.040*	.420	.507	.185	.040*	.045*

*p<0.05

The third null hypothesis could not be rejected as written. However, a significant difference in the mean LPI scores of students when grouped according to their progress

through the Leadership practicum was found. This repercussion of this finding will be discussed in the next chapter.

CHAPTER 5: DISCUSSION AND CONCLUSIONS

This study explored the relationship between post secondary students' involvement in a leadership education program and their self-reported leadership behaviours. The research questions attempted to explore how students' behaviours related to their involvement in a leadership education program, personal leadership experience, and progress through different levels of the leadership program. The final chapter of the thesis will discuss the difficulties of researching leadership development in higher education as well as review the results of each research question and discuss possible explanations for the results. Chapter five will also cover limitations of the study, implications for practice, and recommendations for further research.

Challenges for leadership development research in higher education

The researcher faced three main challenges in conducting this study. Leadership development is a complex psychological and intellectual process with a multitude of factors. Therefore isolating one variable in the development of leadership was difficult to accomplish. Secondly, comparing and drawing conclusions from previous research was hard because the research is so diverse. Lastly, with small numbers of students participating in leadership development programs, it was difficult to gather a large sample. Working with a small sample size makes an issue of practical versus statistical significance.

Isolating one variable in the development of leadership

Isolating one variable, such as participation in a leadership education program, and attributing the acquisition of new skills solely to that one variable is a near impossible task. Several co-factors complicate the development process for university students. University is a time where most students not only gain academic knowledge, but also gain competence, develop mature interdependent relationships, establish their identities, and develop a sense of purpose (Chickering, 1969). Concomitant with all of this personal development, students take on leadership roles and, for some, like many in this study, participate in a leadership education program. Since personal and leadership development are interdependent, it is very difficult to segregate what development occurs in reaction to a specific leadership education program. Another important co-factor in the development process is experience; that gained from employment, volunteering, and serving in leadership positions. How a student learns from and changes in response to situations occurring while engaged in work or volunteering can not be controlled for when studying how a leadership education program is related to leadership behaviour. A last co-factor which influences student development is the expanded content knowledge and increased intellectual capacities gained from academic courses. Students in university are being exposed to new ideas and new ways of thinking and challenging old concepts. Students may very well change or refine their most basic principles as a result of the new conceptualizations and this will influence their leadership behaviour.

The study of leadership education programs in higher education is still very much a worthwhile enterprise. However, the research must be targeted specifically to what the program is trying to accomplish. The context of this study was the University of Guelph's Certificate in Leadership, a leadership education program which is theoretically based in

transformational leadership. A survey instrument was used that specifically targeted transformational leadership practices. One goal of the study was to reduce the many co-factors for leadership development by limiting the sample to student leaders and by focussing exclusively on transformational leadership behaviours.

Comparing previous research studies

A second problematic task related to this study was comparing my results to those previously reported in the literature. The leadership development programs previously studied have vastly different structures. The length of the leadership initiatives varies from an hour to a day to a week to several semesters. The amount of student effort required from the program is also diverse. Students may passively enjoy a speaker series or participate in an interactive workshop or they may have to create a leadership skills portfolio. The programs studied also have a variety of end goals. For example, the focus of programs ranged from training for a specific role to introducing all encompassing values to encouraging involvement on campus. In addition to the large number of program durations and foci, many different measures are used in the studies in the literature. The Student Leadership Practices Inventory was the most commonly cited, however the Freshman Norms Survey, the National Survey of Student Engagement, the Competing Values Scale as well as many others were also used in the research. Lastly, the research focuses on different aspects of leadership ranging from student's increased knowledge of leadership to students' leadership behaviour to students' belief in their ability to lead. In an attempt to facilitate the comparison of the research literature, this study used one of the more common measures, the Student Leadership Practices Inventory.

Statistical versus practical significance

The third challenge in this study was working with a small sample. Just over eighty students at the University of Guelph had started the Leadership Certificate sometime since its inception four years ago. Only a fraction of these students were currently registered at the university and therefore available to the researcher. Because the sample was small, the difference in mean Student LPI scores had to be very large in order to be statistically significant. However, any result can have practical significance without being statistically significant. The results of this research do have practical significance for educational practitioners. The Guelph leadership program is making a difference in the leadership behaviours of students. Details about how the program is making a difference are delineated below as the results of each of the three null hypothesises are discussed.

Involvement in the Certificate in Leadership

The first question which guided this study asked if students who participated in the University of Guelph's Leadership Certificate reported the use of transformational leadership behaviours at a higher rate than students who did not participate. The purpose of the first research question was to explore the relationship between participation in the leadership education program (in this case, Guelph's Certificate in Leadership) and students' self-reported leadership behaviours. Forty-seven students completed the Student Leadership Practices Inventory (Student LPI) as well as ten demographic questions. The difference in the mean scores was found to be insignificant. An attempt was made to examine the mean scores of each of the five leadership practices to look for differences among the two groups. Although the means for Challenge, Enable, and Encourage were almost the same for students in the Leadership Certificate and those not in the program, students involved in the Leadership Certificate

had a slightly lower mean score for Model and a slightly higher score for Inspire. Statistical analysis of these scores was not completed as the assumptions of the ANCOVA were violated.

Two studies researching the relationship between leadership education and student leadership behaviour had positive results. Both Arendt (2004) and Pugh (2000) reported that students had significantly higher mean Student LPI scores after taking part in a leadership course. However, these two studies had different methodologies from each other as well as from the current study. In Arendt's (2004) study, students in hospitality management and dietetics filled out the Student LPI as well as a list of demographic questions, one of which asked if students had ever taken a leadership course. In the analysis, students who had indicated that they had taken a leadership course had higher Student LPI scores. It is unclear what the researcher or the students meant by "leadership course" as well as when and for how long the students participated in the leadership course. There are a wide range of possibilities to which the students could have been responding to the question regarding their participation in a leadership course. For example, one student could have taken a business course in management and thought of it as a leadership course, where a second student could have been part of a three day training program for residence assistants. Pugh's (2000) post-test Student LPI scores ten weeks following a leadership course were significantly higher in all leadership categories than the pre-test scores. However, Pugh asked the students to respond to the post-test Student LPI with the leadership practices they think they should use or that they plan to use now that they have new knowledge from the leadership course. This study asked students to respond to the Student LPI with the frequency of leadership practices they currently used.

Similar to this study, two other studies found no relationship between leadership education and student leadership behaviour. Faulkner (1997) found no significant differences in Student LPI scores when he conducted an experiment where pre-test Student LPI scores were compared to post-test scores for a control group of students as well as a group who underwent a one day leadership course. McKimmy (1996) found that post-test Student LPI scores taken at the end of a semester had relatively the same change from pre-test scores for both students in a leadership education program and students not in a leadership education program. Another study, while not specifically exploring leadership education did have a relevant finding for the current study. Rand's (2004) results showed no significant difference in leader behaviour for selected leaders and elected leaders, despite the fact that selected leaders received more training than elected leaders.

There are several possible explanations for not finding significant differences in mean Student LPI scores of students in the Leadership Certificate program and student leaders not in the program. Unlike Pugh (2000) and Faulkner (1997) who compared the general student population with students seeking leadership development opportunities, or Arendt (2004) who compared students who self identified as having taken one leadership course with those who had not, this study chose to compare students in a leadership education program with student leaders. Just as McKimmy (1996), Rand (2004), and others suggest, it is possible that the type of student drawn to the Leadership Certificate program is one who already has either leadership experience or knowledge; or a higher desire or aptitude for leadership. It is possible that, as a group, the student leaders are more similar to Leadership Certificate participants than the general population is. Perhaps there is no difference in leadership behaviours as demonstrated by Student LPI scores because students in the Leadership Certificate

share with student leaders a certain knowledge/experience base. More data exploring the progress through the Leadership Certificate would help clarify this explanation.

A second possibility is that the Leadership Certificate did indeed change students' leadership behaviour but the Student LPI was not an accurate measure of this behaviour. While the founders of the Guelph program conceptualize leadership as transformational as explained in chapter two, it could be that Leadership Certificate students learn leadership skills but not those identified by Kouzes and Posner. There is also the factor of student self-reporting. Students may not perceive themselves as utilizing certain behaviours and give themselves a lower score or, vice versa, may over estimate their use of certain behaviours.

In a large multi-institutional study using longitudinal data from the Freshman Entry Survey and the College Student Survey, Cress, Astin, Zimmerman-Oster; and Burkhardt (2001) reported that students who participated in leadership development showed an increase in three areas of leadership: skills, values, and cognitive understanding. The concept of 'leadership development' had a very broad meaning in the study and included both leadership experience and leadership education programs. The study reported that "students who volunteer, intern or work collaboratively in class are more likely to develop their leadership potential whether or not they participate in a formal leadership program" (Cress, Astin, Zimmerman-Oster; & Burkhardt ,2001, p 23). It could be inferred from these results that a large number of factors contribute to leadership skill.

Given the finding of Cress et al. (2001), it makes sense that there was no difference in self-reported leadership practices between students in the Leadership Certificate program and those not in the program. The Leadership Certificate is a long term, gradual program, taking from two to four years to complete. There are many other

factors in the process of student general development as well as leadership development that could contribute to the students' leadership behaviours in this time frame. The student leaders may be developing their leadership behaviours from these very same co-factors. The Leadership Certificate program may contribute to the students' increased use of certain leadership practices, but the contribution may not be so large as to be differentiated from the contributions of work and volunteer experience, other leadership experience, emotional and social maturity, as well as expanded knowledge from academic courses.

While it was not possible to prove statistically that Leadership Certificate students scored higher on the Inspire leadership practice than non- Leadership Certificate students, it is worth noting that the mean scores for this practice were somewhat higher for Leadership Certificate students. This is an interesting point because the leadership practice of "Inspiring a Shared Vision" is very similar to the first base of the Basis of Competence leadership model which was outlined in chapter one. This first competence level, mobilizing innovation and change, requires students to have the ability to conceptualize the future and create a vision (among other skills). It is possible that the Leadership Certificate program is able to encourage students to use the practices of Inspiring a Shared Vision more frequently than non Leadership Certificate students.

Leadership experience

The second question to guide this study asked if students who had experience as a student leader on campus for over one year reported the use of transformational leadership behaviours at a higher rate than students who had experience as a student leader on campus for under one year. This second research question was focused on isolating leadership experience as a predictor of leadership behaviour. Using only the data from student leaders (n=33), the mean Student LPI scores of 16 students with less

than one year of leadership experience were compared to the scores of 17 students with more than one year of leadership experience. A Mann-Whitney U test showed no significant differences between the two groups of students. Once again, the mean scores of each of the five leadership practices were examined to look for differences between the two groups of students. Although the mean scores were higher in all five categories for students with more than one year of leadership experience, a series of Mann-Whitney U tests showed that the differences were not significant.

Two studies were found which used the Student Leadership Practices Inventory to explore leadership experience as a predictor of leadership behaviour. Rand (2004) found no significant difference in the scores of the five leadership practices between incoming and current residence leaders. Posner and Rosenberger (1998) found no variance in leadership practices between students in a one time leadership project and students in a project that spanned the academic year. However, the researchers did find that students returning for a second year to a leadership project did have higher Student LPI scores. Perhaps the amount of leadership experience is the determining factor in whether leadership practice is influenced by experience. Following students as they progress through post-secondary education and collecting data on their leadership experience and Student LPI scores could help clarify this explanation.

Using instruments other than the Student Leadership Practices Inventory, several studies have explored the relationship between leadership experience and leadership behaviour. Using an instrument developed specifically for his study, Arens (2004) found that leadership experience resulted in higher scores for 12 out of 15 of the studied leadership roles. Using the Student Leadership Skills Inventory, Hall-Yannessa and Forrester (2004) found that student club executives reported an increase in some leadership skills after one academic year in their positions. Interestingly, the top five

skills that the students reported gaining were not topics covered at meetings or workshops throughout the year. Hall-Yannessa and Forrester (2004) conclude that students gain leadership skills specifically from their experience and not an intentional training session.

These two studies emphasize the important role leadership experience plays in shaping students' leadership practices. In the current study, students' leadership experience was placed into only two categories (less or more than one year). If the amount of leadership experience is the critical factor influencing leadership behaviour, then it is possible that this study did not have enough categories of leadership experience to accurately capture the different levels of students' experience. Perhaps a larger sample with more categories of leadership experience (i.e. no experience, less than one year, 1 -2 years, 2 – 3 years, more than 3 years) would yield a significant difference between students with a great deal of leadership experience and those with little or no experience.

Despite no statistically significant results being found in the current study, it is important to note the trends in the results. The mean LPI score of students with less than one year of leadership experience was lower (23.61) than students with over one year (24.88). The scores for the five individual leadership practices were also higher for students with more leadership experience. There is a clear trend indicating that more experience as a student leader correlates with higher Student LPI scores. These results have practical significance. This study demonstrates that student leaders at Guelph are translating their experiences into new leadership behaviours.

Level of involvement in Leadership Certificate

The third question which guided this study looked at the degree to which the various levels of completion of the Certificate program were related to the reported rate of transformational leadership behaviours. The third null hypothesis addressed this question using course work progression as a measurement for progress through the leadership certificate. The results of the third null hypothesis will be discussed first in this section. Because progress through the leadership certificate could also be measured using level of completion of the leadership practicum, additional analysis was done. Results and discussion of the additional analysis will be discussed later in this section.

In order to address the third null hypothesis, the data was placed into three groups (not in Leadership Certificate, completed one of first three courses, or completed one of last two courses) for a comparison of the mean Student LPI scores. A Kruskal-Wallis test found no significant differences in either the mean Student LPI scores or the mean scores of the individual leadership practices. Once again, even though the results did not have statistical significance, they did have practical significance. An interesting trend appeared with the mean Student LPI scores three groups of students. Students in the first three courses of the Leadership Certificate had the lowest scores, followed by students not in the Leadership Certificate, and students in the last two courses of the Leadership Certificate had the highest scores. Looking at all of the data, the trend indicated that being at students at the start of the program reported lower mean Student LPI scores that those not in the program and those near its end. Looking only at students in the Leadership Certificate, that trend in the data was that the more course work completed, the higher the mean Student LPI score.

The majority of research into student leadership development focussed on short term programs lasting either one day, a weekend, or for a few weeks. However,

McKimmy's (1996) study of the "Excellence in Leadership" program at Grand Valley State University was similar to this study. The program had three levels and continued over several semesters. Even though the Student LPI scores of students in the highest level of the program were numerically higher than students in lower levels for all five leadership practices, no significant differences were found. Similar to the current study, McKimmy also had a very small sample size; therefore a large difference in Student LPI scores was required for statistical significance. These findings also agree with those presented by Rand (2004) who found no difference in the Student LPI scores of residence leaders new to a leadership position and residence leaders who currently held a leadership position.

A closer look at the content of the courses in the Leadership Certificate program could reveal one possible explanation for finding no significant difference in Student LPI scores when using the completion of coursework as the basis of comparison. The ethics course and elective leadership courses "are not the purview of the Certificate program" (L. Schnarr, personal communication March 1, 2006), and therefore do not share the same theoretical foundation of the rest of the program. It is possible that coursework outside of the first and last courses (UNIV 2000 and UNIV 4000) does not contribute to students knowledge of transformational leadership. A second possible explanation for the lack of difference between the three groups of students could be that the concepts learned in course work was not translated by the students into behaviour; that theory was not put into practice.

More curious than the finding of no statistical difference in mean Student LPI scores, is the trend in the data showing that students not in the Leadership Certificate have higher scores than some students in the Leadership Certificate. One possibility is that Leadership Certificate students learn about transformational leadership in UNIV

2000 (the first course of the Leadership Certificate) and with this better understanding of transformational leadership behaviours are more critical of their own behaviours than students who have not done the coursework.

Progress through the Certificate in Leadership can also be measured according to the students' level of advancement through the 120 hours of leadership practicum; therefore further analysis was performed in order to pursue the third research question. When the data was grouped according to progress through the leadership practicum (not in Leadership Certificate, not begun the leadership practicum, or currently in or finished the leadership practicum), significant differences were found between the mean Student LPI scores as well as for the individual leadership practices of Modelling the Way and Encouraging the Heart. The data in the analysis showed the same trend as the data for progress through the Leadership Certificate coursework. Namely, students not begun their practicum had the lowest mean Student LPI scores, followed by students not in the Leadership Certificate, and students in or finished the practicum had the highest mean Student LPI scores. Considering all of the data, the trend which emerged showed that students in the program, but not yet begun the practicum reported lower mean Student LPI scores than those not in the program and those at or near the end of their practicum. Considering data of only those students in the Leadership Certificate, the data's trend was that the more practicum completed, the higher the mean Student LPI score.

I did not find research exploring how leadership practicum is related to student leadership behaviour. Long term leadership education programs at universities are a relatively new enterprise and using practicum as part of the programs is also new. Further research in this area is needed. However, two studies on student leadership experience had relevant findings. Arens (2004) and Hall-Yannessa and Forrester (2004) both found that students with more leadership experience reported lower leadership

ability in some areas. The research of Arens (2004) focused on students' perceptions of where they saw their leadership ability being developed. He studied 15 leadership roles students had on campus. Students reported that experience in 12 out of the 15 leadership roles increased their leadership ability. However, he found that three of the leadership roles he studied (resident assistant, camp counsellor, and student club secretary) predicted a lower score (students reported less leadership ability) on his instrument. Hall-Yannessa and Forrester (2004) surveyed sports club executives at the beginning and again at the end of a semester. The researchers found that although overall, students had higher post-test scores than pre-test scores, in a few areas, pre-test scores were higher than post-test scores. Specifically, students reported less ability to receive constructive criticism and less ability to manage finances after spending one semester as a sport club executive.

The curious finding that students not yet begun their leadership practicum report significantly lower Student LPI scores than both students in the Leadership Certificate and students in or completed the leadership practicum could be related to students' confidence levels. Student leaders not in the Leadership Certificate or students in leadership positions in their practicum may be experiencing success in their leadership roles and thus feel good about their leadership ability and as a result report higher frequencies of transformational leadership behaviours on the Student LPI. Students who are in the program and learning about transformational leadership, but who are not using this information in a leadership role, may be more critical of themselves and report lower Student LPI scores. The students serving in a leadership role may have more experience to draw on and perhaps even find it easier to think of examples of leadership behaviour when filling out the Student Leadership Practices Inventory. The ease with

which they can picture themselves doing the behaviours listed may lead to reporting higher frequencies of the behaviours (and therefore attaining higher Student LPI scores).

The finding that students currently in or who have finished their leadership practicum for the Certificate in Leadership had significantly higher mean Student LPI scores than the two other groups of students seems somewhat intuitive. A practicum is different from simply serving in a leadership role for three reasons; planning, feedback and reflection. Students in the Certificate in Leadership are required to follow a detailed rubric when planning their leadership practicum. Students must demonstrate exactly how their proposed practicum will assist them in acquiring the specific skills listed under the Bases of Competence leadership model before a practicum is approved. During the practicum, each student is assigned to a supervisor who has the task of monitoring the students' behaviour and providing regular structured feedback to the student. Once the practicum is completed, students may enrol in the final course of the Certificate, UNIV 4000. In this course, much discussion and reflection takes place to help students incorporate what was learned during the practicum into the theory learned in coursework. These three differences, planning, feedback and reflection, provide a much more structured experience than serving in a leadership role does. This structure could explain why students in or completed the leadership practicum reported increased frequency of use of transformational leadership behaviours in the form of higher Student LPI scores.

Caution must be taken when interpreting these results too closely. The leadership practicum has many complex factors which may or may not contribute to the students' success and self-reported increased use of transformational leadership behaviours. Although the instructors in the Certificate in Leadership provide a detailed rubric for planning the leadership practicum, there will likely be great diversity in how

carefully students chose their placement. There may well be a gap between what the students writes on his or her proposal and what will actually take place while on practicum. The relationship between the students' practicum supervisors and the students will also be diverse. A supervisor who closely monitors student progress and is capable of providing detailed, constructive feedback will surely assist a student with his or her leadership ability more so than a supervisor who can not provide this level of guidance. Lastly, the environment in which the practicum takes place will affect the students' level of leadership development. For example, a traditional hierarchical corporate environment may provide less opportunity for risk taking and moving into leadership roles than a more organic, progressive not-for-profit organization.

Of the five leadership practices, Modeling the Way, Inspiring a Shared Vision, Challenging the Process, Enabling Others to Act, and Encouraging the Heart (Kouzes & Posner, 2002), only two, Modeling the Way and Encouraging the Heart were found to be significantly higher for students in or completed their leadership practicum. This finding was surprising because, of the five leadership practices, the Bases of Competence model emphasises Inspiring a Shared Vision and Challenging the Process the most. However, Kuh (1995) and Hall-Yannessa and Forrester (2004) both found that leadership experience increased a student's ability to form relationships and work with a diversity of people. Perhaps the significantly higher score for the Encouraging the Heart leadership practice is a reflection of students' increased communication skills.

Six students reported that they were either currently in or had completed their leadership practicum. Of these six, four had one or more years of leadership experience. Eight students reported that they had yet to begin either leadership practicum. Of these eight, half had one or more years of leadership experience. Of the 33 students not in the Leadership Certificate, half had more than one year of leadership experience. From

these numbers, one can see that each group of students used in the comparison had roughly half of the group with one or more years of leadership experience. As a group, students who had completed or nearly completed the leadership practicum did not have any more leadership experience than those who had not begun their leadership practicum or those not in the Leadership Certificate. An additional study with a larger sample would reveal more about the interaction between leadership experience, leadership practicum, and leadership behaviours.

Limitations of the study

The methodology chapter discussed the construct validity and internal reliability of the Student Leadership Practices Inventory. The instrument is sound and the collected data is comparable with other studies using the Student LPI. However, there are three limitations to the study. First, this study examined one specific leadership development initiative at a mid-sized Canadian residential campus. Generalization of the conclusions may not be appropriate where students are in a different environment. Second, it could be that the student leaders and Leadership Certificate students are not comparable groups. The study does not account for the leadership training student leaders may or may not have received, therefore it is possible that several student leaders in the study received more leadership education and training, either on campus or off, than students received in the course of pursuing the Leadership Certificate. It is also conceivable that the quality of some of the student leader training was equivalent to courses in the Leadership Certificate. Cross over between the two groups of students did exist as most students pursuing the Leadership Certificate were also student leaders on campus. The combined effect of student leaders' training and involvement in the Leadership Certificate was not studied, but would have been useful in the final analysis. Lastly, the sample size was small and great care must be taken in interpreting the results. More

specifically, with the finding regarding leadership practicum, cell sizes for the statistics used were less than ten. To effectively study the relationship between progress in the Leadership Certificate and leadership behaviours, more students would need to be involved in the Leadership Certificate. At present, only a small handful of students have received a Certificate in Leadership from the University of Guelph.

Implications for practice

Although other studies found that students reported an increase in the frequency of leadership practices after participating in a leadership education program, this study was not able to find a significant difference in the leadership practices of student leaders and students involved in the Leadership Certificate. This study differed from other studies in that student leaders, and not the general student population, were used as a group for comparison. Leadership experience was a significant covariate in the analysis meaning that the leadership practices of both groups of students were affected by their leadership experience independent of involvement in the Leadership Certificate. In light of this finding, university administrators planning leadership education programs would benefit from weaving students' leadership experience into leadership training and education. The inclusion of leadership experience could be in the form of reflection such as writing case studies and creating portfolios. Inclusion may also be in the form of applying theory to practice where assignments from the leadership education program are carried out while students' are performing their actual leadership roles.

A large number of student leaders participated in this study that were not part of the Leadership Certificate. Therefore, many student leaders are not seeking out the Leadership Certificate. Program planners may well need to inquire as to why these student leaders are not interested in the Leadership Certificate. Every student involved in the Leadership Certificate who participated in the study was also a student leader.

Students from the general population at the University of Guelph seem to be not involved in the Leadership Certificate. Program planners may want to examine their marketing and recruitment practices to find out how to attract non-student leaders to the Leadership Certificate.

Implications for future research

Leadership "is one of the most observed and least understood phenomena on earth" (Burns, 1978, p.2). Student leadership is an even more complicated subject of study because "individual development occurs over a period of time and is influenced by a variety of factors: it is difficult to isolate the change, growth or development derived from a given leadership development effort" (Chambers & Phelps, 1994, p. 226). The field of research into student leadership development is still young and much remains to be explored. The findings of this study indicate several areas for further study.

The researcher in this study found it difficult to recruit enough students in order to acquire adequate numbers for statistical analysis. Despite much support from the program's founders, there was an inability to contact students who had started the Leadership Certificate program for a variety of reasons as outlined in chapter three. A research recommendation would therefore be to make research an intrinsic part of each leadership education program. There is a need to not only analyze the program content, but also students' changing conceptions of leadership, their changing behaviours, as well as their achievements. If the program were designed with research in mind, students would not only be easier to track, but may also be more willing to participate in research.

This study compared student leaders to students involved in a leadership education program. It would be useful to add a third group of students to the analysis,

namely those with no involvement in leadership education and no leadership experience. This task is getting more difficult because more and more high schools have mandatory volunteer programs where students may take on leadership roles. University entrance is also becoming more competitive, and therefore only elite students are in post secondary education and finding students with no leadership experience is rare.

Progress through a leadership education program is a third area for further research. Students' leadership behaviours as well as conceptions of leadership at different levels of a program could be compared. A longitudinal study which tracks students through a leadership education program from beginning to end would yield fruitful data. Such a study could begin to explore the relationship between the different factors involved in leadership development (maturity, work and volunteer experience, knowledge learned in courses) as well as the effect of a leadership education program.

This study focussed on one leadership education program. A fourth area for further research is to compare specific leadership training programs (i.e. training for orientation advisors or residence assistants) to general leadership development programs with regards to students' leadership behaviour. Similarly, research could be done that compares leadership practicum components of leadership education programs with students' leadership roles on campus. How students incorporate material from leadership training could also be examined. A good research question is; what are the effects of active reflection on a leadership practicum versus performing a role without academic study?

This study found no difference in the leadership practices of students with different levels of leadership experience. However, there was a significant difference between students not in the Leadership Certificate, not begun the leadership practicum and currently in or completed the practicum. The students who reported the lowest score

of the three groups were those who had not yet begun their practicum. Further exploration needs to be done of the positive and negative impacts of leadership experience. Is there a wave pattern of development where students first increase their knowledge and skill, then apply it only to find themselves with a lower level of knowledge and skill before learning more and then increasing knowledge and skill once more? Tracking students' behaviours and conceptions of leadership throughout their university experience could provide some data to answer this question.

Truly measuring the effectiveness of leadership education programs requires tools more thorough than self report surveys; a mixture of qualitative and quantitative data is necessary. Further research may require following students from college entry through to graduation in order to study the combined effects of the college experience, general maturity, and leadership experience and education.

Conclusion

This thesis was an exploratory study that examined the relationships between students' leadership behaviours and their experience in leadership roles as well as one specific leadership education program. No significant difference in Student LPI scores was found between students in the program and those not in the program; between student leaders with over one year of leadership experience and those with less than one year of experience; and between students at different levels of completion of the Leadership Certificate. However, students who were doing or had completed their leadership practicum as part of the Certificate had significantly higher Student LPI scores than those who had not. Several important limitations to this study make drawing strong conclusions difficult. What has been learned is that leadership experience plays an important role in leadership development. When paired with leadership education,

leadership practicum may be key to helping students learn to use certain behaviours with increasing frequency.

APPENDICES

Appendix A – Demographic questions on the survey

Q1. Please insert the student identification code provided in the e-mail you received with the link to this survey (the code should be four digits long and start with either A or B).

Answer:

Q2. What is your gender?

Female
Male
Do not identify as either

Q3. What is your age group?

17 – 19
20 – 22
23 – 25
26 – 28
29 – 31
32 – 35
over 36

Q4. What is the highest level of education you have completed? (mark high school diploma if you are currently completing your bachelor's degree)

high school diploma
bachelor's degree
master's degree
doctorate

Q5. Have you ever held a position of leadership at the university level?

No
Yes, for up to one year
Yes, for over one year

Q6. If you answered yes to question 5, what is your specific leadership position?

Elected student representative
Sit on executive committee of an SOR group
Residence Assistant
Orientation Advisor
Other, Please Specify

Q7. Please list any other positions of leadership, either on campus or off, that you currently hold or have held in the past.

Q8. Are you currently seeking to obtain the Certificate in Leadership? (If no, skip to question 11)

Yes
No

Q9. What level of progress have you made in the Certificate in Leadership? (check the highest level that applies)

Currently enrolled in UNIV 2000
Completed UNIV 2000
Completed ethics course
Completed one of two electives
Completed both electives
Currently enrolled in Leadership Capstone Course
Completed Leadership Capstone Course

Q10. What is your progress towards the 120 hours of Leadership Practice?

I have not started working on my Leadership Practice
I have made a proposal, but not begun my Leadership Practice
I am now completing my Leadership Practice
I have completed all 120 hours of my Leadership Practice

Appendix B – Ethics approvals from the University of Guelph

RESEARCH ETHICS BOARD
Certification of Ethical Acceptability of Research
Involving Human Participants

APPROVAL PERIOD: **May 9, 2006 to November 30, 2006**

REB NUMBER: **06MR016**

REPORTS REQUIRED: Completion Report: November 30, 2006

TYPE OF REVIEW: **Expedited** **Full Board**

PRINCIPAL INVESTIGATOR: **C. Amundsen**

DEPARTMENT: **SFU**

SPONSOR: **CACUSS**

TITLE OF PROJECT: **Leadership Development at University**

The members of the University of Guelph Research Ethics Board have examined the protocol which describes the participation of the human subjects in the above-named research project and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement.

The REB requires that you adhere to the protocol as last reviewed and approved by the REB. The REB must approve any modifications before they can be implemented. If you wish to modify your research project, please complete the Change Request Form. If there is a change in your source of funding, or a previously unfunded project receives funding, you must report this as a change to the protocol.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants, and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-council Policy Statement requires that ongoing research be monitored by, at a minimum, a final report and, if the approval period is longer than one year, annual reports. Continued approval is contingent on timely submission of reports.

Membership of the Research Ethics Board: J.I. Bakker, *Sociology & Anthropology;* F. Caldwell, *Student Health Services*; A. Duncan, *HHNS*, Michelle Dwyer, *Legal Representative;* C. Harvey-Smith, *N.D. and External*; J. Minogue, *EHS*; I. Newby-Clark. *Psychology*; J. Randall Simpson, *FRAN;* P. Salmon, *SETS*; J. Sprott; *Sociology & Anthropology*; M. Thomson, *Ethics and External.*

Approved:_____ Date: _____
per
Chair, Research Ethics Board

RESEARCH ETHICS BOARD
University Centre 437, Guelph, Ontario N1G 2W1
519-824-4120 X56606

DATE: November 30, 2006
TO: C. Amundsen
CC: K. Vogt
FROM: S. Auld
SUBJECT: REB# 06MR016
TITLE: Leadership Development at University

Thank you for submitting the changes to the above Research Ethics protocol. **Your request for extension to 09 feb 07 has been approved. Your change request is being reviewed.**
Please quote your REB file number on all future correspondence. If you have any questions, please do not hesitate to contact:

Sandy Auld
Research Ethics Coordinator
Office of Research
University Centre, 437
X56606.

RESEARCH ETHICS BOARD
University Centre 437, Guelph, Ontario N1G 2W1
519-824-4120 X56606

DATE: December 1, 2006
TO: C. Amundsen
CC: K. Vogt
FROM: S. Auld
SUBJECT: REB# 06MR016
TITLE: Leadership Development at University

Thank you for submitting the changes to the above Research Ethics protocol. **Your request for a change to A.3 Dates and B.13 recruitment have been approved.**

Please quote your REB file number on all future correspondence. If you have any questions, please do not hesitate to contact:

Sandy Auld
Research Ethics Coordinator
Office of Research
University Centre, 437
X56606.

Appendix C – Communication with participants

Text of first e-mail sent to student leaders in October 2006

Dear Student Leader:

I am writing to invite you to participate in an exciting research project involving student leaders at the University of Guelph. You have been selected to take part in the research study because you are currently in a position of leadership on campus.

I am a Master's student in Educational Leadership at Simon Fraser University looking to explore how formal university curriculum can influence one's leadership practices. I will be comparing students who are in U of G's Certificate in Leadership with students who are not in the program, but are serving as student leaders on campus. More details on my study can be found at www.sfu.ca/~klv/study_info_vogt.htm.

What I need from you: twenty minutes of your time to fill in an online survey that asks you about your leadership practices.

What you can get from me: detailed feedback on the kinds and frequencies of leadership practices that you employ. The survey I am using is widely used in leadership development and is an excellent source of information for you. You can use the results to learn more about yourself as a leader. I will ensure each student who participates receives their individual score and its meaning. In addition, general survey results and a final copy of the Master's thesis will be available from Student Life & Counselling Services after February 2007.

Next steps: If you would like to participate, simply send me an e-mail (klv@sfu.ca) and indicate that you would like to fill in the survey. I will immediately send you an identification code (as all results will be kept confidential) and a link to the online survey. You will have until October 31, 2006 to complete the survey.

I encourage you to participate in this survey as it will give you an opportunity to reflect on your time here at the University of Guelph and the role you have played as a leader on campus. Please do not hesitate to contact me if you have any questions.

Sincerely,
Krista Vogt

Text of second e-mail sent to student leader in January 2007

This is an invitation for student leaders at the University of Guelph

What are your leadership practices? Do you use your personal charisma to influence others or do you rely on the facts to make your argument? Do you create relationships with those you lead or do you lead by setting up a system of rules? Do you take risks or play it safe?

Take the *Student Leadership Practices Inventory* and find out the answers to these and many other questions.

You are invited to take part in a research project which studies student leaders at the University of Guelph. The study explores how formal university curriculum can influence one's leadership behaviours. The Inventory scores of students who are pursuing the Certificate in Leadership will be compared with the scores of students who are not in the program, but who hold a position of leadership on campus.

Participation is easy and quick ... simply send an e-mail to klv@sfu.ca and indicate your willingness to participate. You will receive a link to the online inventory immediately. The inventory should take less than 15 minutes of your time.

Why participate? The *Student Leadership Practices Inventory* is widely recognized in leadership development circles and is an excellent source of information for you. It will provide detailed feedback and analysis on your leadership behaviours. Each student who participates receives their individual score and its meaning as well as the overall research results.

If you have any questions or concerns, please contact Krista Vogt at klv@sfu.ca

Text of first e-mail sent to students with credit in UNIV 2000 in October 2006

Dear Student:

I am writing to invite you to participate in an exciting research project involving student leaders at the University of Guelph. You have been selected to take part in the research study because you either have credit in or are currently enrolled in UNIV 2000.

I am a Master's student in Educational Leadership at Simon Fraser University looking to explore how formal university curriculum can influence one's leadership practices. I will be comparing students who are in U of G's Certificate in Leadership with students who are not in the program, but are serving as student leaders on campus. More details on my study can be found at www.sfu.ca/~klv/study_info_vogt.htm.

What I need from you: twenty minutes of your time to fill in an online survey that asks you about your leadership practices.

What you can get from me: detailed feedback on the kinds and frequencies of leadership practices that you employ. The survey I am using is widely used in leadership development and is an excellent source of information for you. You can use the results to learn more about yourself as a leader. I will ensure each student who participates receives their individual score and its meaning. In addition, general survey results and a final copy of the Master's thesis will be available from Student Life & Counselling Services after February 2007.

Next steps: If you would like to participate, simply send me an e-mail (klv@sfu.ca) and indicate that you would like to fill in the survey. I will immediately send you an identification code (as all results will be kept confidential) and a link to the online survey. You will have until October 31, 2006 to complete the survey.

I encourage you to participate in this survey as it will give you an opportunity to reflect on your time here at the University of Guelph and the role you have played as a leader on campus. Please do not hesitate to contact me if you have any questions.

Sincerely,
Krista Vogt

Text of second e-mail sent to students with credit in UNIV 2000 in January 2007

This is an invitation for students pursuing the Certificate in Leadership at the University of Guelph

What are your leadership practices? Do you use your personal charisma to influence others or do you rely on the facts to make your argument? Do you create relationships with those you lead or do you lead by setting up a system of rules? Do you take risks or play it safe?

Take the *Student Leadership Practices Inventory* and find out the answers to these and many other questions.

You are invited to take part in a research project which studies student leaders at the University of Guelph. The study explores how formal university curriculum can influence one's leadership behaviours. The Inventory scores of students who are pursuing the Certificate in Leadership will be compared with the scores of students who are not in the program, but who hold a position of leadership on campus.

Participation is easy and quick... simply send an e-mail to klv@sfu.ca and indicate your willingness to participate. You will receive a link to the online inventory immediately. The inventory should take less than 15 minutes of your time.

Why participate? The *Student Leadership Practices Inventory* is widely recognized in leadership development circles and is an excellent source of information for you. It will provide detailed feedback and analysis on your leadership behaviours. Each student who participates receives their individual score and its meaning as well as the overall research results.

If you have any questions or concerns, please contact Krista Vogt at klv@sfu.ca

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