

Rowan University

Rowan Digital Works

Theses and Dissertations

8-7-2011

Leadership for improvement: promoting student learning through an on-campus residential learning community for first-year female, minority, and low income engineering students

Patricia Zobel

Follow this and additional works at: <https://rdw.rowan.edu/etd>



Part of the [Higher Education Administration Commons](#)

Recommended Citation

Zobel, Patricia, "Leadership for improvement: promoting student learning through an on-campus residential learning community for first-year female, minority, and low income engineering students" (2011). *Theses and Dissertations*. 62.

<https://rdw.rowan.edu/etd/62>

This Dissertation is brought to you for free and open access by Rowan Digital Works. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of Rowan Digital Works. For more information, please contact graduateresearch@rowan.edu.

**LEADERSHIP FOR IMPROVEMENT: PROMOTING STUDENT LEARNING
THROUGH AN ON-CAMPUS RESIDENTIAL LEARNING COMMUNITY
FOR FIRST-YEAR FEMALE, MINORITY, AND
LOW INCOME ENGINEERING STUDENTS**

by
Patricia Dee Zobel

A Dissertation

Submitted to the
Department of Educational Leadership
College of Education

In partial fulfillment of the requirement

For the degree of
Doctor of Education

at
Rowan University

April 27, 2011

Dissertation Chair: MaryBeth Walpole, Ph.D.

© 2011 Patricia Dee Zobel

Dedication

To my twin 7-years apart, my little brother Jophis. I dedicate this dissertation to you. You have served as an endless source of inspiration to me. My goal in life is to inspire you to be the very best you can be... I expect your future dissertation to be dedicated to me little one!

Mom, no one has been a bigger cheerleader for me throughout my life than you. The days that I wanted to give up I didn't because you never gave up on us. No matter how tired or sick you got you pushed yourself to keep going for your children. I never forgot that and I never will.

Dad, God gave me your eyes and it is through these eyes that I am able to view the world with compassion, empathy, and without judgment. Thank you for always making me smile and being the sparkle in my eyes.

Katie, your confidence in me has always motivated me to push through. Thank you for being the “wind beneath my wings.” No matter how far my education has taken me, you have been the greatest teacher I have ever known. You have taught me about the most important things in life. You are the most exceptional big sister I could ever have.

To my best friend, and my other half, my husband Jon. I have met thousands of people in my life but it only took one – you – to change me forever. My favorite quote of all time is, “Life is not measured by the number of breaths we take but by the moments that take our breath away.” Thank you for always leaving me breathless. You have my heart forever. I love you.

To Mama and Papa E, thank you for always asking me about the dissertation process. Your encouragement and support throughout the doctoral journey meant so much to me.

And lastly, to my freshman year R.A. Alvin Mallette, who led my residential learning community my first year of college. You fueled my desire to get into Residence Life with your caring nature and incredible leadership characteristics. You set the path on this journey I took. Even when it gets dark your light has always been there to guide me after all these years. This dissertation is also dedicated to you.

Acknowledgments

I would like to endlessly thank the person who guided me throughout the dissertation journey, my chair, Dr. MaryBeth Walpole. You challenged me to take my "best" work and make it better. You motivated me with your words of encouragement whenever I needed them. This dissertation would not have been possible without your support. The words "thank you" are simply not enough to express my gratitude to you.

An enormous thank you to my committee members, Dr. Jess Everett and Dr. Joanne Damminger. Dr. Everett, your guidance, support, and assistance throughout this journey was critical. Thank you for always being available to work with me to make this dissertation possible. Dr. Damminger, your support and insight guided me through every step of the doctoral process and throughout this study. Your kindness and caring heart are rare and admirable qualities. I hope to be a great leader and mentor like you someday.

To the professors in the doctoral program, especially Dr. Walpole, Dr. Damminger, Dr. Doolittle, Dr. Sernak, and Dr. Campbell, thank you! Each of you made this dissertation possible, but more importantly you have all touched my heart. Thank you for pushing me, guiding me, and supporting throughout my time in the program.

To my cohort peers, this was a long journey and I am very proud and honored to have traveled this road with all of you. A big thank you to my "critical friends" Rob Rossi and Sean McCarron. The two of you walked every step of this journey with me from the

very first class to graduation. Each of you kept me on track and always, always helped me to find my smile throughout all of the challenges we faced.

A special thanks to my best cohort friend, Leslie Gassler. Leslie, I could not have finished this journey without you. Although earning a doctorate was my primary goal when I enrolled in the program, gaining your friendship is the best thing I took away from this experience.

Abstract

Patricia Dee Zobel

LEADERSHIP FOR IMPROVEMENT: PROMOTING STUDENT LEARNING
THROUGH AN ON-CAMPUS RESIDENTIAL LEARNING COMMUNITY
FOR FIRST-YEAR MINORITY, FEMALE, AND
LOW-INCOME ENGINEERING STUDENTS

2010/11

MaryBeth Walpole, Ph.D.

Doctorate of Education in Educational Leadership

The purpose of this action research study was to examine the effects of an Engineering Living and Learning Community (ELLC) comprised of minority, female, and low-income engineering students and their perceptions of their first-year experience regarding their transition to college, their peer-to-peer and peer-to-faculty relationships, and their connection to campus. This study explored the impact of the creation of the ELLC and the researcher's evolution as a leader during the process. Hinchey (2008) defines action research as a "process of systematic inquiry usually cyclical, conducted by those inside a community with the goal to identify action that will generate some improvement" (p. 4). Using the action research paradigm, this study investigated the experiences of 45 participants at Virginia Smith University, a four-year, mid-sized, suburban, public university in the mid-Atlantic region during the 2009-2010 and 2010-2011 academic years. Students' perceptions regarding their transition to college, peer and faculty relationships, and their connection to campus were assessed using a mixed methods approach. This study incorporated a two-phase process, starting with the evaluation of the Engineering Living and Learning Community in the pilot fall semester

in 2009 and then assessed the implementation and evaluation of changes to the program based on the results from the data collected. Results indicated that both the 2009-2010 and 2010-2011 ELLC cohorts' first-year experience regarding their transition to college, peer-to-peer and peer-to-faculty relationships, and their connection to campus were all improved because of their participation in the Engineering Living and Learning Community program.

Table of Contents

Abstract.....	vi
List of Figures.....	xv
List of Tables	xvi
Chapter 1: Introduction.....	1
Problem Statement.....	1
Context of the Study	3
Aims of the Study	6
Research Questions.....	7
Significance of the Study.....	8
Conclusion	9
Chapter 2: Leadership Platform.....	10
Looking in the Past to See the Future.....	10
My Leadership Approaches	11
Transformational Leadership.....	11
Servant Leadership	17
Emotional Intelligence.....	20
The Change Process.....	22
Conclusion	26

Table of Contents (Continued)

Chapter 3: Literature Review.....	28
Introduction.....	28
Background.....	30
Virginia Smith University Context.....	32
Portrayal of a Living and Learning Community.....	32
Goals of Living and Learning Communities	34
Types of Living and Learning Community Models	35
Benefits of Participating in Living and learning Communities	38
Retention.....	43
Mentoring.....	44
Issues and Concerns Involving Living and Learning Communities.....	46
LLCs from a National Perspective.....	48
Engineering Residential Learning Communities	49
Conclusion	52
Chapter 4: Methodology	54
Introduction.....	54
Action Research Approach	55
Overview of the Study	58
Data Collection Overview	60
Ethics	64
Cycles of Action Research.....	64

Table of Contents (Continued)

Participants.....	64
Cycle 1 - Design, Deliberation, Reflection, and Filling in the Blanks	65
Cycle 2 - Redesign for Fall 2010	69
Cycle 3 - Redesign for Spring 2011.....	71
Leadership Application Throughout Cycles.....	72
Conclusion	74
Chapter 5: Cycle 1 Analysis: (December 2009 – May 2010) Design, Deliberation, and Filling in the Blanks.....	75
Introduction.....	75
ELLC 2009-2010 Pilot Program.....	78
Stakeholder Meetings	80
January 2010 Survey Results.....	86
Actions Taken in Spring 2010	88
Focus Group Results.....	88
Social Programming: Making Connections and Building Relationships	90
To Meet or Not to Meet	92
Residence Hall Woes	93
Residing with Non-ELLC and Non-Engineering Majors	94
Lack of Peer-to-Peer Relationships	95
Peer-to-Faculty Relationships.....	96
Connection to Campus.....	97
2009-2010 ELLC Final Survey.....	99

Table of Contents (Continued)

Leadership Application.....	102
Conclusion	108
Chapter 6: Cycle 2 Analysis: (May 2010 – November) Redesign Fall 2010	113
Introduction.....	113
Redesign for 2010-2011 Cohort	115
Interest Survey	118
ELLC Fall 2010 Activities.....	120
Welcome party	121
Study guide session.....	124
Volleyball game	126
Excel workshop.....	128
Alcohol awareness program.....	129
Wiffle ball – Homerun derby	130
Leadership Application.....	131
Conclusion	133
Chapter 7: Cycle 3 Analysis: (November 2010 – January) Spring 2011 ELLC	
Redesign.....	135
Introduction.....	135
Data Analysis	136
Focus group results	136
Attendance policy and meetings	136
Varied academic programming.....	138

Table of Contents (Continued)

Engineering clubs and organizations	138
Successful Peer-to-Peer and Peer-to-Faculty Relationships	139
2010-2011 ELLC Fall Semester Survey Results	140
Resident assistant interview results	143
Significance of R.A.s majoring in engineering.....	144
Building community and out-of-classroom connections	146
Importance of R.A. programming.....	147
ELLC vs. non-ELLC experiences.....	149
Leadership Application and Assessment	152
Conclusion	153
Chapter 8: Analysis and Implications.....	155
Introduction.....	155
Overview of the Study	156
Cycle 1	156
Cycle 2	159
Cycle 3	160
Participants Transition from High School to College.....	161
ELLC academic resources	162
Linked courses to ease the academic transition	165
The Social Adjustment to College: Importance of Peer Relationships	167
Connection to Campus.....	169
Campus connectivity through ELLC programming	171

Table of Contents (Continued)

Gaining a sense of belonging through involvement	173
Peer-to-Peer Relationships.....	175
Making friends with neighbors	175
Peer relationships through classroom collaboration	176
Social programming benefits of the ELLC in building peer relationships	177
Peer-to-Faculty Relationships.....	180
Interaction with faculty outside of the classroom.....	181
Culture and Change	183
ELLC initial culture	184
The culture of the ELLC after the introduction of social programming.....	189
Implications	192
Recommendations.....	194
Conclusion	198
Chapter 9: Leadership Reflection	200
Introduction.....	200
My Leadership Through the Eyes of Others.....	205
Open-ended responses	206
Leader to leader	212
Leading with a Combination of Styles	215
Emergence of the feminist leadership theory	216
Shared Vision.....	218
Relationship Building.....	219

Table of Contents (Continued)

My Leadership Evolution	223
My Leadership Inspiration.....	225
The Future of the Engineering Living and Learning Community	228
Final Reflection.....	230
References.....	234
A: ELLC Fall 2009 Survey (September 2009)	241
B: ELLC End-of-Fall-Semester Survey (January 2010).....	245
C: Focus Group (May 2010).....	249
D: ELLC End-of-Spring-Semester Survey (May 2010).....	250
E: ELLC R.A. Interview (December 2010).....	253
F: Focus Group (December 2010)	255
G: ELLC End-of-Fall-Semester Survey (January 2011)	256
H: Leadership Questionnaire/Evaluation (January 2011).....	262
I: ELLC Program Interest Survey (Summer 2010).....	263
J: Recruitment Letter	264
K: Pre-Semester Letter.....	265
L: Move-In Letter	266
M: ELLC Fall 2010 Survey (September 2010)	267
N: ELLC vs. Non-ELLC Experiences Survey (January 2011).....	271

List of Figures

Figure	Page
Figure 1 Conceptual Framework	25
Figure 2 Cycle One Model.....	156
Figure 3 Cycle Two Model.....	158
Figure 4 Cycle Three Model.....	160
Figure 5 Leadership Assessment Model.....	205
Figure 6 Leadership Assessment Findings Model.....	208

List of Tables

Table	Page
Table 1 January 2010 Survey Results.....	87
Table 2 2009-2010 ELLC Final Survey Program Satisfaction Evaluation	100
Table 3 2009-2010 ELLC Final Survey Program Recommendation Evaluation	100
Table 4 Interest Survey	119
Table 5 2010-2011 ELLC Survey Results	141
Table 6 2010-2011 ELLC Overall Program Satisfaction Evaluation	143
Table 7 ELLC vs. Non-ELLC Experience Survey	150

Chapter 1

Introduction

Problem Statement

Most engineers love numbers, but many academic engineering statistics (Gibbons, 2007) are not numerically reassuring. Recruitment and retention of all engineering students in the United States have plummeted (Pascarella, Pierson, Wolniak, & Terenzini, 2004; Pike, 1997; Pike & Kuh, 2005). Nationally, only about half of all freshmen who start out in the major graduate with an engineering degree (Astin & Astin, 1992; Seymour & Hewitt, 1997; Zhang, Anderson, Ohland, & Thorndyke, 2004). Additionally, the lack of African American, Hispanic, and Native American students preparing for careers in the science, technology, engineering, and mathematics (STEM) disciplines are staggering. Members of these groups make up 29% percent of the national population, and are among the fastest-growing groups in the country, yet they represent only 9% of the nation's college-educated engineering workforce according to a 2010 report conducted by the National Science Foundation (<http://www.nsf.gov/statistics/wmpd/>). Moreover, in 2006-2007 only 18% of the engineering bachelor degrees were awarded to females, which was the lowest percentage since 1996, and only 5% were earned by Hispanic students (Gibbons, 2007). Today, these two groups are still severely underrepresented, as are African American students who comprise about 6% of engineering undergraduate students (Gibbons, 2007).

One of the reasons that retention of engineering majors may be problematic is engineering students report lacking a sense of community within their major and the

university, which adversely affected students' overall satisfaction with their collegiate experience (Zhang et al., 2004). Specifically, women and minority students majoring in the science, technology, engineering, and math (STEM) disciplines were less likely to feel they were part of the college community and were more at risk of changing majors or dropping out than their White male peers (Seymour & Hewitt, 1997).

The single most influential factor in college student development is peer support (Astin, 1993). Learning communities are a purposeful endeavor to create these interactions in a rich, challenging, and supportive academic community (Denzine & Kennedy, 1997). The modern day Living and Learning Community (LLC) concept is designed to serve a population of students who are motivated to learn by collaboration with faculty and other students. Residential learning communities are established to increase student satisfaction and learning in order to create and sustain student success (Blackhurst, Akey, & Bobilya, 2003).

Many higher education institutions have implemented various types of learning communities as a strategy for enhancing students' sense of community, developing peer-to-peer and peer-to-faculty relationships, and promoting a positive freshman year experience to improve academic performance and retention (Browne & Minnick, 2005; Tinto, 1993; Zhao & Kuh, 2004). Freshman students who reside on-campus have a greater chance of returning to campus for their sophomore year than first year commuter students (Blackhurst et al., 2003). Research shows that resident students are more likely to be socially and academically integrated, and are significantly more satisfied with their college experience than commuter students (Pascarella et al., 2004).

Context of the Study

Virginia Smith University (a pseudonym) is a selective, mid-sized, suburban higher education institution in the mid Atlantic. Over the past six years, Virginia Smith University (VSU) has experienced some drastic campus-wide changes. Some of these changes included: increased enrollment, new undergraduate and graduate programs, explosive growth in the residential halls and off-campus apartment capacity, and a drastically cut state budget in terms of funding awarded to the university. Simultaneously, higher education public institutions in the state were challenged with improving retention rates (with emphasis on minority student populations) and keeping high school graduates in state for college. In response to some of these initiatives, The College of Engineering at VSU focused its efforts on developing a supportive learning environment by creating a residential learning community for the minority, female, and low-income engineering students.

Historically, less than 10% of the VSU College of Engineering's freshman class has been composed of African American, Hispanic, Native American, and female students. In fall 2008, there were 116 freshman students enrolled in the engineering major. By the fall 2009 semester, 25 students had dropped out of the major, a retention rate of 78.5%. Also in the fall 2009 semester, 152 freshman students were enrolled in the engineering major. By the fall 2010 semester, 27 students had dropped out of the major, a retention rate of 82.3%, which was an improvement over the previous year. In the fall 2010 semester, there were 166 total freshman engineering students. By the spring 2011 semester, 9 students had left the major. Therefore, 94.6% of all freshman engineering students were enrolled in the spring 2011 semester by the end of this study. Furthermore,

of the total engineering population at VSU very few students were women. In 2008, out of 562 total engineering students only 83 or 14.7% were female. In 2009, out of 612 total engineering students only 95 or 15.5% were female. And in 2010, out of 651 total engineering students only 104 or 15.9% were female. Furthermore, when examining the minority population majoring in engineering at VSU, the Dean of the College of Engineering said, "The truth is we have so few students of color it is almost not worth counting."

In 2008, Virginia Smith University began to address the recruitment and retention of minority engineering students through a grant application. One aim of the Scholarship - Science, Technology, Engineering, and Math (S-STEM) grant was to give individuals historically underrepresented in engineering – minority, female, and low-income - a greater opportunity to develop their intellectual talents in the field of engineering. Virginia Smith University applied for a S-STEM grant that provided scholarships to minority, female, and low-income students who majored in engineering at the university. The goal of the S-STEM award was to increase the recruitment and retention of students in the engineering majors, leading to an increase in the number of graduates prepared to enter the STEM workforce. One strategy the university implemented to reach the goal was to create an Engineering Living and Learning Community (ELLC), also a pseudonym. While the primary purpose of the ELLC was to award scholarships to minority, female, and low-income engineering students, the grant also enabled residential learning community projects such as team building, collaborative learning, and hands-on activities.

The grant was awarded and the first cohort of the VSU Engineering Living and Learning Community commenced in fall 2009. According to the ELLC faculty advisor, the ELLC students were individuals who: (1) had been accepted into Virginia Smith University, (2) were minority, female, or low-income students, and/or (3) had remaining financial need after other grants or scholarships were awarded and accepted. The primary ELLC program slots were presented to minorities and females first, then to engineering students with financial need. To clarify, the remaining ELLC slots after awards were made to women and students of color were designated for low-income students and offered to students with the most financial need. Financial need was defined as remaining need after all other financial aid had been provided. According to the ELLC faculty advisor, the level of need was calculated by the VSU Admissions office.

The Engineering Living and Learning Community students were recruited via their admission acceptance packet and received a follow up e-mail or telephone call from the ELLC advisor. Scholarship information promoting the ELLC was available on the Virginia Smith University ELLC website. This information included living arrangements, a calendar of events, and expectations pertaining to the community. The program was limited in the number of students who could participate, based on the availability of the S-STEM funds.

The students who participated in the community were enrolled in linked courses. These courses included Calculus, Composition I, Physics, and an Engineering Freshman Clinic lab course. Along with the linked courses, a majority of the ELLC students resided on a single floor of the same residence hall. One of the most crucial elements of the ELLC program was the residential community component. In order to establish a sense of

belonging to the university so students would continue to pursue the engineering major (Youngman & Engelhoff, 2004), on-campus living arrangements that promoted an inclusive community environment was crucial to the ELLC objectives.

This dissertation is a study of the Engineering Living and Learning Community beginning in 2009 and continuing through 2011. The sample was a purposeful community of 45 first-year minority, female, and low-income students in the engineering major who qualified for the S-STEM scholarship in the 2009-2010 cohort and the 2010-2011 cohort. More specifically, there were 23 first year engineering student participants in the 2009-2010 ELLC cohort. Of those students 12 were male and 11 were female. The 2010-2011 ELLC participants consisted of 22 first year minority, female, and low-income engineering students. Of those students 12 were male and 10 were female. Data collection for this study took place from December 2009-January 2011.

Aims of the Study

The Engineering Living and Learning Community at Virginia Smith University was built on the learning community model of linked courses with the addition of a residential component with two goals in mind: to create a residential living and learning-based peer group of engineers, and to improve the academic success of first-year minority, female, and low-income engineering students. The purpose of this study was to determine the effectiveness of the pilot ELLC program in achieving these goals as well as to implement newly proposed objectives that I suggested. These goals included increasing student satisfaction with the university through campus connectivity and increasing peer-to-peer and peer-to-faculty relationships through in-class and out-of-class

interaction. A secondary aim of the dissertation was to study my own leadership development throughout the research process.

This action research project began at the end of the fall 2009 semester of the ELLC's pilot year. In early December 2009 I identified the need to improve the current Engineering Living and Learning Community at Virginia Smith University. After meeting with the advisor, Dr. Howard, it became increasingly clear that the ELLC, which was in its first year of existence, was operating without utilizing various successful living and learning community strategies needed to optimize the learning and student development aspects of the community. The learning community was developed quickly to adhere to the S-STEM grant requirements; I developed a number of new initiatives for improving the pilot ELLC program. I proposed some ideas and strategies that I suspected would improve the 2009-2010 Engineering Living and Learning Community. This was the beginning of the preliminary planning, design, deliberation, and reflection exploration, which is consistent with action research (Hinchey, 2008).

Research Questions

The ELLC objectives included easing the transition from high school to college, assisting students in making connections to the campus, and building stronger peer-to-peer and peer-to-faculty relationships. Through surveys, observations, focus groups, interviews, and journaling about my interactions with the ELLC students and faculty, I attempted to answer several research questions:

- In what ways did the Engineering Living and Learning Community contribute or ease students' transition from high school to Virginia Smith University?

- How did the Engineering Living and Learning Community contribute to the participant's campus connectivity to Virginia Smith University?
- How were the students' peer-to-peer relationships established, maintained, and affected as a result of participation in the Engineering Living and Learning Community?
- How were the students' peer-to-faculty relationships established, maintained, and affected as a result of participation in the Engineering Living and Learning Community?
- In what ways did my leadership qualities and characteristics develop as a result of my involvement with the Engineering Living and Learning Community?

Significance of the Study

Most LLCs have the intended goal of making a large campus feel small (Blackhurst et al., 2003). Living and learning communities are primarily characterized by their smaller size, their social intensity, and the purposeful support provided to the students who participate in these communities (Gabelnick, MacGregor, Matthews, & Smith, 1990). Residential learning communities have the ability to transform large, impersonal institutions by fostering intimate peer groups within the residence halls (Inkelas & Weisman, 2003). However, the lack of empirical research related to engineering residential learning communities was a catalyst for this action research study. In general, residential learning community research and studies are based on thematic or interest group LLCs. Literature that is readily available on residential learning

communities typically examine the students' academic performance and persistence based on their involvement in the living and learning community environment.

Today many higher education institutions are progressively held accountable for achieving retention and time-to-graduation goals with limited resources. This is especially critical in the engineering major, so infusing successful residential learning community approaches in order to retain freshmen, particularly minority, female, and low-income first year engineering majors, is a critical strategy for colleges to meet the demand for qualified engineering graduates. This study was designed to enhance the existing ELLC at Virginia Smith University. One of the reasons why this study was needed and significant was because, as with any program, this residential learning community needed to be evaluated and improved.

Conclusion

The rationale of this study was to investigate an engineering residential learning community and connect students' experiences in the community to the transition from high school to college, their peer-to-peer and peer-to-faculty relationships, and their connection to campus. This study also explores my leadership of the project and within the ELLC. Chapter 2 provides a framework of my espoused leadership theories that were utilized to stimulate change in the ELLC program. Chapter 3 presents a review of the past and current literature on residential learning communities. Chapter 4 describes the methodology used in the study. Chapters 5, 6, and 7 provide results of the three cycles of action research. A discussion of the findings, implications for practice, and suggestions for future research are presented in Chapter 8. And finally, Chapter 9 examines my leadership analysis throughout the action research study.

Chapter 2

Leadership Platform

Looking in the Past to See the Future

Bob Marley once sang, “In this great future you can’t forget your past” (Ford, 1974, track 2). As I think about who I am as a leader and what kind of leader I aspire to be, this song lyric is at the center of my mind. I came to the understanding that there was not one moment that catapulted my desire to be a leader; on the contrary, there were many people and special moments that established the groundwork of my leadership development, beginning from a young age and transitioning into my adult years. In this chapter I questioned, considered, evaluated, and reflected on my espoused leadership theories. I challenged myself to confront who I believed I was as a leader.

Working with the Engineering Living and Learning Community was more than a dissertation; it was a passion because of my own experience as a participant in a residential learning community. My involvement in a LLC as a freshman in college positively altered my entire undergraduate collegiate experience and beyond. I decided to explore this topic in my dissertation in part because of my personal experience with living and learning communities.

Residential learning communities promote collaborative and cooperative learning elements inside and outside of the classroom that provide students with the opportunity to learn actively, through shared discovery of knowledge (Stassen, 2003). My personal experience in college with a residential learning community helped me to become engaged and involved in campus activities outside of the classroom. These activities

helped me to form meaningful relationships with my peers, which simultaneously created a supportive learning environment that stimulated my academic development throughout my critical freshman year of college. Reflecting on how my experience with a LLC profoundly impacted my first year of college and beyond generated my interest in studying how these residential communities affected others, both academically and socially, in a positive way. As an undergraduate first-year student in a residential learning community, I felt supported academically in the classroom and developed close relationships with the faculty who were involved in the program. Along with the academic benefits I received from being a part of the LLC, I concurrently developed lasting personal relationships with others in the cohort. Today, as a college administrator, it saddens me to hear about students who feel isolated and alone as they transition from high school to college. This project was especially meaningful because I knew that my leadership could potentially change the participants' entire freshman-year experience and beyond.

My Leadership Approaches

The leadership styles with which I most identified were transformational (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer, Perttula, & Xin, 2005) and servant (Block, 1993; Greenleaf, 1991, 2002) leadership.

Transformational leadership. James MacGregor Burns (1978) coined the term transformational leadership in 1978 to describe the ideal situation between leaders and followers. By definition, transformational leadership is a style of leadership in which the leader identifies a needed change, creates a vision to guide the change through

inspiration, and executes the change with the commitment of the members of the group (Bass, 1985). Burns (1978) explains that in transformational leadership the leader is not merely exercising his or her power, but appealing to the values of his or her followers.

These types of leaders continually change themselves while staying flexible and adaptable, and continually improving those around them (Burns, 1978).

Transformational leaders challenge the existing boundaries and are able to get followers to think about problems from new perspectives (Burns, 1978).

Transformational leadership starts with the development of a vision, and a view of the future that will excite and convert potential followers (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005). Transformational leaders inspire followers to share the leader's values and connect with the leader's vision. According to Bass (1990), this connection is evident through the genuine interest the transformational leader has for his or her followers whereby the followers give their trust in return. Leaders encourage followers to support a vision by sharing ideas to reach an agreement in order to achieve goals (Leithwood & Jantzi, 2000). Authentic transformational leadership is focused on a shared vision and unified goals that transcend each individual's self-interest in order to be successful and accomplish goals as a team (Bryant, 2003).

Transformational leadership is focused on self-reflective changes by the leader and his or her followers (Spreitzer et al., 2005). One of the most important characteristics of transformational leadership is the leader's ability to make sound judgments and good decisions based on their internalized vision (Bryant, 2003). Transformational leaders seek the greatest good for the greatest number by striving to set an example for their followers,

and in doing so, leaders and followers perform beyond their self-interest (Conger, 1999). In transformational leadership the leadership and followership roles are focused less on positional authority and more on interdependent work relationships centered on common purposes (Bass, 1990; Burns, 1978). In order to be an effective transformational leader (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005), I hoped to empower the ELLC students to act based on a unifying purpose because I wanted to enhance their community experience.

According to Leithwood and Jantzi (2000) transformational leadership relies on building a sense of community within a school or organization. Leithwood and Jantzi believe that this community will create a climate in which people work together to help one another, commit themselves to ongoing professional development, and focus on the overall effectiveness of the work at hand. This type of community building mentality was the basis of the Engineering Living and Learning Community. As Leithwood and Jantzi (2000) contend, one of the main objectives of the ELLC was for the participants to consider themselves as part of a community rather than just an individual at a university. Being a transformational leader means creating positive change in the followers whereby they take care of each other's interests and act in the interests of the group as a whole (Burns, 1978). Transformational leaders elevate followers' needs for achievement and self-actualization by fostering a supportive environment that challenges people to put their self-interests aside for the good of their group, organization, or society (Barbuto, 2005; Leithwood & Jantzi, 2000; Spreitzer et al., 2005).

After researching transformational leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) and reflecting on my own personal experiences, I could trace transformational qualities in myself to when I was a little girl playing in the backyard, running around on the playground, and splashing around at the local swim club. Sports have always played a tremendous part in my development, especially as I matured into a competitive swimmer. Swimming taught me a lot about sportsmanship, competition, and leading my fellow teammates into battle, no matter what the odds. I learned to stay positive and that sometimes, just sometimes, David truly beats Goliath. My years of competitive swimming made me a transformational leader both in the pool and on the deck, but through reflection I learned that my transformational qualities were applicable outside of sports as well. From the classroom as a student, to the university offices as an administrator, transformational leadership (Burns, 1978), for me, has always been about implementing fresh ideas by demonstrating new ways of looking at old problems (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005).

I have taken many personality tests over the years and no matter what age I have been, what career path I was on, or what was occurring in my life, my top personality characteristics have remained consistent: making connections, building relationships, and maintaining a positive attitude. According to Burns (1978) these characteristics are leadership traits found in transformational leaders. He explains that it is the responsibility of the person leading a change to supply positive energy while staying connected to followers. Throughout the time that I worked with the ELLC students and engineering

faculty, I remained true to myself as a person and as a leader. I made connections with people and built trustful, meaningful relationships, which were very important to me. I always kept a positive attitude no matter what challenges I faced. Authentic transformational leadership builds genuine trust between leaders and followers (Burns, 1978). Transformational leaders give attention to values such as integrity, honesty, fairness, and equality (Bass, 1985). As a leader in the ELLC I worked hard to build loyalty, admiration, and respect amongst the community members. This type of leadership cultivates an environment of genuine trust between leaders and those being led (Barbuto, 2005; Wheatley, 2006; Wren, 1995).

Recognizing that I was a transformational leader (Burns, 1978) did not happen overnight. I did not wake up one day and think, I am a leader. Realizing that I was a role model and a leader back in my swimming days, in the classroom, at work, and in my personal life happened over time. I initially began to recognize that I was a leader as a teenager when parents starting asking me to give their children private swimming lessons. At first I was excited about earning extra money by doing something that I loved. Then I realized that the younger swimmers that I was giving lessons to were really paying attention, listening intently, and trying to mimic everything I was teaching them. Burns (1978) explains that transformational leaders gain the trust of people, which is made possible by the unconscious assumption that they too will be changed or transformed in some way by following the leader. At meets the younger swimmers would take my hand and ask me to walk them to the block and to cheer them on while they swam. According to Burns (1978) a leader who behaves in admirable ways and displays convictions may cause followers to identify with the leader, because the leader has a clear set of values

and acts as a role model for the followers. I was slowly realizing that these little swimmers wanted to be just like me. I was flattered and nervous about my newfound role model status.

I appreciate now something I did not know then; a transformational leader (Burns, 1978) was being formed throughout those years in the pool and on the deck. Before swim meets I would huddle the team and give everyone a pep talk. Transformational leaders appeal to followers by their enthusiastic commitment to the collective effort, by building spirit and identity (Goleman et al., 2002). During the years in which I was morphing into a transformational leader, my summer swim team was very successful. I look back on my experiences in swimming as a transformational leader and I see how those moments in time influenced the ELLC change project. During the study I provided a framework for followers to see the importance of having a connection to Virginia Smith University, to the Engineering Living and Learning Community, and to each other and their professors. I encouraged the ELLC participants to see how those relationships could affect their overall satisfaction with their college experience.

Transformational leadership is grounded in values and meaning, and a purpose that transcends short-term goals and focuses on higher order needs (Burns, 1978). Understanding transformational leadership was a lifelong process for me. I unintentionally morphed into a transformational leader based on various life experiences. After really reflecting on myself, and the experiences that have molded me, it became obvious that I love working with others collaboratively in order to attain goals. Recognizing and reflecting on all of the traits and the characteristics I possessed, I could clearly see that I was a transformational leader (Bass 1985, 1990; Bryant, 2003; Burns,

1978; Conger, 1999; Leithwood & Jantzi, 2000). While thinking about my leadership styles I realized that being kind does not make me weak, that being genuine and sincere is a rare and admirable quality, and that collaborating with others makes celebrating success a lot more fun. Today I understand that as a transformational leader (Burns, 1978) I can be very effective.

Servant leadership. While I believe that I am mostly a transformational leader, I also relied on my servant leadership characteristics during the study. According to Greenleaf (1991), a servant leader is able to build community; display empathy, foresight, and awareness; develop strong listening skills; and commit to the growth of others. Servant leaders focus on meeting the needs of those they lead and are not motivated by a self-desire to increase their own power or prestige, but by a passion to help others (Greenleaf, 1991, 2002). It is this passion that drove me to assist others by leading by example. Servant leaders often possess characteristics and qualities such as: listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of others, and building community (Greenleaf, 1991, 2002). As a servant leader, while working with the ELLC, I aimed to serve the needs of the community first by supporting each student and making their success in the program a main concern. In servant leadership, the priority is to put the needs of others first (Block, 1993; Greenleaf, 1991, 2002). Servant leadership emphasizes a holistic approach to work by promoting a sense of community, and encouraging shared decision-making (Greenleaf, 2002). My work with the ELLC participants incorporated listening, empathy, awareness, foresight, stewardship, commitment to the growth of others, and building community into the change process (Greenleaf, 1991, 2002).

As a servant leader I concentrated on listening to the ELLC participants in order to understand their needs to make meaningful changes. Listening forms one of the most crucial tenets of a servant leader (Block, 2003). While working with the ELLC at VSU, listening was very important throughout the change project. As a leader in the Engineering Living and Learning Community it was important to be conscious of what the students were saying in ELLC meetings and during the focus group discussions. Listening was vital to the study in order to gain valuable feedback and was crucial in building a trusting relationship with the students. I believe I built these relationships with the ELLC participants by listening to them and being attentive to their needs and their feedback about their experiences in the community.

Empathy is an important characteristic of a servant leader (Greenleaf, 1991). Empathy was especially significant in this study, because changes made to the ELLC program directly affected the 2009-2010 pilot ELLC cohort, the 2010-2011 ELLC cohort, and future ELLC participants. As a leader in the program I needed to listen, understand, and empathize with each student to make meaningful changes into the program that best benefited each student. In order to provide a more student-centered program, I empathized with the participants in the community and I attempted to relate to their struggles of being a minority in a difficult major. As a servant leader (Greenleaf, 1991, 2002) I needed to put myself in the participants' shoes. I did this by being empathetic toward the participants and reflecting on my own insecurities as a freshman in a residential learning community back when I was an undergraduate. Empathy is a key trait of servant leaders (Greenleaf, 1991) and was one of the most important leadership

qualities in leading the ELLC. Without empathy, trust cannot be built; without trust, a leader will never be able to get the best effort from the followers (Greenleaf, 2002).

Servant leaders often display a heightened sense of awareness (Greenleaf 1991, 2002). As a leader in the Engineering Living and Learning Community, I was aware of my own values and beliefs. This self-awareness helped me to remain non-judgmental toward the students at all times, even if their beliefs conflicted with my own. Awareness is about being able to view situations from more integrated, multidimensional perspectives (Block, 1993).

Another aspect of servant leadership is conceptualization (Block, 1993; Greenleaf, 1991, 2002). One of the fundamentals of a servant leader is to think beyond day-to-day realities (Greenleaf, 2002). This demands the capacity to conceptualize and communicate problems to followers effectively (Greenleaf, 2002). Throughout this action research project I needed to identify issues in order to plan and implement changes to improve the community. As a servant leader I used foresight to conceptualize past the everyday monotony in order to make positive and lasting changes. Foresight also builds on conceptualization by being able to predict the likely outcome of a situation (Greenleaf, 2002). Great leaders are able to make changes that continue to benefit others in the future. As a servant leader in this project, I employed foresight to determine what intervention would best benefit the ELLC participants.

Stewardship is a critical quality in servant leadership (Block, 1993; Greenleaf, 1991, 2002). Stewardship involves choosing service over one's own self-interest (Block, 1993). I utilized stewardship throughout this project by helping the students build peer-to-peer relationships and educating the participants about how to become more involved

on campus. According to Greenleaf (1970), servant leaders develop others to bring out the best in them. As a steward to others, servant leaders assume, first and foremost, a commitment to serving the needs of others (Greenleaf, 2002). Through the student's involvement on the VSU campus, I hoped the ELLC participants would be able to see the value of assisting others in order to lead them. By being a steward to others, servant leaders often have a commitment to the growth of others (Block, 1993). As a servant leader I dedicated time and energy to the well-being of those I served. For me, this meant that I did what I said I was going to do, I followed through on promises, and I finished what I started. Throughout this change project I advocated for the participants in the community. For me, being a true advocate to the ELLC cohort involved making a commitment to the students and ensuring that any changes that were implemented to the program were in the best interests of the participants in the community.

Perhaps the most important characteristic of a servant leader is the ability to build community (Greenleaf, 1991, 2002). As a servant leader I tried to build a significantly smaller ELLC community inside the larger Virginia Smith University community. One of the objectives of this action research project was to create a place where committed, yet diverse students could find common ground in the ELLC program in order to work together toward the goals of building relationships, connecting to the campus, and graduating from the engineering program.

Emotional Intelligence

Emotional intelligence is defined in terms of emotional empathy, attention to, and discrimination of one's emotions (Goleman et al., 2002). I see myself as a person with high emotional intelligence with the ability to recognize that my attitude and control over

my remarks and behaviors in various life situations is significant to how I am perceived as a leader. This is especially important in stressful or difficult times. I understand that the way I conduct myself in complex situations is a reflection of who I am as a person and as a leader. I try very hard to balance my emotions, always giving people honest answers about my feelings but with courtesy, consideration, and respect. Leaders high in emotional intelligence possess the ability to manage feelings and handle stressful situations (Goleman et al., 2002; Wren, 1995).

While reflecting on the person that I am and the leader that I have become it was increasingly evident that I am a self-aware, candid, and authentic person who is able to speak openly about my emotions. According to Goleman et al. (2002) emotionally intelligent leaders have a heightened sense of self-awareness and are attuned to their inner signals. As an emotionally intelligent leader I am fully aware of my own guiding values and can often discern the best course of action by seeing the big picture in complex situations. Throughout my time working with the ELLC I used emotional intelligence by practicing self-awareness, communicating a shared vision (Fullan, 2001), and expressing empathy toward others when leading the ELLC students.

I feel I am a highly and consistently efficient person with strong interpersonal skills and a good sense of priorities, which are all qualities of an emotionally intelligent leader (Goleman et al., 2002) in addition to my transformational (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) and servant leadership (Block, 1993; Greenleaf, 1991, 2002) traits and qualities. In this action research project I did not want to simply make small changes with minimal impact; I wanted to touch lives.

I feel that college is the time when many students begin to forget about what was considered acceptable and “cool” in high school and begin to develop their own thoughts, ideas, and opinions. The students involved in the ELLC program were freshmen in college and most were considered underrepresented in the engineering major. As a leader in the Engineering Living and Learning Community I knew I had the rare opportunity to work with this diverse population of young adults and potentially have a lifelong impact on their growth and development both inside and outside of the classroom. According to Goleman et al. (2002) my feelings of empathy and understanding dealing with these young adults was my awareness of my own emotional intelligence. I wanted to be a positive guide and role model for the ELLC students (Goleman et al., 2002; Wheatley, 2006). I felt as though I had my fingers on the pulse of what it was like to be a college student in today's changing society. My intuition and connections with the ELLC participants on an individual level allowed me to build relationships with these young adults in a way that others could not (Goleman et al., 2002). During this study I did not feel so far removed from college that I had forgotten what it was like to be an 18-year-old wide-eyed freshman going off to college for the first time. Having emotional intelligence helped me recognize that I had a tremendous amount of self-awareness (Goleman et al., 2002; Wren, 1995). Reflecting on my past and recent experiences throughout my life inspired me to be mindful of others' feelings and emotions.

The Change Process

According to Fullan (2001) if organizations fail to evolve they will fail to survive. In a world that is anything but stagnant, understanding how to recognize, handle, and implement change is a powerful tool for any leader to be effective. I firmly believe my

strength lies in my ability to make connections and build relationships with people. Fullan (2001) acknowledges that building relationships is one of the most crucial characteristics of successful leadership. This is a central element in any change process. I believe that I was armed with the knowledge to confidently and successfully execute and implement the changes in the ELLC program because of my understanding of how the change process works (Fullan, 2001). In this action research project I made use of understanding change and building and developing relationships in order to construct positive changes in the ELLC program (Fullan, 2001).

According to Schein (2004), organizational culture is a primary component of functional decision making in universities. In order for administrators, faculty, and staff to effectively provide an optimal learning environment, assessment and change are necessary. Schein (2004) defines organizational culture as:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (Schein, 2004, p. 373-374)

When implementing change, Schein (2004) identifies three distinct levels in organizational cultures: artifacts and behaviors, espoused values, and assumptions. Artifacts include any tangible or verbally identifiable elements in an organization (Schein, 2004). In universities, artifacts can include architecture, landscaping, and history. Values are the organization's stated or desired cultural elements. In colleges and universities, espoused values include the institution's mission statement or a student's first mantra. Assumptions are the actual values that the culture represents. Assumptions are not necessarily correlated to the espoused values (Schein, 2004). Assumptions are typically so tightly integrated in the college culture that they are hard to recognize from

within (Schein, 2004). In order to implement successful and withstanding change, leaders must first understand the organizational culture (Schein, 2004). Culture is important in organizations and especially significant at colleges and universities. Today, university leaders are confronted with many complex issues when making decisions about implementing changes on college campuses, because these decisions could influence a shift in the culture and affect many people.

A critical element for implementing change in learning communities, like the ELLC, was having an impetus for change (Schein, 2004). A major component of sustainable change in a university that is defined by its culture is to have administrative and faculty support (Schein, 2004). In working with the engineering administration and faculty, I built a leadership team who understood and supported the shared vision (Fullan, 2001; Schein 2004). This vision included a strategic plan with student-focused goals that was supported by substantial faculty involvement. The changes that were implemented throughout this action research study were clearly defined in order to optimize the success of the program.

Engineering Living & Learning Community (ELLC)

Conceptual Framework

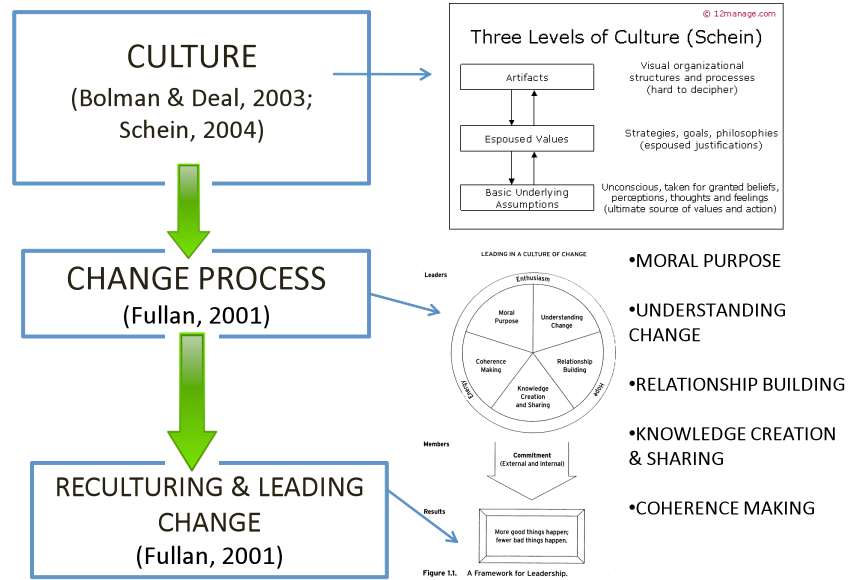


Figure 1. Conceptual Framework

Based on Figure 1, I first analyzed the ELLC culture through Bolman and Deal's (2003) four frameworks and Schein's (2004) three levels of culture. After I assessed the culture I began to implement change based on Fullan's (2001) change model looking at moral purpose, understanding change, relationship building, knowledge creation and sharing, and coherence making. I focused primarily on relationship building with the ELLC administrative stakeholders, the ELLC faculty advisor, and the participants in order to successfully implement various changes into the program. Lastly, I hoped that with the implementation of more social programming into the community I would be able to reculture the Engineering Living and Learning Community so that the goals and objectives of the ELLC would be met: ease the transition from high school to college,

help build peer-to-peer and peer-to-faculty relationships, and assist the students in connecting to the VSU campus.

From a broad view, my change initiative engaged collaborative efforts between the ELLC participants; among the participants and the engineering faculty; and, finally, between the ELLC participants and the VSU campus. Relationship building is imperative to successfully implementing change (Fullan, 2001; Schein, 2004). The changes that were implemented were based on relationships with the participants, the engineering faculty, the ELLC advisor, and the engineering administration. I aimed to strengthen the peer-to-peer and peer-to-faculty relationships. Lastly, I hoped that the ELLC participants would be able to see the value in connecting to the VSU campus both academically and socially in order to dramatically enhance their collegiate experience.

Conclusion

While reflecting on my leadership during this change project I could not help but note that I was working with a new generation of future leaders. I look up to great leaders and I aspire to be a great leader one day myself. Personally, as the daughter of a hard-working father, a resilient and inspiring mother, the sibling of a strong-willed older sister and a humorous “baby” brother, I was able to observe and absorb some of the traits I admire most from the people around me. My foundation was cemented through my love of sports, thirst for knowledge, and hope for a better tomorrow. I am inspired by many people who have influenced my life and I long to inspire and influence others in the same way.

My intent and purpose in enrolling in the Educational Leadership Ed.D. program was to educate myself on various approaches on how to become a more effective leader.

During my time in the doctoral program and while leading this action research study, I learned more than just a few strategies on effective leadership; I came to understand myself better and my espoused leadership qualities. I feel that I am a transformational servant leader with a high level of emotional intelligence (Burns, 1978; Goleman et al., 2002; Greenleaf, 1991, 2002). Reflecting on my leadership characteristics throughout this project allowed me to understand that the words I say, the actions I take, and the decisions I make, have an impact on others. I need to conduct myself in a way that is responsible to those I lead. The Engineering Living and Learning Community was still in its infancy when I began working with the program so I understood that the adaptations, and changes I made would help to shape the program for future participants. I have grown so much from my experience with this action research project and in doing so I hope that I inspired others to grow and develop into leaders as well.

In the following chapter I will provide a literature review on living and learning communities. I will discuss the history of LLCs and how these communities were successfully implemented in many institutions in the United States. A full understanding of where living and learning communities come from, how they have developed, and the ways they are implemented is important to understand the relevance of this particular LLC at Virginia Smith University.

Chapter 3

Literature Review

Introduction

The modern day living and learning community (LLC) concept serves a population of motivated students who learn by collaborating with faculty and other students. Living and learning communities are designed to increase student satisfaction and learning in order to create and sustain student success (Brown & Minnick, 2005; Pike, 1999). This literature review on living and learning communities includes the history of LLCs, the various types of LLCs, and why and how they work, and also evaluates the literature of minorities in engineering and examines STEM residential learning communities.

In the field of residential learning, there is a subtle debate among practitioners, theorists, and college administrators regarding a concrete definition for learning communities, primarily because there is no one-size-fits all type of learning community. Arguably the most common definition of a learning community derives from the father of the living learning community model, Alexander Meiklejohn (LaVine & Mitchell, 2006), who favored a deliberately restructured curriculum to meet the educational objectives of a specific cohort of students and their faculty. Furthermore, John Dewey advocated for collaborative learning that "would foster community and poise the teacher as more of a facilitator within a group of learners than merely as an outside authority" (Dewey, 1993, p. 59).

The original concept for basic learning communities has morphed throughout the decades. Rather than one uniform mold for learning communities, a variety of community models have evolved. For example, some LLCs serve exclusively first-year students and emphasize collaboration in freshman interest groups or FIGS (Schroeder, Minor, & Tarkow, 1999; Tinto, Goodsell-Love, & Russo, 1993). Some of these models include student-faculty interaction and interdisciplinary connections (LaVine & Tompkins, 1996) enhanced through active classroom learning (Angelo, 1993). From fun, thematic LLCs to more venerable, institutionalized models, residential learning communities have been established all over the country. LLCs are valued by many campus administrators as a way to increase student involvement on campus, boost retention, and raise students' grade point averages (Dunphy, Miller, Woodruff, & Nelson, 2006). Administrators are not the only ones attracted to the benefits of LLCs; students are able to pursue their studies in a small residential learning community while developing a commitment to learning, establishing close relationships with peers and faculty, gaining personal and ethical integrity, and learning to work collaboratively as a team (Blackhurst et al., 2003; Daie, 1994; Gabelnick et al., 1990; Inkelas, Daver, Vogt, & Leonard, 2007).

Learning communities use a constructivist approach to learning. This means that knowledge is not discovered, rather it is socially constructed (Zhao & Kuh, 2004). Living and learning communities assist in developing supportive peer relationships (Gabelnick et al., 1990; Inkelas, Vogt, & Longerbeam, 2006; Knight, 2003; Meath-Lang, 1997). Many studies on LLCs confirm that students who participate in living and learning communities have an enhanced academic experience through intentionally shared experiences (Johnson, 2001, 2006). LLCs are characterized by the close working relationships among

students and faculty; specialized course assignments; study groups; close relationships among student members; and specialized events, activities, and workshops (Inkelas et al., 2007; Inkelas & Weisman, 2003; Knight, 2003). Students are tightly connected through their enrollment in specific sections of courses that act as supportive scaffolding to these highly interactive and close knit communities of students and faculty (LaVine & Tompkins, 1996; Pasque & Murphy, 2005). According to Schroeder et al. (1999), learning communities substantially enhance academic achievement, retention, and educational attainment, especially for freshman.

This action research project examined the relationship of the Engineering Living and Learning Community at VSU and the students' perceptions of their freshman year experience. The Engineering Living and Learning Community students were enrolled in a series of linked classes and participated in a sequence of connected programs, activities, and events designed to enhance the first year academic experience through intentionally shared experiences (Johnson, 2001). The data collected, investigated, and examined the effects the ELLC had on the participants' transition from high school to college and their peer-to-peer and peer-to-faculty relationships and measured their connection to the VSU campus community.

Background

Living and Learning Communities appear to be an innovative concept that housing departments are establishing and implementing in residence halls on college campuses across the United States. However, Alexander Meiklejohn established the first known learning community at the University of Wisconsin in the late 1920s (LaVine & Mitchell, 2006). The community consisted of a small cohort of students and faculty

members and focused on the discussion of literature. It was Meiklejohn who first viewed the intellectual and social development of undergraduate students from a more holistic approach. According to LaVine and Mitchell, Meiklejohn suggested a restructured curriculum that would change the face of the traditional college classroom learning. Meiklejohn introduced the notion of LLCs in order to meet future educational objectives. This forward thinking concept serves as the foundation of the modern day LLC.

Although the concept of LLCs was formulated over 85 years ago by Meiklejohn, the establishment and implementation of LLCs grew wildly popular in the early 1990s (LaVine & Mitchell, 2006). Living and learning communities became the trendy solution to many problems plaguing colleges and universities across the United States (Inkelas et al., 2006), including retention. In addition, residential campus populations decreased in the last three decades and LLCs were a solution to maintaining a thriving on-campus residential population (Johnson, 2001). In today's weak economy, institutions are taking a closer look at ways to entice students to attend and to maintain enrollment. The retention rates for students in LLCs are higher than non-LLC participants (Dunphy et al., 2006; Seymour & Hewitt, 1997). Thus, LLCs are seen as a response to a multitude of concerns and issues within a university (Pasque & Murphy, 2005).

Living and learning communities (LLCs) are popular among colleges and universities because of the numerous benefits they provide for students. Students who participate in living and learning communities tend to have improved retention rates, deeper appreciation for diversity, and increased interaction with faculty (Inkelas et al., 2007; Inkelas & Weisman, 2003; Knight, 2003). Living and learning communities raise expectations for learning, enhance students' sense of belonging to the university, and help

to build strong social connections. Single-institution assessments of LLCs that evaluate the degree to which participation in a living and learning community affects student achievement and student satisfaction with their collegiate experience indicated that a LLC (no matter what model was utilized) accomplished many aspects of its mission (Bobilya & Akey, 2002; Brower, Golde, & Allen, 2003; Daie, 1994; Inkelas et al., 2006; LaVine & Mitchell, 2006; Levin & Tompkins, 1996; Pike, 1999; Stassen, 2003).

Virginia Smith University Context

Like Virginia Smith University, many colleges are intrigued with the idea of living and learning communities. This holistic learning approach has been launched on many campuses to accomplish several objectives (Corte, 2003; Lenning & Ebbers, 1999). Colleges and universities are attracted to the idea of transforming commuter-based institutions into thriving communities where students live on campus and obtain a classroom and residential education (Inkelas & Weisman, 2003). Researchers believe learning communities substantially enhance academic achievement, retention, and educational attainment, especially for freshmen (Schroeder et al., 1999).

Portrayal of a Living and Learning Community

Most LLCs are communities in which students pursue their academic curriculum with a blended co-curriculum involving the theme, concept, or subject matter while living together in a reserved part of a residence hall (Denzine & Kennedy, 1997). Some examples of LLC cohorts are Freshman Interest Groups, Physical Education Learning Community, Honors Learning Community, and various academic major learning communities as well as sports, clubs, and university organization communities, to name a few (Corte, 2003). LLCs range in size but rarely exceed 75 participants (Inkelas &

Weisman, 2003). The small size of LLCs assists in developing supportive peer relationships (Gabelnick et al., 1990).

Students who participate in these communities are typically scheduled in a set series of related classes and participate in a sequence of connected programs, activities, and events designed to enhance their academic experience through intentionally shared experiences (Elkins, Braxton, & James, 2000; Johnson, 2001; Pike, 1997). LLCs are characterized by close working relationships among students and faculty; specialized course assignments; study groups; close relationships among student members; and specialized events, activities, and workshops (Inkelas et al., 2007; Inkelas & Weisman, 2003; Knight, 2003). Students are tightly connected through their enrollment in specific sections of courses that act as supportive scaffolding to these highly interactive and close knit communities of students and faculty (Levin & Tompkins, 1996).

Furthermore, a majority of the students who participate in LLCs are required to live in the learning community's residence hall. Living and learning communities are unique in nature compared to learning communities, which do not have the residential component (Arboleda, Wang, Shelley, & Whalen, 2003). For example, unlike an honors program that serves exceptional students, or a remedial program that addresses significant deficiencies, many LLC models seek to address the needs of a broader, middle-range portion of the student body, many of whom are the first in their families to attend college (Cabrera & Castaneda, 1993; Habley & McClanahan, 2008; Inkelas et al., 2007; Knight, 2003; Pascarella et al., 2004; Pike & Kuh, 2005).

Many residence halls that house LLC programs contain various classrooms where the LLC curriculum is taught. Having LLC classrooms inside the residence halls is

gaining popularity across the nation. Furthermore, faculty and administrative offices are often located in the residence halls as well (Gabelnick et al., 1990). These LLCs take the learning out of the classroom when the class time expires and continue the learning in the residence halls (Bobilya & Akey, 2002).

According to Inkelas et al. (2006), living and learning communities have a wide-range of identities. LLCs are also known as Residential Learning Communities (RLCs), Living and Learning Programs (LLPs), Freshman Interest Groups (FIGs), Housing and Classroom Cohorts (HCCs), and Thematic Housing Groups (THGs). Although the names, policies, and concepts of living and learning communities may vary based on location, needs, or the budget of the institution, the general framework is uniform. The purpose of living-learning communities is designed to give students the chance to become part of a unique experience, with programs and facilities to support the interests of the community members (Brower et al., 2003).

Goals of Living and Learning Communities

According to Schroeder et al. (1999), learning communities substantially enhance academic achievement, retention, and educational attainment, especially for freshmen. Most LLCs have the intended goal of making a large campus feel small (Blackhurst et al., 2003; Kuh, Schuh, & Whitt, 1991). Living and learning communities are mainly characterized by their smaller size, their social intensity, and the purposeful support provided to the students who participate in these communities (Gabelnick et al., 1990). LLCs have the ability to transform large, impersonal institutions in which students may feel like just a number into small intimate peer groups within the residence halls (Inkelas & Weisman, 2003).

According to Inkelas et al. (2006) LLCs integrate curricular and co curricular experiences through the development of a seamless learning environment. As a result of this atmosphere, rather than a simple instructor/student learning relationship, students actively establish and assimilate knowledge through a reciprocal process. Many LLC goals include multicultural development, cultural competence, learning and academic success, character development, community responsibility, and personal well-being (Pike, 1999). LLCs that provide one or more of these characteristics are typically indicators that student learning will be deeper and more personally relevant (Zhao & Kuh, 2004).

It is difficult to narrow down one main goal of living and learning communities. One of the major benefits of LLCs is their adaptability to fit into any given situation (Inkelas & Weisman, 2003). For example, LLCs can target undeclared students, or underprepared students. LLCs can be based on a specific academic content area or merely a thematic community. They may also be established to address a particular need or issue of the university (Kellog, 1999; Knight, 2003). For example, LLCs may focus on the best ways to retain first-year students with the implementation of a Freshman Interest Group (FIG) or developmental or basic course cohorts. According to Kuh et al. (1991), these LLC programs are most successful when they are incorporated into the curricular mission, not hidden away within the rooms of the residence halls.

Types of Living and Learning Community Models

Residential learning communities were designed to connect the participants in class and in the residence hall with the hope that this connection could help to provide the academic and emotional support the students might want and/or need during college.

Kellog (1999) identified five key learning community models. These models are: Linked Courses, Learning/Course Clusters, Freshman Interest Groups, Federated Learning Communities, and Coordinated Studies. Each of these models is distinctive and fits the needs of a particular institution and student population.

Linked Courses consist of a specific group of courses that are in some way related to one another (Kellog, 1999). Essentially linked courses consist of two courses independent of each other, but both classes have a common group of students enrolled. The courses may be linked in terms of focus or content. Instructors and faculty tend to coordinate the syllabus, course content, assignments, and activities of each specific course with the same community goal or objective in mind. Linked courses establish a bridge between the classes and help students apply the LLC objectives throughout various classes. Students are exposed to diverse perspectives in order to achieve success relating to a common goal (Kellog, 1999; LaVine & Mitchell, 2006; Pike, 2002; Stassen, 2003).

Learning/Course Clusters are courses linked by content (Kellog, 1999). Students enroll in a majority of the same courses and live in a designated area of a residence hall reserved for the learning/course cluster. Students involved in this type of community may not have a specific learning outcome other than having a strong peer support group. This support group will take the same classes and live together, thus enabling a cluster community rather than a LLC with a specific goal or outcome relating to a specific theme, topic, or academic discipline (Kellog, 1999; LaVine & Mitchell, 2006; Stassen, 2003).

Freshman Interest Groups provide incoming freshman students a plethora of different special interest courses to choose from pertaining to specific career interests (Kellog, 1999). These courses are linked by a theme (Stassen, 2003). Some examples of these groupings are Physical Education, Pre-Law, Engineering, and Philosophy. FIGs are currently the most popular living and learning community nationwide (Knight, 2003).

Federated Learning Communities (FLC) are thematically formed groups of undergraduate students who take a set three courses together (Kellog, 1999). This type of community is similar to the FIG except the FLC is tied together by a pre-determined theme. Another difference between the FIG and FLC is that students who enroll in the FLC group participate in a seminar related to the three courses. The courses are instructed by what Kellog (1999) refers to as “Master Learners.” These master learners are faculty members who are not involved in the teaching of the federated courses. The faculty is the linchpin of this LLC (Stassen, 2003).

Coordinated Studies is the last of the five LLC models. According to Kellog (1999) students are assigned to this type of LLC and stay with the cohort for a complete program of study. All of the students’ course credits are associated with an integrated, theme-based, interdisciplinary curriculum designed through intensive faculty collaboration (Stassen, 2003). Book clubs, discussions, and/or seminars are the cornerstone of this type of LLC. Some coordinated programs can be very precise in terms of content and skill mastery and tend to be highly sequential.

Inkelas and Weisman (2003) conducted a study on the different learning outcomes among participants in three different types of living and learning communities. The researchers also compared the results to a control group. The study concluded that

living and learning student participants were more engaged and involved in on-campus organizations, clubs, and sports. The LLC students also had higher GPAs and stronger academic success. However they noted that the participant experience with the LLC did vary based on the community model type (Inkelas & Weisman, 2003).

Benefits of Participating in Living and Learning Communities

A growing body of research demonstrates that learning communities are successful in many ways. Pike (1999) examined the overall effects on students' learning and intellectual development while involved in a living and learning community. The study concluded that the social interactions in the LLCs were extremely beneficial for the students; community members were more involved on-campus and developed stronger intellectual development than non-LLC students. Living and learning communities build a strong sense of group identity and community. According to Gabelnick et al. (1990), LLCs help ease the transition into college both academically and socially, which are key ingredients for a successful college careers (Inkelas et al., 2007).

Living and learning communities provide a cohort classroom environment that socially integrates the student participants, establishing a strong sense of community (Zhao & Kuh, 2004). The students are together for extended periods of time and become more focused on the academic content, which in turn helps the students to individually develop their own sense of identity. The LLC learning environment aids the student in finding his/her voice while incorporating what s/he has learned in the classroom and applying it socially (Pasque & Murphy, 2005). Interaction with peers from different cultural and disciplinary backgrounds allows students to think differently and view their own experiences in more complex ways. This type of constructive learning aids students

in seeing the world from many different and new perspectives (Astin, 1993; Pike, 2002; Tinto et al., 1993; Zhao & Kuh, 2004).

LLCs provide students with a multitude of benefits. LLC students have the chance to really get to know their instructors and develop strong friendships with fellow students (Inkelas et al., 2006). Residents have access to many special resources, programs, and activities, such as freshman orientation, seminars, tutors, mentoring programs, and smaller classes or reserved space in regular courses (Inkelas et al., 2006). LLC research suggests that undergraduates from different majors can achieve academic success and find considerable satisfaction with their collegiate experience by participating in a living and learning community that emphasizes critical thinking skills as well as teamwork and service-learning (Pike, 1999). A residential learning community, even during its first year, can mitigate many transitional difficulties and produce positive results (Arboleda et al., 2003; Schussler & Fierros, 2008; Sidle & McReynolds, 1999; Tinto, 1996).

Students participating in LLCs benefit in several ways. Incoming students may enjoy the advantage of registering early for their fall semester classes, building close connections with peers and faculty, as well as having a large campus feel small through intense interaction with the LLC (Shroeder et al., 1999). LLCs aim to create a more unified approach to learning by bridging students' academic experience with the personal, thematic, or future career interests of the student (Lenning & Ebbers, 1999). The foundation of LLCs focuses on integrating different types of learning across the curriculum and integrating academic learning into the daily life of each learning community member (Bobilya & Akey, 2002).

Student participants in LLCs are significantly more comfortable speaking out in class and letting their mentor or faculty members know when they are having a problem. These results may be a product of the students' familiarity with their faculty mentors and with their fellow LLC cohort peers (Daie, 1994). Additionally, the opportunity to easily make friends in the first semester is very important to student participants (Knight, 2003; Schroeder et al., 1999).

Another benefit of LLCs was exposed in Brower et al.'s (2003) study on college binge drinking. According to the researchers, LLC participants were less likely to engage in binge drinking than their non-LLC counterparts. The study uncovered alarming high risk episodic drinking across the country. These statistics were linked to serious student health, legal, and academic problems. The researchers concluded that the LLC participants involved in the study binge drank at substantially lower rates than traditional hall non-LLC residents.

A different benefit of LLCs was discovered by Inkelas et al. (2007) who conducted a study on LLC participants who were first-generation college students. The results reported that the first-generation college students were more successful academically and socially during their college transition than the first-generation non-LLC participant counterparts. Research has shown that regardless of the student's parents' background, students who participate in residential learning communities are more engaged in their learning and have higher retention rates (Pascarella et al., 2004).

In this action research project, the Engineering Living and Learning Community fostered a cohort classroom environment that socially integrated a diverse group of student participants. My job as a leader in this change project was to take this diverse

group of “strangers” and build a strong sense of community. Students who are involved in LLCs often have an increased ability to understand other points of view, an increased tolerance for ambiguity, and a heightened appreciation for diversity (Lenning & Ebbers, 1999; Pike, 2002). Participation in a LLC enhances overall involvement in educationally purposeful activities, which is an indicator of future student success (Pike, 1999). The increased opportunities afforded by learning communities for peer interaction create an environment of richer, more complex ways of thinking and knowing so that students learn at a deeper level (Zhao & Kuh, 2004). Interaction with peers from various cultural backgrounds and different engineering majors allows the students to think differently and view their own experiences in more complex ways. This is a crucial part of their personal growth and development, as well as a key objective of the change project. One of my main goals in leading this change was to provide the ELLC participants with the opportunity to develop strong friendships with fellow students.

Additionally, there is a copious amount of research that concludes that residential students have considerably higher levels of campus involvement and interaction than off-campus or commuter students (Bobilya & Akey, 2002; Brower et al., 2003; Inkelas et al., 2006; Pike, 1999; Stassen, 2003; Zhao & Kuh, 2004). A growing body of research demonstrates that learning communities are successful in involving students in on-campus activities and in promoting intellectual development (Pike, 1999). The social benefits of LLCs are practically immeasurable when evaluating the students' transition into college both academically and socially (Gabelnick et al., 1990; Inkelas et al., 2007). Moreover, students in LLCs get to know their instructors and develop strong friendships with fellow students (Inkelas et al., 2006). Ultimately, LLCs encourage students to live

on campus during college (Astin, 1993). LLCs can be especially influential because they allow greater social interaction with peers (Astin, 1993), which is associated with extracurricular involvement, higher persistence and graduation rates, and greater gains in critical thinking (Zhao & Kuh, 2004). This concept is especially crucial to the ELLC at VSU because an emphasis on the participants' connection to campus through their involvement in on-campus activities was one of the goals of this study.

In LLCs, participants are highly likely to obtain academic support from their peers and to establish a strong sense of belonging to the university (Schussler & Fierros, 2008). Stassen (2003) concluded that even non-selective, minimally-focused, low-budget LLCs with modest resources can provide a number of benefits to the participants. LLCs have a multitude of positive outcomes in both academic achievement as well as intellectual engagement (Pasque & Murphy, 2005; Pike, 1997, 1999; Pike & Kuh, 2005).

According to Pike's (1999) research, students in LLC programs are more likely to persevere through college, exhibit stronger academic achievement, network with professors, engage with peers, and enjoy the overall residence hall environment than non-LLC students residing in traditional residence halls. Other single-institution studies of LLCs indicate that students involved in LLCs are significantly more likely than students in traditional residence halls to be more active on campus (i.e., clubs, organizations, sports, and various campus groups), have higher levels of interaction with instructors and peers, and utilize campus resources at a much greater rate than the non-LLC student counterparts (Inkelas et al., 2006; Pike, 1999). Single-institution assessments of LLCs demonstrated that students had higher grade point averages, earned more credits, and

were generally more satisfied with their experience at the institution than control groups of students.

Retention

Retention and student housing may seem like completely separate issues, however the implementation of LLCs at various institutions has resulted in a significant increase in retention and demand for on-campus student housing (Cabrera, Nora, & Castaneda, 1993). Although LLCs may not seem like a likely solution to retention problems, these communities help retain students at a very high rate (Cabrera & Castaneda, 1993). Nationally, 32% of all first-year college students entering public colleges and universities drop out before their sophomore year (Habley & McClanahan, 2008). Additionally, another 22% are likely to drop out of school before completing their degrees (Habley & McClanahan, 2008). Some LLCs are created exclusively for the purpose of curbing low retention rates. According to LaVine and Mitchell (2006), LLCs increase retention by generating an encouraging and success-oriented learning environment. LLCs are outcome focused programs with a goal to create and build collaborative relationships, sustain an environment which fosters a high level of critical thinking, and increase individual intellectual and social growth (LaVine & Mitchell, 2006; Pike, 1999; Pike & Kuh, 2005). The retention rates for LLC students is higher than non-LLC students primarily because of innovative approaches to learning, strong academic support services, increased interaction with instructors, and intense peer support systems that are established amongst students within the communities (LaVine & Mitchell, 2006; Knight, 2003).

Tinto (1996) identified seven major causes of student attrition: academic difficulty; adjustment difficulty; uncertain, narrow, or new goals; weak and external

commitments; financial inadequacies; lack of social or academic congruence between the individual and the institution; and isolation. He suggested that institutional efforts to retain students must focus on integrating their academic experience with their social experience. This is especially important during the first four to six weeks of college, which is a period of vulnerability and adjustment, when students' experiences can influence their decisions about whether to stay or leave (Cabrera & Castaneda, 1993). Students who successfully complete the first semester of college are more likely to return their second semester (Elkins et al., 2000).

Tinto (1996) also identified three principles that are characteristics of effective retention programs: community, commitment, and education. Peer-to-peer and peer-to-faculty interactions in and out of the classroom are critical elements for enhancing community. Learning communities provide an excellent platform for improving retention. Faculty, administrators, and staff are able to focus on the pedagogical value of the learning community structure but are nonetheless aware of most institutions' desire to improve retention of all students (Johnson, 2001). LLCs improve the day-to-day teaching and learning experience by enhancing instructors' focus on behaviors that contribute to a student's sense of connection within the community (Johnson, 2001). When LLC participants feel connected to the community and to the institution, retention of those participants increases (Johnson, 2001; LaVine & Mitchell, 2006; Knight, 2003).

Mentoring

Living and learning communities often have mentors who live among the LLC participants. These mentors provide a variety of services to residents in their respective communities and across campus. Mentors contribute to overall student success by sharing

their study skills and knowledge through peer advising (Blackhurst et al., 2003). The mentors are also typically responsible for developing extra-curricular social and cultural programs for their LLC (Gabelnick et al., 1990; Sidle & McReynolds, 1999).

A solid mentoring program is the hallmark of most living and learning communities. Many first-year students have a faculty member mentor as well as a peer mentor. During the second year in the LLC, these same students often become peer mentors themselves to the incoming LLC freshmen (Schroeder et al. 1999). Most LLC mentors are live-in upper-class students who provide a variety of services. The mentors contribute to overall student success by building community among students in the LLC (Johnson, 2006). Most mentoring programs train the student mentors to share their academic skills and knowledge with the LLC participants through peer advising, programming, and tutoring (Blackhurst et al., 2003). Mentors are often required to partner with Resident Assistants and other Residential Life staff to work as effective members of teams to create a supportive learning environment through educational and academic initiatives, bulletin boards, door decorations, community development activities, and service-learning opportunities (Johnson, 2006). Mentors often help assess the community needs and create and implement programs to address those needs. Perhaps the most important role of the mentor is to nurture his/her own academic performance and progress as a means to serve as a model of academic excellence (Dunphy et al., 2006).

Faculty mentors involved in LLCs often keep regular office hours in the residence halls. Many living and learning communities assign each LLC participant a faculty mentor with whom that student will consult on a regular basis throughout each semester.

These student/mentor meetings center on academic issues, as well as other issues of concern (Tinto et al., 1993). Mentorship in many living and learning communities is the backbone of the LLC program and student success. Most student/mentor relationships are sustained through the student's graduation (Sandeen, 2004). LLC students spend significantly more time in advising/mentoring sessions than their non-LLC counterparts, most likely the result of required mentoring sessions (Lenning & Ebbers, 1999; Sidle & McReynolds, 1999). Although LLCs on the surface may not seem like a likely solution to retention problems, these communities help to retain students at a very high rate (Cabrera & Castaneda, 1993).

Issues and Concerns Involving Living and Learning Communities

Although much of the research on living and learning communities has been positive, there are also some concerns of LLCs from a participant perspective. According to one study, while LLCs do enhance a student's sense of belonging to the university and help build strong social connections, there is little support that these communities produce intellectual development, particularly in the areas of critical thinking and moral reasoning (Browne & Minnick, 2005). Additionally, the positive research indicating that students are more involved on-campus than non-LLC participants might be explained by residential learning community's administrative stakeholders' strong encouragement for LLC students to participate in program governance and co-curricular activities (Cohen, 1994). This is a concern for some students, because not all LLC participants are interested in joining a club or organization, or fear that they do not have enough time to participate in these extra-curricular activities with a demanding school schedule (Stassen, 2003). Also of concern is that many students would prefer more course choices within the

curriculum. Moreover, not all faculty receive rave reviews in the LLC cohort. Unlike non-LLC students who may have a few different professors to choose from in a given course, LLC participants have little choice because the instructor is assigned to the cohort (Pike, 1999). This was true for the ELLC participants at Virginia Smith University. One of the objectives of the study was to determine if the ELLC created a connection between cohort members and their professors.

Moreover, although LLCs have many positive outcomes, some research (Inkelas et al., 2006) shows no significant differences in LLC and traditional residence hall students' perceptions of their growth in cognitive complexity or personal philosophy. Additionally, no substantial differences exist among LLC and non-LLC students regarding self-confidence (Inkelas et al., 2006). These outcome data are noteworthy when reflecting on perceptions versus reality regarding benefits of LLCs versus traditional housing. Although there is consistent and compelling evidence that many LLC models do foster student academic achievement and social integration, the actual value or impact of a specific LLC model or design is hard to ascertain. According to Stassen (2003), LLC outcomes and results at institutions with particularly humble institutional resources or administrative support vary substantially from the general findings. Furthermore, in one study there were no statistically significant differences related to students' social relationships or the relationships formed between the students and the professors (Schussler & Fierros, 2008). These data are profoundly different than the bulk of data collected on LLC participant and faculty relationships, which imply that LLC participants have an overwhelmingly better relationship with faculty members.

LLCs from a National Perspective

To date, it is difficult to find any multi-national or national studies on LLCs (Inkelas et al., 2006). However, there is a new initiative called the National Study of Living-Learning Programs (NSLLP) that is currently collecting data in an attempt to become the first cohesive multi-national study (Inkelas et al., 2006). The NSLLP study design origins were quasi-experimental and began data collection for this pilot program in January-February of 2003 and included four institutions. Today, the NSLLP collects data from nearly 20 participating institutions and examines a broad range of elements pertaining to outcomes focused on LLCs. According to the NSLLP website, the purpose of the NSLLP is to “assess how participation in Living Learning Programs influences academic, social, and developmental outcomes for college students. NSLLP is administered annually with both cross-sectional and longitudinal components. It is the only national outcome assessment of these programs” (<http://www.livelearnstudy.net/>). The NSLLP presents data and identifies differences in college environments and student outcomes among LLC students and non-LLC students. The NSLLP also produces data on LLCs based on gender, racial/ethnic, and socioeconomic backgrounds (Inkelas et al., 2006).

In 2006, data from the NSLLP showed that students involved in residential learning communities demonstrated higher self-reported engagement and outcomes than students in traditional residence hall environments (Inkelas et al., 2006). An increased interest in colleges and universities across the country to create a more seamless educational experience for undergraduate students through residential learning communities grew. Results from the NSLLP study found that living and learning

programs assisted students' in connecting their academic experiences with other aspects of their lives and to integrating their learning across various curriculums. This LLC literature review would not be accurate without referencing the work of the NSLLP.

Engineering Residential Learning Communities

Residential learning communities are a common first-year initiative on university campuses designed primarily to increase student persistence and academic achievement (Blackhurst et al., 2003). Engineering majors, particularly students who are non-traditional engineering students, may benefit from learning communities. A report from the National Science Foundation (NSF, 2000) revealed that 26% of African American students earned science and engineering degrees from Historically Black Colleges and Universities in 2000, however, this number dropped significantly in 2008 to 20%. Furthermore, the report disclosed that other underrepresented minorities, such as Hispanic and American Indian students, were less likely than their Caucasian peers to graduate from an engineering discipline after they enrolled in the major. The challenge of getting African American and other minority students engaged in science, technology, math, and engineering requires a climate of trust (Youngman & Engelhoff, 2004).

The gender gap in the engineering major still exists as well. According to the same NSF report, in 2010, 17.4% of chemical engineers, 9.7% of civil engineers, and 22% of computer programmers were women. In 2010, the percentage of females who decided to study science, engineering, or technology was much lower than their male peers. According to the NSF, in the 2009-2010 academic year, 37% of undergraduates who enrolled in sciences such as chemistry, physics, or mathematics were female; however, in engineering females made up only 18.5% of the population.

The exact reason for the deficiency in females majoring in engineering is unknown. A common myth, however, is that women are less proficient in math and therefore less capable of succeeding in engineering (Clewell, Anderson, & Thorpe, 1992). Historically, women performed worse on standardized math tests, but one reason for this suggests that female students took fewer advanced math courses in the past. According to Young and Engelhoff (2004), women and men perform equally as well in math on average; therefore females are no less intellectually capable of succeeding in engineering. The gender gap in engineering may be more about self-efficacy than competency or academic ability (Landis, 1991). A main reason why many female students feel their math capabilities are not equivalent to their male counterparts when pursuing engineering as a major is not because females achieve lower grades in math, but because female students believe they will not be able to compete with men who are assumed to have higher aptitude in this subject (Youngman & Englehoff, 2004).

The problem with the gender gap in engineering is multifaceted with no one-size-fits-all solution (Clewell et al., 1992). However, the lack of visibility of female engineering faculty and experts in the field may be an important contributing factor to the gender gap problem (Wulf, 1998). Female students in the engineering disciplines very rarely see female experts in the field. The severe shortage of women sends the subtle signal that women do not belong in the engineering major (Clewell et al., 1992). This could be an indication to female engineers that they are not welcome into the major. According to another study conducted by Chubin, May, and Babco (2005), if educational institutions want to increase the number of women who pursue engineering careers, female students will need to be exposed to female experts and professors early on during

the critical first two years of their college education. The first two years of college is when students are deciding what careers to pursue (May & Cubin, 2003). Information and assessments on living and learning communities are frequently published based on quantifiable data such as student persistence, academic achievement, student involvement, and overall satisfaction (Lenning & Ebbers, 1999). However, research specifically linking the engineering major and residential learning communities is scarce.

One study conducted by Daie (1994) collected data on a pilot program for entering pre-science and pre-engineering students at the University of Texas El Paso. The student retention rates for the learning community participants showed significant improvements, 80% of the LLC students were retained as compared to 68% of non-LLC students. However, other than Daie's study from 1994, there is little published research on engineering residential learning communities. There is an abundance of theoretical and empirical research that supports the benefits of learning communities based on anecdotal evidence or program evaluations (Elkins et al., 2000), however, few studies are available on the success of LLCs in the STEM disciplines, more specifically in engineering. Most residential learning community studies that have been reported focus on thematic or first-year experience communities (Blackhurst et al., 2003).

This action research study will address this gap in the literature. The study examined the experiences of minority, female, and low-income engineering students who participated in a living and learning community in order to examine if their participation in the ELLC was positively linked to their engagement on campus and their peer-to-peer and peer-to-faculty relationships.

Conclusion

Learning communities are a purposeful endeavor to create a rich, challenging, and supportive academic community (Denzine & Kennedy, 1997). LLCs are popular among colleges and universities because of the numerous benefits they provide students. Administrators know that undergraduates' academic success and retention can be significantly enhanced by residential, interdisciplinary, outcomes-based academic experiences (Dunphy et al., 2006). LLCs are especially distinguished by their emphasis on intensive mentoring and peer support (Tinto et al., 1993). Many LLCs feature a linked, interdisciplinary curriculum and co-curriculum, and encourage students and faculty from all majors and departments to connect theory and practice through service learning and multicultural experiences (Cohen, 1994). Overall, students in residential learning programs are more satisfied with the college or university experience (Zhao & Kuh, 2004) and more likely to be retained (Cabrera & Castaneda, 1993). It is clear that learning communities within higher education institutions may be instrumental in enhancing the college experience (Astin, 1996).

Interaction outside the classroom can have a measurable impact on students' experiences and learning (Bobilya & Akey, 2002). Complementing classroom learning with outside resources is critical to the theory-to-practice component in education, which is another component of LLCs. Sandeen (2004) emphasizes the importance of incorporating living and learning communities on more college campuses in the future. He notes that there is a need for colleges to produce a more complete, total, and holistic approach to the student experience. Institutions are beginning to understand the value of fostering out-of-the-classroom learning environments (Pasque & Murphy, 2005; Sandeen,

2004). In order for a LLC to be effective and successful, an educational commitment from students paired with strong student/faculty collaboration is required (Arboleda et al., 2003).

In the following chapter I will discuss the methodology utilized throughout the dissertation including data collection strategies and analysis of this action research project. The chapter will provide an in-depth examination of the methods and techniques I employed when collecting and analyzing the data in this dissertation study.

Chapter 4

Methodology

Introduction

The Engineering Living and Learning Community at Virginia Smith University was built on the learning community model of linked courses with the addition of a residential component with several goals in mind: to create a residential living and learning-based peer group of engineers, and to improve the academic success of first-year minority, female, and low income engineering students in an effort to retain and later graduate these students, eventually leading to jobs in the engineering workforce. The purpose of the study was to examine whether the pilot ELLC program achieved these goals, propose and implement additional program objectives, and to evaluate the implementation of those objectives in the second cohort. The additional objectives included: increasing student satisfaction with the university through campus connectivity and building peer-to-peer and peer-to-faculty relationships through in-class and out-of-class interaction. A second purpose of the study was to study my leadership of the project. My research questions were:

- In what ways did the Engineering Living and Learning Community contribute or ease the students' transition from high school to Virginia Smith University?
- How did the Engineering Living and Learning Community contribute to the participants' campus connectivity to Virginia Smith University?

- How were the students' peer-to-peer relationships established, maintained, and affected as a result of participation in the Engineering Living and Learning Community?
- How were the students' peer-to-faculty relationships established, maintained, and affected as a result of participation in the Engineering Living and Learning Community?
- In what ways did my leadership qualities and characteristics develop as a result of my involvement with the Engineering Living and Learning Community?

Action Research Approach

In this change project I utilized mixed methods data collection strategies within an action research approach to answer the research questions (Creswell, 2003; Hinchey, 2008). According to Hinchey (2008) there are some significant characteristics of action research that differentiate this type of research from other widespread problem-solving methods. Overall, action research is essentially “learning by doing.” This can also be referred to as action learning, whereby a person or a group of people identify a problem, take action to resolve the problem, and assess whether the implemented change was successful (Hinchey, 2008; McTaggart, 1997). Furthermore, if the change is not successful or the researcher and/or participants are not satisfied with the results, the action research process can begin all over again. The process is cyclical.

Action research promotes reflective practice and positive change as key elements of the approach (Hinchey, 2008; McTaggart, 1997). Action research is especially rewarding and can bring positive changes when these constructive changes are made in

educational settings. Similarly, one of the objectives of this action research dissertation was to enhance the student's overall college experience as a result of their participation in the Engineering Living and Learning Community at Virginia Smith University. Another objective of the action research study was to continually improve the ELLC program based on student feedback, making immediate adjustments that would ultimately improve the program over time resulting in lasting changes. The Engineering Living and Learning Community focused on building community among the participants in hopes of easing their transition from high school to college, building strong peer-to-peer and peer-to-faculty relationships, and creating campus connectivity. Furthermore, as part of this project, I sought to further understand and improve my leadership practice.

In action research, a great deal of the researcher's time is exhausted on collecting and analyzing data, with a strong emphasis on continuous reflection of the data (Hinchey, 2008; McTaggart, 1997). In action research the primary focus is turning the people involved into researchers (McTaggart, 1997). Furthermore, in action research people learn best, and more willingly apply what they have learned, when they do it themselves (Hinchey, 2008). In action research, the investigation takes place in real-world situations and aims to solve real problems. My role as a researcher in this project was that of a quasi-insider. I led the initiative to make changes in the ELLC program. My function in the ELLC was to assist with implementing changes to the living and learning community in order to maximize the benefits of the community.

This action research project was designed to support first-year engineering S-STEM scholarship awardees at Virginia Smith University. The project utilized a mixed methods approach to data collection in order to answer the five research questions. These

questions helped to guide the evaluation of two cohorts: the pilot 2009-2010 ELLC cohort and the 2010-2011 ELLC cohort at Virginia Smith University. The study aimed to incorporate meaningful changes into the program that would benefit the participants and enhance their overall community experience. As a leader in the ELLC it was my responsibility to ensure that this residential learning community was an integral part of the students' collegiate experience. I aimed to provide the ELLC students with the opportunity to live in an environment that promoted diversity, embraced academic excellence, encouraged meaningful faculty and student interactions, and worked to develop a strong sense of community. Additionally, throughout the process of action research I reflected on my growth and development as a participant in the research. While the ELLC was a focus in the study I simultaneously reflected on my own experiences as a leader during the change project.

Action research is a practical approach to professional inquiry in any social situation (Hinchey, 2008). The context for professional inquiry in this action research study was a living and learning community in an educational setting. Action research addresses problems or concerns by offering practical solutions (McTaggart, 1997). The action research process allows the researcher to find solutions to problems while simultaneously understanding the organization better. The aim of an action researcher is to bring about development in practice by analyzing existing practice and identifying elements for change (Hinchey, 2008). The process consisted of collection of data in order to make informed rather than intuitive judgments and decisions (McTaggart, 1997). In this study action research was utilized to improve practice, improve the understanding of practice, and improve the situation in which the practice took place.

Overview of the Study

My first step was to examine the extent to which the ELLC achieved its goals in the fall 2009 semester. First, I reviewed data from a survey collected in the fall 2009 semester (Appendix A) and administered a subsequent survey (Appendix B) in January of 2010, in order to gain valuable feedback from the participants of the first ELLC cohort on their fall 2009 experience. The January 2010 survey aimed to capture the participants' initial thoughts and feelings about the ELLC from their fall 2009 and early 2010 experiences. Based on those data, I proposed additional objectives for spring 2010 and implemented programs to meet those objectives.

A focus group (Appendix C) was administered at the end of the spring 2010 semester. Specifically, the focus group was employed to allow the participants the opportunity to freely discuss their feedback, thoughts, and/or concerns about the ELLC without feeling confined to checking a box on a survey. The purpose of the focus group was to gain qualitative research based on questions asked in an interactive group setting (Creswell, 2003; Glesne, 2006; Patten, 2002). The focus group meeting provided an interesting dynamic for the ELLC members to discuss the program openly with each other.

Another survey (Appendix D) was administered in May 2010 to explore students' satisfaction with the programs and events. The feedback from the students was evaluated in order to discern which programs to maintain and how to improve them. This survey became instrumental to the research project, because the survey provided final reactions, feedback, and feelings about the 2009-2010 ELLC, which I utilized in designing the 2010-2011 ELLC programming. In keeping with action research (Hinchey, 2008) the

data collected were analyzed and later used to improve the ELLC program and develop strategies for upcoming cycles of research. Both a survey and a focus groups were conducted at the end of fall 2010.

An interview (Appendix E) was administered in December 2010 to the two ELLC Resident Assistants in order to examine their perspective on the community environment. The purpose of the one-on-one interview with the ELLC Resident Assistants was to have a directed conversation using a series of questions designed to elicit their thoughts, opinions, and feedback on the community. The interview format allowed for greater depth and a unique perspective on the residential community environment. Interviews allow participants to express their thoughts using their own words and are particularly valuable for gaining insight (Patton, 2002).

The sample in the study was a purposeful group of participants consisting of first-year minority, female, and low-income students majoring in engineering who qualified for the S-STEM scholarship. Two cohorts of students were included throughout the cycles of action research: those who started in 2009 and those who started in 2010. The goal of the S-STEM award was to increase the recruitment and retention of underrepresented students in engineering, leading to an increase in the number of graduates prepared to enter the STEM workforce. The S-STEM grant was funded to enable projects such as team building, collaborative learning, and hands-on activities. The funding also allowed for a residential learning community component.

The ELLC participants were recruited via their admissions acceptance packet along with a follow up e-mail or telephone call from the ELLC faculty advisor. A scholarship letter promoting the ELLC was available on the VSU College of Engineering

website. The site contained information such as living arrangements, a calendar of events, and expectations pertaining to the community. The program was limited in the number of students who could participate based on the availability of the S-STEM funds.

Data Collection Overview

I studied two cohorts of students: the 2009-2010 ELLC cohort and the fall semester of the 2010-2011 ELLC cohort. Changes, modifications, and improvements that were made in the community were studied throughout this time. The data were collected through surveys, observer participant field notes, focus groups, interviews, and journal writing in order to recalibrate the program each semester based on the feedback and data that were collected from the prior cycles of action research.

According to Creswell (2003) a mixed methods approach to gathering data is a hybrid of qualitative and quantitative data. Collecting several different types of data allows for various perspectives during the assessment and reflection. In this study I analyzed both quantitative and qualitative data throughout each semester in a cyclical approach in order to make improvements to the Engineering Living and Learning Community. I collected information using mixed methods in order to obtain various forms of data about the Engineering Living and Learning Community and to triangulate my data (Creswell, 2003). I collected qualitative data from interviews and focus groups. My quantitative data collection included surveys at various points during the students' experiences. Throughout each cycle of the action research project, data were collected using surveys with Likert rating scales (Patten, 2001) and open-ended questions. Using a hybrid of qualitative and quantitative approaches helped to ensure reliability and validity through triangulation (Creswell, 2003). In addition to the aforementioned mixed methods

approaches I utilized throughout the study, I also kept a journal on my leadership throughout the Ed.D. program and my involvement and participation with the ELLC program. Reflection is a crucial element in action research (Hinchey, 2008). My journal contained entries about my professional career and personal relationships as they related to my leadership. These entries were analyzed and coded throughout the study. Coding is a process for both categorizing qualitative data and for describing the implications and details of these categories (Patton, 2001). Initially, the data was examined for preliminary categories and later the categories were systematically coded after core concepts or themes were discovered.

According to Patten (2001) a survey is a tool that can be used to collect information about the participants' preconceived opinions, perceptions, thoughts, feelings, and attitudes. Surveys were utilized to assess the climate of the program, adapt or modify current programs, implement new programs, gauge ELLC satisfaction levels, and evaluate new ways to support the participants. By implementing and assessing five separate surveys, I was able to track changes in the opinions and needs of the participants so that I could improve the program.

Surveys are used as tools to measure changes in the thoughts and feelings of the participants before and after the various interventions. It was my hope that the data collected from the surveys would accurately confirm the results of each of the changes that were implemented throughout the study. Implementation of surveys throughout the action research project assessed the success or failure of the changes being implemented into the program.

The first qualitative data collection method was observation based field notes. I observed the participants' behaviors, conversations, interactions, and general attitudes during ELLC meetings, events, and social gatherings. Following the meetings and events, I wrote extensive descriptions of what took place and how the participants reacted. According to Creswell (2003) observation can provide a wealth of valuable information when collecting data in human studies and observational research findings are also valid (Glesne, 2006). Through regular observations I aimed to collect a wealth of rich information about the behaviors of the participants.

In addition to surveys and observations, I conducted one focus group in the spring 2010 (Appendix C) and fall 2010 semesters (Appendix F). Focus groups are a form of a group interview that capitalize on communication between research participants in order to generate data (Glesne, 2006). Focus groups explicitly use group interaction in order to encourage participants to talk to one another by asking questions, exchanging anecdotes, and commenting on each other's experiences and points of view (Patten, 2002). The purpose of these focus groups was to gather the ELLC participants in a non-threatening environment and engage in a candid conversation about the living and learning community. The open-ended question format was intended to promote an atmosphere for the participants to provide in-depth, detailed feedback specifically related to the ELLC (Patton 2001; 2002) and to generate valuable feedback and comments about the community in order to make adjustments and improvements to the program. The objective of the focus group was to gather opinions, various viewpoints, and attitudes about the Engineering Living and Learning Community. The feedback from the focus group was a contributing factor in determining the changes made to improve the program.

The focus group was meant to encourage discussion and spark feedback about the current ELLC so that adaptations and improvements could be made as a result of the participants input in the focus group. These small group discussions allowed the participants to build from each other's comments producing recommendations and suggestions for program improvement.

I reviewed survey (Appendix A) data results from the fall 2009 semester prior to my involvement with the community, which began in December 2009. These data included demographics such as: gender, engineering concentration, and parental education levels. The faculty advisor released the survey results to me so that I could analyze the data. I coded, categorized, and highlighted themes throughout the initial deliberation, planning, and design phase in Cycle 1. I took the analyzed information into account while I planned activities and future interventions to improve the community. Throughout all of the data collection, I also assessed my personal leadership development through journaling, ELLC survey questions (Appendix G), and a questionnaire/evaluation (Appendix H) that was completed by the ELLC faculty advisor.

Over the 2010 summer I e-mailed a short interest survey (Appendix I) to the 2009-2010 ELLC cohort and the new 2010-2011 ELLC cohort to gauge what events and activities the former and upcoming participants would enjoy. I had already collected data in Cycle 1 regarding the programs that were executed in the 2009-2010 academic year, but I wanted to offer some new programming options and gain insight into the students' suggestions for various activities. The survey was e-mailed to the 23 students from the 2009-2010 cohort and the 22 newest members of the 2010-2011 ELLC cohort. Out of the 45 students who were e-mailed the voluntary interest survey 13 students responded with

their feedback. Of the 13 students 6 students were from the 2009-2010 ELLC cohort and 7 were from the 2010-2011 cohort. Dr. Howard speculated the reason for the small number of 2010-2011 responses was because many freshman students do not check their new college e-mail addresses until the beginning of the year.

Ethics

The relationship between ethics and research in educational studies is centered on accountability and ethical responsibility (Ritchie & Rigano, 2001). Research conducted in educational environments needs to have an especially high level of integrity because important ethical issues frequently happen in higher education institutions (Ritchie, 2006). Ethics in research promotes reliable research design and using data with integrity (Ritchie & Rigano, 2001).

Additionally, in action research, researchers collect and analyze data to guide them in making decisions to help improve the success of various programs (Hinchey, 2008). As a leader working with impressionable young scholars, ethics in research comes naturally to me. I carried out my research with integrity, professionalism, and truthfulness. It was my objective as a researcher to perform responsible research. I conducted my study at Virginia Smith University and I abided by all the research policies as well as all Institutional Review Board (IRB) policies. I gained IRB approval in December 2009. Having a truthful, honest action research project was the foundation for the entire study.

Cycles of Action Research

Participants. The sample population during the cycles of action research throughout this study consisted of 45 S-STEM scholarship awardees who were majoring

in engineering at Virginia Smith University. This population was split between two ELLC cohorts. In Cycle 1 of this action research study, there were 23 ELLC participants in the pilot program in the 2009-2010 academic year. There were 22 ELLC participants in the subsequent cohort in the 2010-2011 academic year. Both cohorts were made up of women, minorities, and low-income first-year students majoring in engineering at VSU. Students who accepted the scholarship award money were automatically participants of the Engineering Living and Learning Community. These students began their involvement in the ELLC upon acceptance of the S-STEM scholarship. Most of the students accepted these scholarships in April or May of 2009 or 2010. The students were notified of the S-STEM scholarship when the admissions packet was mailed to the student's home. Because this was a scholarship opportunity, students had a limited amount of time to accept the award, therefore choosing to attend Virginia Smith University, and partaking in the Engineering Living and Learning Community. Declined offers were then presented to alternate students until all of the scholarships were awarded.

Cycle 1- Design, Deliberation, Reflection, and Filling in the Blanks

Cycle 1 of this study examined the pilot S-STEM Engineering Living and Learning Community in the fall 2009 semester. Based on the areas of identified need, I planned one intervention in the spring 2010 semester. This cycle was administered from December 2009 through May 2010. I utilized archival data collected during the fall 2009 semester based on a participant survey (Appendix A), an end-of-the-fall-semester survey (Appendix B) in January 2010, a focus group discussion (Appendix C) in April 2010, and an end-of-the-year survey (Appendix D) in May 2010. The sample population in Cycle 1 was the pilot 2009-2010 ELLC participants. There were 23 S-STEM scholarship

awardees in the 2009-2010 ELLC at Virginia Smith University. This group included women, minorities, and low income, first-year students who were awarded the S-STEM scholarship at Virginia Smith University in the College of Engineering.

I reviewed data from the preceding fall 2009 semester prior to my involvement with the community, which began in December 2009. Throughout Cycle 1, I assessed the pilot program as a whole including the recruitment of the ELLC members, the residential living arrangements, the calendar of events and meetings, peer-to-peer and peer-to-faculty relationships, and finally campus connectivity. In order to assess the fall 2009 semester, a survey (Appendix B) was administered to the ELLC participants in January 2010. Questions on the survey inquired about their transition from high school to college, their peer-to-peer and peer-to-faculty relationships, as well as their connection to the Virginia Smith University campus. Additional data were collected on the participants' stress level, participation in various campus support programs including tutoring, and their overall experience in the residence hall. Results of the survey were entered into Microsoft Excel and later imported into Statistical Package for the Social Sciences (SPSS) for analysis. Additionally, I maintained a journal throughout Cycle 1. These entries were analyzed, coded, and considered in the results.

In the beginning of Cycle 1, I met with several key officials to see how I could increase campus connectivity and promote more supportive peer-to-peer and peer-to-faculty relationships. I met with two engineering faculty members, the dean of the Engineering College, and the faculty advisor of the ELLC. These meetings were pivotal to establishing trusting relationships with key personnel in order to gain support to make the necessary adjustments to improve upon the pilot program (Fullan, 2001). During

Cycle 1, I gathered valuable information about what these individuals envisioned for the program. I was able to gain additional feedback about their thoughts on the community and their suggestions for the overall improvement of the ELLC. I documented these interactions in my journal, which were later analyzed and coded.

Based on the information I received in the stakeholder meetings, I was able to design a master plan to improve the pilot Engineering Living and Learning Community program in the spring 2010 semester. I intended to create more opportunities for students to develop stronger peer-to-peer and peer-to-faculty relationships. The plan also encouraged the participants to take advantage of opportunities to get involved on the VSU campus. This vision was further developed after the end-of-the-year survey (Appendix D) was administered at the end of the pilot participants' first year in May 2010.

Throughout the planning stages of Cycle 1, I consistently engaged in self-reflection and assessment, which I recorded in my journal. The reflexive practices I employed throughout Cycle 1 allowed me to form a vision of how I could lead a change. Based on the data collected in Cycle 1, I set out to design several effective strategies that enhanced the students' development through their participation in the ELLC program. After I analyzed the results from the January 2010 survey (Appendix B), a pizza night with two guest speakers was planned and implemented. Throughout the presentations I took copious field notes that were transcribed in my journal. These field notes were later analyzed and coded for themes.

It was through collaborative inquiry and constant self-reflection that I was able to implement changes to the ELLC program for the spring 2010 semester. Later in Cycle 1

of this study, I implemented new programming to satisfy the areas of identified need based on the data collected from the January 2010 survey (Appendix B). The new programming infused more social activities into the community. I redesigned and recalibrated the ELLC calendar of events to include social and campus-wide activities to help maximize the benefits of the community. This new programming model was intended to enhance the students' overall satisfaction with the community by increasing their connection to campus and building stronger peer-to-peer relationships.

At the end of the spring 2010 semester I conducted a focus group discussion (Appendix C). The focus group consisted of nine (9) open-ended questions, as well as two (2) sub-questions, and six (6) yes or no questions. Students were emailed the questions two days prior to the discussion. The focus group lasted approximately 1 hour and 45 minutes. The focus group was audio taped and transcribed. Students were given a number for identification and confidentiality purposes. Each student signed an informed consent form prior to the focus group. An assessment of the data indicated that the ELLC program was having a positive impact on the participants.

Finally, at the end of Cycle 1 in May 2010, I administered a survey (Appendix D) via Survey Monkey. All of the participants of the ELLC were asked to evaluate each of the ELLC events and programs from the 2009-2010 year using a Likert scale. The survey also included open-ended questions and students could choose to recommend or not recommend events to repeat or eliminate. The survey offered space for participants to provide suggestions for new programs and events for the subsequent 2010-2011 ELLC cohort. The focus group and end-of-year survey were employed to collect quantitative and qualitative feedback from the participants.

Simultaneously during Cycle 1, the recruitment process for the 2010-2011 ELLC was in progress. The College of Engineering identified the students who could be awarded S-STEM scholarship opportunities with required participation in the ELLC. Professor Howard, the ELLC advisor, was the point of contact for these students. I developed a recruitment letter (Appendix J), which explained the community and potential benefits to the prospective student participants. I sent out a summer informational bulletin (Appendix K) for those students who accepted the scholarship, followed by a welcome/move-in letter (Appendix L). In Cycle 2 of this study, by July of 2010, members of the fall 2010 ELLC cohort were identified. I utilized the summer months to formulate a calendar for the new ELLC participants based on the feedback from the focus group and survey results from the 2009-2010 ELLC cohort. The calendar contained dates, times, and places for meetings and scheduled events.

Cycle 2 - Redesign for Fall 2010

Cycle 2 took place from May 2010-November 2010. In this cycle the pilot 2009-2010 ELLC cohort and the new 2010-2011 ELLC cohort were invited to participate in a program interest survey (Appendix I) via e-mail in July 2010. The survey included 10 suggested activities and students were asked to check 'yes' or 'no' regarding their interest in the social program. I designed the fall 2010 ELLC calendar with the data based on both the 2009-2010 cohort data results and the interest survey results from both cohorts.

In the beginning of the fall 2010 semester, the 2010-2011 ELLC students participated in a survey (Appendix M) seeking their perceptions, ideas, concerns, or impressions of themselves, Virginia Smith University, and the ELLC program. Students received several email reminders to take the internet-based survey. The e-mail included a

link to the survey. The participants were assured that their answers to the survey would remain anonymous. Students who did not complete the survey a few days prior to the deadline were sent several reminders asking for their participation in the survey. The students were not given any incentives to complete the survey nor were they penalized if they did not complete the survey. The survey was available 24 hours a day, seven days a week as long as they had Internet access. The participants of the ELLC were told participation in the survey was mandatory. The ELLC participants' responses were unidentifiable on the survey so that an individual's survey response remained anonymous. The purpose of the survey was to measure the students' engagement in on-campus activities; participation in off-campus activities; comprehension of who they are as a learner based on the LCI learning patterns; perception of overall sense of community campus resources available, and responsiveness to the ELLC. Most of the survey items required students to rate their level of agreement using a Likert scale consisting of strongly disagree, disagree, agree, or strongly agree. A few questions were open-ended and students could type in answers to questions or add comments. Twenty-eight survey questions were asked and the results were coded and entered into SPSS. The results were analyzed and intended to measure the students' transition and adjustment to college from high school, ability to develop peer-to-peer and peer-to-faculty relationships, initial perceptions of the ELLC community, and their connection to the VSU campus. I used the 2010-2011 participants' feedback from the survey to determine some of the programs, in addition to the pre-selected programs chosen based on the interest survey (Appendix I) to implement throughout the fall 2010 semester.

Cycle 3 - Redesign for Spring 2011

Cycle 3 was the final cycle of the action research study and took place from November 2010-January 2011. The 2010-2011 ELLC participants took another online survey (Appendix G) in December 2010, which inquired about their overall experience with the ELLC program. The survey offered open-ended questions to gain insight into each student's perceptions of the ELLC experience. A focus group discussion (Appendix F) was conducted at the end of the fall 2010 semester. The focus group instrument administered to the 2010-2010 ELLC cohort was identical to the focus group utilized in May 2010 (Appendix D) with the previous ELLC cohort. The discussion consisted of nine (9) open-ended questions, as well as two (2) sub-questions, and six (6) yes or no questions. The focus group was approximately 1 hour and 30 minutes and was audio taped and transcribed. Students were given a number for identification and confidentiality purposes. Each student who took part in the discussion signed an informed consent form prior to participation in the focus group.

In Cycle 3, I also interviewed (Appendix E) the two resident assistants (R.A.) who supervised the ELLC participants in the residence hall. The interview took place at the end of the fall 2010 semester in December 2010 and was intended to capture the thoughts, feelings, and viewpoints of the community from the resident assistants' perspectives. The interview lasted approximately 1 hour and was audiotaped and transcribed.

Lastly, a survey (Appendix N) was e-mailed to every freshman and sophomore engineering student at Virginia Smith University in January 2011. Participation in the survey for both ELLC and non-ELLC students was voluntary, but highly encouraged.

The survey contained 22 Likert scale questions and 6 open-ended questions. The students were asked to complete the survey within one week and were told their responses would be completely anonymous. At the end of the week, the results from the 109 students out of 319 or 34% of the total freshman and sophomore engineering students completed the survey. Those who participated in the survey were separated based on ELLC participants versus non-ELLC participants. Students who indicated involvement in either the 2009-2010 or 2010-2011 ELLC cohort were separated and compared to the non-ELLC population's results. The purpose of the survey was to determine if the students' involvement in the Engineering Living and Learning Community was different than those who did not participate in the ELLC program.

The results from the data collected in Cycle 3 were compiled and analyzed in order to make recommendations for the spring 2011 semester. The purpose of the surveys, focus group, and R.A. interview in this cycle was to gauge the participants' development, changes in feelings or attitudes, and to also gain valuable feedback to make additional recommended improvements for the spring 2011 semester and future cohorts of the ELLC.

Leadership Application Throughout the Cycles

I employed both action and reflection throughout the cycles of action research in this study. I evaluated my responsibility and my espoused leadership theories-in-use. One of the aims of the study was for the ELLC participants to feel connected with their peers, professors, and to the campus community. These objectives were clearly aligned with my transformational and servant leadership styles (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002). As a transformational,

servant leader (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002), I was candid and honest from the commencement of the study that my purpose for my involvement with the ELLC program was to make immediate improvements to the community based on the data that were collected so that future ELLC participants would be exposed to programming that was effective and successful. Both cohorts of students were honest and genuine in their feedback on the surveys and in the focus groups about their community experiences. When the participants' feedback was translated into changes they wanted implemented in the program, they seemed engaged, involved, and excited about the ELLC programs and events. Both ELLC cohorts provided excellent data and feedback that helped make fundamental changes to the program. Their willingness to give both positive and negative feedback helped to shape the redesign of the ELLC.

Throughout the action research project I was simultaneously conducting an ongoing assessment of my leadership to answer the research question focused on my leadership. In order to evaluate my leadership throughout the study I evaluated questions connected to my leadership on the 2010-2011 ELLC end-of-the-year survey (Appendix G) and based on feedback from a questionnaire/evaluation (Appendix H) on my leadership that was completed by the ELLC advisor. I examined my journal entries to evaluate and assess my transformation as I led others throughout the study. I used a color-coded scheme to analyze these journal entries combined with reflective practice, which helped me to evaluate and assess my espoused theories of leadership.

Conclusion

In summary, each survey, focus group discussion, and interview was examined to expansively assess the direct and indirect effects of the Engineering Living and Learning Community on the participants in the pilot 2009-2010 ELLC cohort and the subsequent 2010-2011 ELLC cohort. Each of the programs, events, and activities planned were determined by the results gathered in each cycle of action research. The results of each cycle dictated the actions taken for the next cycle. All of the feedback from the participants was utilized for each planned intervention in order for participants to build stronger peer-to-peer and student-faculty relationships, as well as increase their connection to campus.

I utilized a mixed methods approach in determining what interventions, improvements, modifications, and changes would be implemented to the Engineering Living and Learning Community at Virginia Smith University. In regards to assessing my own leadership throughout the process I analyzed the quantitative and qualitative data based on my leadership from the 2010-2011 ELLC survey (Appendix N) and the questionnaire/evaluation (Appendix H) completed by the ELLC advisor, reviewed the coded journal entries, and reflected on my role as a leader throughout the action research project. The analysis and results of the data collected throughout the cycles, as well as the critique of my own leadership, was critical in making positive and sustainable changes to the ELLC throughout the study and in the future.

Chapter 5

Cycle 1 Analysis: (December 2009 – May 2010) Design, Deliberation, Reflection, and Filling in the Blanks

Introduction

In order to improve the Virginia Smith University Engineering Living and Learning Community, this action research study examined the 2009-2010 pilot ELLC participants' experiences during their first year. The ELLC program was established so that minority, female, and low-income engineering students could participate in an exciting residential living and learning community designed to meet their academic, developmental, and social needs. ELLC was intended to form a community in which students could connect academic achievement and residential living.

I began working with the Virginia Smith University Engineering Living and Learning Community in December 2009. Cycle 1 of this action research project took place from December 2009 through May 2010. In this cycle, I met with key stakeholders involved with the Engineering Living and Learning Community, evaluated the ELLC program throughout the 2009-2010 pilot academic year, and implemented improvements to the community based on the results from the data collected. I asked the faculty advisor, Dr. Howard, if he would allow me to conduct my action research study with this community because of my experience in working with residential learning communities. During our meeting Dr. Howard discussed the S-STEM grant, the application process for the scholarship award, and the goals and objectives of the grant. He outlined the recruitment process for the community members, the housing selection procedure, and

his thoughts on the program in its first semester in fall 2009. I listened intently to his feedback and took notes throughout our meeting. I learned that a survey was administered in September 2009 and Dr. Howard offered to share the results from that survey (Appendix A) with me. The data I reviewed were for informational purposes only and included demographic information such as the participants' gender, ethnicity, engineering concentration, and parental education level. These data were not used in the research, rather I referenced the information as part of the evaluation process of the ELLC in Cycle 1.

By the end of our meeting, based on Dr. Howard's assessment of the ELLC, I noticed that although the students were a part of the ELLC program and were meeting basic expectations of the group, the community was not offering any social programming so the students could build relationships with one another. After carefully observing and listening during the meeting with Dr. Howard, there was clearly an absence of the "community" aspect of the program. After speaking with Dr. Howard, with the exception of a pizza party at the initial ELLC meeting, there was no mention of social programming, campus-wide event participation, or peer-to-peer relationship building activities, all of which are critical aspects of residential learning communities (Bobilya & Akey, 2002; Brower et al., 2003; Inkelas et al., 2006; Pike, 1999; Stassen, 2003; Zhao & Kuh, 2004).

After listening to Dr. Howard talk about the program and its inception, I took the opportunity to tell him about my literature review on living and learning communities. I discussed all of the benefits and advantages these programs could provide to the participants in a variety of ways. I explained that residential learning communities help

with academic support, which he was clearly focused on in the first semester, but that the ELLC could also ease the students' transition from high school to college, increase their connection to the Virginia Smith University campus, and build stronger peer-to-peer and peer-to-faculty relationships. Dr. Howard agreed to my proposal and was very open and receptive to my ideas on ways to make changes to the ELLC program. I began working with the community shortly thereafter.

In this first phase of the study, I gathered information, met with key stakeholders involved with the ELLC program, proposed my ideas to the faculty advisor and stakeholders, listened to their suggestions, ideas, and feedback regarding the community, and reflected after each of these encounters. Only after reflecting on these events and seeking out more information did I implement some changes to the 2009-2010 Engineering Living and Learning Community calendar of events for the spring 2010 semester. Cycle 1 was my first experience with action research and I began to understand how cyclical this type of research really was. Action research is a process whereby the researcher plans, acts, observes, reflects, and makes changes (McTaggart, 1997). This cycle was the first of three total cycles in which I would continually repeat the process of planning, acting, observing, reflecting, and implementing change.

Cycle 1 of my study embodied my initial appeal and interest in living and learning communities. I conducted a needs assessment, collected data, and used observation field notes in order to modify the existing LLC to enhance the participants' overall satisfaction with their residential learning community experience. This cycle included my observations, reflections, and actions in order to implement changes that would benefit the participants.

ELLC 2009-2010 Pilot Program

The evaluation and assessment of the initial 2009-2010 ELLC pilot program was the foundation for Cycle 1 of this action research study. The ELLC program, which began in fall 2009, although logistically speaking was operating as a residential learning community, lacked the components of a truly comprehensive living and learning community. The program was designed for the purpose of offering minority, female, and low-income students an added peer and faculty support system by linking four courses and assigning the ELLC participants to the same floor of the same residence hall. Except for a few academic programming events, the Engineering Living and Learning Community lacked peer-to-peer social interaction and programming designed to help students feel connected to the Virginia Smith University campus.

Residential learning communities are designed to improve academic achievement, peer relationships, and student success (Pike, 1999). As I examined the VSU ELLC, it became clear that some of the benefits of living and learning communities were lacking. I wanted to ensure that these crucial constituents were included in the spring 2010 semester in order to assist the students in building relationships with each other and making connections to campus, thus forming a strong community environment in order to achieve the objectives of the ELLC: support, retention, and academic achievement. The changes I wanted to implement were designed to help the participants feel satisfied, connected, and ultimately more supported throughout their critical first year of college in a challenging, White-male dominated discipline.

In order to assess the needs of the Engineering Living and Learning Community at Virginia Smith University, I collected and analyzed data from past and current

literature regarding residential learning communities, engineering learning communities, and minority, female, and low-income first-year engineers. I attended several VSU sponsored Society of Women in engineering meetings, met with key ELLC stakeholders, and had frequent one-on-one discussions with Dr. Howard, the ELLC faculty advisor. In tandem with collecting and analyzing data from current literature and meeting with key engineering faculty and staff, I utilized reflective journaling about my experiences.

Data collected in Cycle 1 included an end-of-fall-semester survey (Appendix B), focus group (Appendix C), and an end-of-the-year survey (Appendix D). The results concluded the need to infuse more social programming into the events calendar for the spring 2010 semester to assist students with feeling more connected to the VSU campus. Once these needs were recognized, I proposed my initiatives to improve the ELLC for the spring 2010 semester to the engineering faculty, staff, and the ELLC advisor. I acknowledged the opportunities to introduce and implement new programs and events that could spark greater peer-to-peer interactions. My changes were highly supported by the stakeholders involved with the ELLC program. Since the program was in its pilot year, the stakeholders welcomed the assessment and evaluation of the program. I did not simply peddle my ideas in the meetings, but provided a detailed blueprint for new ways to provide students with opportunities to make connections and build relationships with other ELLC members through social interactions outside of the classroom in addition to the already successful academic programming. I outlined my philosophies on getting the students more involved and invested in the university by feeling a sense of belonging not only to the College of Engineering, but also to the Virginia Smith University campus. I suggested programming that would build peer-to-peer relationships and connect the

participants to the VSU campus. Any ELLC program changes, adjustments, modifications, or additions I had were encouraged since the objectives of my study were aligned with the purpose of the community. I convinced the stakeholders about the immeasurable benefits the ELLC could provide to participants by implementing some new programming that would encourage peer interaction and help the students to feel a sense of belonging to the university outside of the engineering major.

Stakeholder Meetings

Data collected from the administrative stakeholder meetings and my field notes composed from various engineering meetings echoed the sentiment that there was a clear lack of peer social interaction amongst the participants as well as a deficiency in the participants' connection to the Virginia Smith University campus. It is important to note that the 2009-2010 ELLC participants did feel a strong connection to the College of Engineering and to their engineering concentration; however, there was an absence of a sense of belonging to the Virginia Smith University campus as a whole. In one of the meetings an ELLC student commented, "I love being an engineering student but I do not feel like a [Virginia Smith] University student." Another ELLC student added, "I wear a College of Engineering T-shirt to class but I do not even own a [Virginia Smith] University shirt. I do not think I would wear it if I had one anyway." A majority of the ELLC students shared the feeling of being a student in the VSU College of Engineering; however the participants did not attach themselves as members of the VSU campus community unlike other students with majors outside of engineering, according to the VSU College of Engineering Dean.

In January of 2010 I met with the ELLC faculty advisor to review the practicability of the new programming based on the results collected in the end-of-semester survey (Appendix B) administered to the ELLC cohort. The new social programming was meant to increase the participants' overall community experience through greater social interaction. I aimed to incorporate a hybrid of social programming with the intention of promoting awareness of on-campus events and activities outside of the ELLC so that the students could become more involved on-campus while simultaneously developing stronger peer-to-peer relationships amongst the ELLC members. These activities paired with the traditional academic programming and linked courses were recalibrated in order to promote peer relationships, campus connectivity, and reinforce the students' peer-to-faculty relationships that were forged in the fall 2009 semester.

In Cycle 1, I spent a great deal of time meeting with Dr. Howard, e-mailing him back and forth, and sharing ideas and suggestions. I wanted to build a relationship with him that would increase trust and a willingness to collaborate and work with each other in order to enhance the community experience for the participants. I also invested time in getting to know the engineering faculty and some administrators, including the dean of the College of Engineering. The one-on-one meetings with the ELLC faculty advisor, Dr. Howard, and the follow-up meetings with various engineering faculty and administrative staff members were very prolific. Our meetings sparked cooperative inquiry (Heron, 1996) whereby all active participants were involved and engaged in research decisions. Cooperative inquiry provides an operative strategy for facilitating learning from experience (Heron, 1996). I journaled in December 2009:

I could not be more thrilled with the supportive environment that the engineering faculty and administration have fostered for this study. They had some great ideas and insights into the engineering major and the ELLC program that were really enlightening. I am eager to implement a combination of everyone's ideas to improve the community.

I had written dozens of pages in my journal detailing the administration, faculty, and ELLC advisor's eagerness for collaboration. These important stakeholders became my biggest supporters when I shared my vision for the future of the Engineering Living and Learning Community program.

As the advisor to the ELLC, Dr. Howard's support of the changes that I wanted to implement to improve the community was essential. Dr. Howard seemed interested, encouraged, and supportive of the adjustments of the program and the additions of more social programming, and additional campus-wide events and activities into the ELLC calendar. I wrote in my journal:

Working with the ELLC is such an amazing opportunity to have an impact on the students' freshman year of college. Perhaps the changes that I make to the ELLC program could affect the participants' entire college experience. This might seem far-fetched but one tiny stone skipping across the water has the ability to send ripples across an entire body of water. I want to be that pebble.

I wanted the community to benefit from the changes and for the students and the faculty advisor to easily adapt to these changes without disrupting the integrity of the program that Dr. Howard had worked hard to establish. I wrote:

Building a meaningful and trusting relationship with Dr. Howard is of the utmost importance to me because I want him to know that I respect the work he has done with the community. The changes that I am proposing are meant to enhance the current community and not impede on the work that he has devoted countless hours to while developing the ELLC.

Meeting with additional key stakeholders was pivotal to Cycle 1 of the study. I met with faculty and administrators and discussed how I could get involved to increase campus connectivity, and promote more supportive peer-to-peer and peer-to-faculty

relationships with the participants involved in the ELLC. These meetings with key personnel became the linchpin in gaining the support needed to make the necessary adjustments to improve upon the current program. I was able to gather valuable information about what these individuals' personal visions for the program looked like and gained more feedback and reactions about their thoughts on the community. Even though I spoke with different people from various backgrounds and job descriptions, their views of the ELLC and goals for the community remained fairly consistent; they wanted the ELLC to provide the participants with academic support, increase retention, and foster a positive freshman experience.

My journal entries reflected my positive outlook on the interactions I had with the engineering faculty and administrators. I wrote:

Everyone seems devoted to the same goals when it comes to the Engineering Living and Learning Community. I am eager to infuse some additional goals of my own into the program: campus connectivity, strong peer-to-peer relationships, and supportive peer-to-faculty relationships for an overall more favorable college experience for the participants.

My conversations with those who were directly involved with the Engineering Living and Learning Community were consistently positive. My discussions with faculty and administrators often led to conversations about my research on the benefits of residential learning communities. The people who I spoke with seemed especially interested in learning about how the participants could benefit academically from attending three linked courses and living on the same residence hall. The personnel I spoke to were inquisitive and attentive when discussing LLCs. I think they could see my passion for working with the students in the ELLC and I often felt energized after our discussions. I wrote:

I anticipated roadblocks with a less-than-eager, overworked faculty members who would be unwilling and unmotivated to support me throughout this project. Instead I have a team of people who want to help make the ELLC an amazing experience for the participants. Everyone involved with the program seems supportive and eager to do their part to make this community successful.

In Cycle 1, one of the most interesting and refreshing meetings I had was with the dean of the College of Engineering. The ELLC is a group of minority, female and low-income students, so it was exciting to learn that the dean was female. For me, meeting with her was an honor and gaining her support for this study was enormously exciting.

After our meeting I wrote in my journal, “Talking with someone who defied the odds and statistics was inspiring. I admire her ‘can-do’ attitude. I do not want to be defined as a good *female* leader. I want to be known as a good leader, period.”

Throughout Cycle 1, I felt very supported and encouraged by those directly and indirectly involved with the ELLC program. I do not work at VSU, so as an outsider I was not sure what type of support, if any, I would have in working with the ELLC students. Reviewing my journal entries throughout Cycle 1 allowed me to take a step back from the research and realize what a supportive and positive team I was privileged to work with even though I was an outsider. Everyone was open to learning about residential learning communities and eager to connect how the VSU ELLC could serve the minority, female, and low-income students in the program. Since recruitment of these types of students into the engineering major had become a focus in the college, everyone was enthusiastic and willing to do their part to help retain and support these students. There did not appear to be any resistance to change from the dean, the faculty, or the ELLC advisor. In fact it was quite the opposite. I was overwhelmed with encouraging feedback and a “take-it-and-run-with-it” attitude. During each step of Cycle 1, I was supported, which increased my confidence in making decisions regarding changes in the

program. My journal entries reflected the positive environment. I wrote, “The feedback and support for the ELLC from the stakeholders is overwhelmingly positive. I think that people can now see the benefits of residential learning communities and the impact that they can have on the students who are involved.”

I met with the engineering administration and faculty members involved with the program twice and had biweekly one-on-discussions with the ELLC advisor throughout Cycle 1 of this study. In the meetings, I outlined in detail my goals for the spring 2010 semester for the community. On January 6, 2010, I reflected about my experience in finalizing the new programs that would be implemented in the upcoming semester.

I wrote:

Implementing change from a perspective of shared vision has opened up dialogue amongst all of the people involved in making the ELLC an effective community. This shared vision has encouraged greater idea flow and united us as a team. Establishing a shared vision and having a common motivating factor will be crucial in achieving our goals for the ELLC participants.

It was difficult for me to admit that the shared vision and collaborative efforts were transpiring as a result of my efforts. I detailed these feelings in another journal entry. I wrote:

I do not feel like I am leading a change per se. I feel as though I am reorganizing a bunch of puzzle pieces that are linked in the wrong order to fit correctly. The pieces were already there, they just needed to be reconfigured.

It was difficult for me to see this reorganization process as a form of leadership. I thoroughly enjoyed the idea of sharing the fruits of our labor as a team, not feeling as though I was the solo catalyst for any successful changes. It became clear to me as I was reflecting on my journal entries that it was easier for me to admit I was a leader if something went awry rather than when success was achieved. At the end of January

2010, a few days before the start of the spring semester, my journal entry reflected this sentiment. I wrote:

I am excited to implement all of the changes that were born from the administration, faculty, and students' feedback. I feel like everyone had a real voice on this team. I hope that the new programming is successful. I will feel personally responsible for letting down the students and staff if the changes that are implemented are ineffective.

Not all of my journal entries during this time period were laced with self-deprecating feelings. Most of my entries throughout Cycle 1 were quite the contrary. I was positive, upbeat, and excited about the new semester. On January 15, 2010 I wrote:

I could not be more excited about the new programming that is going to be incorporated throughout this semester. My focus remains on the ELLC participants. I am looking forward to making connections with each of the students and assisting them in building relationships with others. I hope the new programming model allows them to feel a true sense of belonging to the ELLC and to the [Virginia Smith] University campus.

I was eager to see my vision, which became a shared vision, come to life.

January 2010 Survey Results

During Cycle 1 I assessed the program as a whole including the recruitment of the ELLC members, the residential living arrangements, the calendar of events and meetings, peer-to-peer and peer-to-faculty relationships, and finally campus connectivity. In order to evaluate the fall 2009 semester, I administered a survey (Appendix B) to the ELLC participants in January 2010. In my role as a researcher working with the ELLC, I carefully reviewed the data that were collected in January 2010 based on the ELLC students' fall 2009 experiences. I analyzed the results with SPSS looking for emerging themes. Based on the information I received from those involved with the program and the results from the survey, I was able to design a blueprint highlighting ways to improve the pilot ELLC community. I intended to create more opportunities for students to

develop stronger peer-to-peer relationships, increase their connection to campus, and reinforce their peer-to-faculty relationships that were made in the fall 2009 semester.

The results indicated that, although a majority of the students (55.6%) agreed or strongly agreed that they had expanded their network of peer support, 44.4% of respondents disagreed. However, in terms of peer-to-faculty relationships 88.2% of respondents strongly agreed or agreed that the ELLC afforded them the opportunity to interact with Virginia Smith University engineering faculty and staff, while only 11.8% of respondents disagreed. However, during the initial evaluation of this particular living and learning community, 72.2% of respondents disagreed that the ELLC increased their sense of belonging at VSU. Additionally, the same percentage (72.2%) of respondents disagreed that the ELLC had increased their connection to the VSU campus. And finally, respondents were split with 50% agreeing and 50% strongly disagreeing or disagreeing that the ELLC had increased their opportunities to become more involved in campus activities.

Table 1

January 2010 Survey Results (in percentages)
(n= 18)

Question:	Strongly Agree	Agree	Disagree	Strongly Disagree
My involvement in the Engineering Living and Learning Community has improved...				
my network of peer support	38.9	16.7	44.4	0
my opportunity to interact with [Virginia Smith] University engineering faculty and staff	35.3	52.9	11.8	0
my sense of belonging to [Virginia Smith] University	16.7	11.1	72.2	0
my connection to the [Virginia Smith] University campus	0	27.8	72.2	0
my opportunities to become more involved on-campus	0	50	33.3	16.7

Actions Taken in Spring 2010

In summation, results indicated that the Virginia Smith University Engineering Living and Learning community did offer the participants a unique, inclusive residential learning experience that connected classroom learning with residence life. The ELLC students were able to enjoy all the usual advantages of living on campus in a residence hall, with the added benefit of living among a peer group that shared academic goals and interests. It became clear, however, based on the survey results that not all of the residential learning community objectives were being met. Since 50% of respondents disagreed or strongly disagreed that the ELLC had increased their opportunities to become more involved in campus activities, I designed a cultural program to illustrate the numerous events, programs, activities, and organizations on-campus that were available to the ELLC members. The purpose of this event was to enlighten the ELLC students and to broaden their perspectives on multicultural organizations and programs on the Virginia Smith University campus. The event was also used to promote on-campus events and activities so that the ELLC participants could get involved and feel more connected to VSU.

Focus Group Results

I also collected data through a focus group in this cycle in order to explore the extent to which the ELLC program was providing students with programming opportunities that coincided and complimented their experiences inside and outside of the classroom, in order to help ease the transition from high school to college, build strong peer-to-peer and peer-to-faculty relationships, and increase their connection to the VSU campus. My objective in the focus group was to explore the 2009-2010 ELLC

participants' experiences in order to examine the students' thoughts, opinions, and levels of satisfaction about the ELLC program.

On Friday, April 23, 2010, 12 out of 21 students who participated in the Engineering Living and Learning Community at Virginia Smith University voluntarily participated in a focus group discussion about their individual and collective experiences with the ELLC community over the course of the 2009-2010 academic year. This feedback was particularly important since the community was the pilot cohort for this residential learning community. Through meticulous data analysis I saw themes emerge from the data about the similar experiences of the ELLC participants. First, there was a clear consensus that there was a lack of social programming that the ELLC participants wanted. Second, all of participants unanimously acknowledged the lack of consistent group meetings. Third, many of the focus group participants agreed that the residence hall where the students resided, Witzig Hall, did not provide ideal living conditions for group activities. Fourth, many of the participants noted their desire to live with non-engineering roommates and suitemates as well as ELLC members. Fifth, there was a lack of peer-to-peer relationships. A majority of the students associated the lack of social programming with the absence of peer support. Sixth, peer-to-faculty relationships were strong as a result of participation in the Engineering Living and learning Community. The final emergent theme was the ELLC participants' lack of connection to the VSU campus. Each of the themes is developed in the following pages supported with data.

Social Programming: Making Connections and Building Relationships

One of my objectives in this action research study was to promote peer-to-peer relationships and shared experiences among the participants inside and outside of the classroom. It became progressively evident throughout the focus group that an overwhelmingly popular response to many of the questions was that the ELLC lacked *any* type of social programming. During the discussion one student stated, “I did not consider any of the programs social.” The participants expressed a sincere desire to have more social programming so that they could interact with each other more outside of the classroom cohort. In the first theme, the lack of social programming in the ELLC, the participants seemed to agree that the social programming was a critical piece of the experience that they lacked and genuinely craved from the community. The social component was noticeably absent from their overall experience with the community. Students were quick to highlight their positive programming experiences with the academic events, like the calculator seminar and the tech park trip, but they were disappointed with the deficiency of social programming. One student said, “I liked the tech park trip and the calculator session, but I don’t know how social these programs can be considered.” Another student replied, “I was more satisfied with the educational activities than the social.”

One participant said, “There was only the initial social meeting and that was a good thing as an ice-breaker.” Another adding, “There needs to be more social activities, especially early on, this would be more effective.” It was obvious from the focus group that the students clearly missed out on the social piece that the ELLC could offer to the students. One of the students remarked, “The ELLC needs more social events to help

everyone in the group get to know each other." The absence of entertaining, non-academically based community programming was obvious to the ELLC participants. Since the meeting times were sporadic and not mandatory, and with only one identifiable social program offered in the fall 2009 semester, many students were not able to participate in any social programming at all. One student said, "There was only one social program and I could not go." An uproar of laughter exploded after one ELLC participant shouted, "What social programming?"

Several participants suggested various ideas for social programs for the 2010-2011 ELLC cohort. Their suggestions ranged from a movie night, to a group volleyball game, to an off-campus bowling event. A number of students mentioned the importance of incorporating social events early in the fall semester. One student said, "There needs to be more social activities, especially early on, this would be more effective." Another student added:

I had to make friends on my own because there was no activities in the beginning of the semester that brought us all together. I would see the same people in class but unless we were paired on an assignment no one went out of their way to get to know each other.

The participants made it clear that the ELLC did provide the students the ability to meet and interact with other engineers. One said, "The ELLC enabled me to get to know other engineers better and sooner." However, several students noted that it could have been easier to make these connections with others if the program fostered a more social environment. One responded, "The ELLC helped improve my relationships and get to know people better, but I did not feel like it was a family." Another student said, "I made friends with several people in the learning community, but I think more meetings would allow me to interact with more people." The participants expressed a sincere desire to

have more meetings and social programming so that they would be able to interact with each other more outside of the classroom cohort.

To Meet or Not to Meet

A second theme uncovered was the lack of, inconvenience of, and inconsistency of the ELLC meetings. All of the focus group participants agreed that the ELLC meetings were too infrequent and the meeting times were not convenient for the majority. Several students mentioned that they did not attend any meetings and expressed regret that they were unable to participate. Although many of the students claimed that there were not enough meetings or that the number of meetings were lacking; overall the participants enjoyed the ELLC meetings they did attend. One student said, "The most satisfying aspect was the meetings, learning about new things on campus, and having people I know in my classes." It was no surprise to hear several students mention the shortage of group meetings and the inopportune meeting times. "It was disappointing that we did not have enough meetings," said one student. Another student very poignantly remarked, "The times and amount of meetings really limited the effectiveness of the learning community."

It became increasingly clear that the students wanted to have regular meetings. The ELLC meetings were sporadic and usually not mandatory. There was no universally convenient time for the entire group to meet. Dr. Howard did his best to accommodate everyone's schedule by frequently sending out e-mail requests for the students to fill out charts with their available free time. Dr. Howard would then compile all the results to try and find a mutually beneficial time to host the meetings. Unfortunately, even when a majority of the students could attend the ELLC meetings, due to the non-mandatory

unwritten meeting policy, many of the students who could have attended the meetings simply chose not to attend.

All of the participants agreed that the meetings were too infrequent and the meeting times were not convenient for the majority. Several students mentioned that they did not attend any meetings and expressed regret that they were unable to participate. One student expressed his unhappiness saying, "With my job and my workload the meetings were impossible to attend. I heard some of the events were fun. I wish I could have been there." Another student added:

Only some of the students were able to go to all of the meetings. I only came to two meetings but the ones I went to were fun. I would have gone to all of the meetings if I could have fitted it into my schedule. The meeting dates and times were really sporadic.

Although many of the students claimed that there was not enough meetings or that the number of meetings were lacking, overall the participants enjoyed the ELLC meetings they had attended, one student said, "I really enjoyed the meetings. We always had fun, learned something new, and got to hang out as a group."

Residence Hall Woes

Another theme that materialized was the choice of residence hall. The 2009-2010 ELLC students resided in Witzig Hall. Many participants suggested moving the program to a different residence hall. Schomber Hall was the proposed building of relocation, because of its better lighting, bigger rooms, cleaner facilities, and larger common space to meet as a group. One student said, "Witzig Hall is really small and cramped." The choice of residence hall is a powerful context for learning because the hall is the place where the LLC forms its identity and the community environment. Given that physical learning spaces play critical roles in enabling or deterring community, it is essential that educators

reevaluate the role of physical space as a way to improve student learning and engagement in community (Stassen, 2003).

Residing with Non-ELLC and Non-Engineering Majors

The fourth theme that surfaced was the inclusion of non-ELLC and non-engineering majors into the residence hall ELLC floor. There was a common sentiment that the Engineering Living and Learning Community program did not support, aid, or assist the students in making connections with peers outside of the ELLC. One student said, “I did not have the chance to interact with people outside of the ELLC or engineering community.” Another student added, “The ELLC did not improve my connection to others greatly.” The students in the focus group seemed to recognize the value in living with engineering peers, however, many suggested non-engineering roommates or suitemates to be mixed into the living quarters. A majority of the focus group participants recognized the importance of befriending peers outside of the ELLC and the engineering major, and many ELLC students expressed their interest to live with non-engineering peers.

While a majority of the focus group participants adamantly supported the addition of non-ELLC and non-engineers into the living quarters, it is important to note that two students vehemently disagreed that this hybrid living situation be implemented for the 2010-2011 cohort. One student immediately chimed in:

Living with people who had the same major, focus, and goals you get to know people quicker. When you will be spending the next 3 to 4 years with people it is helpful to know they are available for help almost 24/7.

Another student added, “Knowing that if you ever got stuck on something you could ask your suitemates for help and double check your answers on homework was great.”

Yet the focus group participants expressed an inability to meet and interact with students outside of the engineering discipline due to their involvement with the ELLC program. One said, “It was a bit harder to meet people out of my major.” Another student agreed saying:

While it was nice to live with all engineers, I feel that they are the only people I know. I felt a little isolated in a way that I didn’t get to become better friends with people from other majors and I can’t relate to others as easily.

Lack of Peer-to-Peer Relationships

A theme that became evident very early in the focus group was the lack of peer-to-peer relationships. “I recognize a lot of people from the ELLC and know most of them by name, but I am not very close with all of them,” said one student. A majority of the focus group participants shared this sentiment. Many of the students identified roommates or suitemates that may or may not be a part of the ELLC program as friends, but acknowledged other participants of the community as merely members of the same residential community group, not friends per se.

It is no secret that the engineering discipline can be very challenging. Without a lot of room for free electives, feeling connected to peers can be crucial in terms of support and student development for the participants. One said, “Most of my classes are locked in. I had to pick certain classes that interfered greatly with the schedule I really wanted.” This is commonplace for many engineering majors, not only at VSU, but also in many schools around the country. The engineering disciplines do not allow for much class registration freedom, so being able to be around a supportive peer network can make a big difference in terms of enjoying the courses and is crucial to the success of a residential learning community.

A majority of the focus group participants did not build strong connections with peers despite residing on the same floor and taking identical courses. “I knew some of the people, but since I did not live with them, my relationships were not as strong with everyone.” Another student added, “I could have gotten to know people better. The program needs more meetings and social events which would have helped me build stronger relationships with my peers.” The lack of meetings and social programming components of the program tended to be repeated throughout the focus group discussion. “I got to meet some people in the ELLC, but I felt I really was not able to meet everyone because of the times of the meetings.” Another student said, “Since I could not make it to many meetings I did not get to know many of the members besides my roommate.”

Peer-to-Faculty Relationships

The sixth theme that emerged during the focus group discussion was the strong relationships between the ELLC participants and the ELLC faculty. “I felt more comfortable talking to my professors and a lot of them already knew me because I was involved in the ELLC program before I even started my first class.” It was clear from the discussions that the ELLC increased students' interaction and relationships with faculty. The participants seemed to agree that their participation in the Engineering Living and Learning Community was extremely valuable in terms of building relationships with the engineering faculty and staff. “My participation in the ELLC definitely improved my opportunities to interact with professors. By going on trips and having meetings with the professors, I was able to form a better relationship with them.” Learning communities are strengthened when faculty choose to actively participate, and when communication is facilitated between students and instructors (Zhao & Kuh, 2004). The ELLC provided the

foundation for these relationships to form and continue to grow throughout the participants' college careers at Virginia Smith University. "I feel like I have started to develop good relationships with some of my professors and the staff in the Engineering Building," said one student.

Academic programming was a large component of the ELLC experience. Most of the academic events were hosted by ELLC faculty. This out-of-the-classroom programming allowed the students to build unique relationships with the faculty. A trip to the Tech Park gave the students a sneak peek into what the junior and senior engineering student projects looked like. They also got the opportunity to spend out of class time with the professors. "On the tech park trip I got to see a more casual side of the professors which I liked." This particular activity was beneficial for everyone who was able to attend. "The tech park trip allowed us to interact with different professors we might not have interacted with otherwise." It was clear from the discussions that the ELLC increased student's interaction and relationships with faculty.

Connection to Campus

The last theme that emerged was the ELLC participants' strong association to the College of Engineering, but an obvious lack of connection to the Virginia Smith University campus. There was an overwhelming affirmation that the participants felt a strong connection to the Virginia Smith University College of Engineering, but did not feel a tie to the VSU campus outside of the College of Engineering. Many participants felt lost, isolated, or even cut off from the actual university and campus-life. One student stated, "I was connected to the Engineering School. I was not connected to [VS]U. I feel like an engineering student, not a [Virginia Smith] University student." Another said,

“The ELLC made me feel connected to the college of Engineering, but not the university as a whole.” A majority of the other participants in the focus group concurred, “The ELLC improved my belonging in the VSU Engineering program, but not so much to the actual university.” The focus group results were aligned with the results from the January 2010 survey (Appendix B), which concluded that 72.2% of participants disagreed that the ELLC increased their sense of belonging at VSU. Another 72.2% of participants disagreed that the ELLC had increased their connection to the VSU campus. And finally, 50% of the participants disagreed or strongly disagreed that the ELLC had increased their opportunities to become more involved in campus activities.

The current literature supports the need for students to feel a sense of belonging especially within a residential learning community context (Inkelas et al., 2006). Data that were collected in Cycle 1 indicated that ELLC participants did not feel connected to the Virginia Smith University campus and were not making sustainable or supportive peer relationships with other ELLC participants. The data noticeably reflected the need for the implementation of new programming that would foster a sense of belonging to the university and help forge sustainable and supportive peer-to-peer relationships with other ELLC members. Residential learning communities should provide a safe place, a smaller knowable place of belonging, in which students should feel valued (Tinto et al., 1993). According to Stassen (2003), conventional classroom practices fail to stimulate a sense of belonging to a college or university. The psychological sense that a student feels connected to a campus community is a necessary precursor to a successful learning experience (Pike, 1999).

2009-2010 ELLC Final Survey

The end-of-the-year final survey was administered in May 2010 (Appendix C) in order to illustrate the participants' perceptions of the freshman year experience and to examine their involvement with the ELLC to assess the extent to which the objectives and goals of the ELLC were met. The survey results provided feedback regarding the programs that were offered throughout the 2009-2010 academic year. One purpose of the end-of-the-year survey was to assess the extent to which students were satisfied with the academic and social programs in order to improve or eliminate specific programs. Those data results are presented in Table 2. The ELLC students offered their insight, feedback, and recommendations on each event. They also had the option to recommend or not recommend that specific programs be repeated for the 2010-2011 ELLC cohort, as shown in Table 3.

According to the data, many of the programs for the year had mixed reviews. For example, the beginning of the semester welcome meeting was the first program offered to the ELLC. The meeting was more than information. The event provided pizza and ice-breaker games were played so the students could get to know each other. Over 68% of the participants said they were completely satisfied or satisfied with the event (see Table 2), though one student indicated a somewhat satisfied and one student indicated a dissatisfied response. The ELLC meeting times were inconsistent, which contributed to the absence of 22.8% of the ELLC participants at the very important initial welcome meeting. The ELLC students who attended the event did overwhelmingly recommend (77.2%) that we bring back this program for the 2010-2011 cohort (see Table 3).

Table 2

2009-2010 ELLC Final Survey Program Satisfaction Evaluation (in percentages)
(n= 22)

Please rate how satisfied you were with the following programs...

Program	Completely Satisfied	Satisfied	Somewhat Satisfied	Dissatisfied	Completely Dissatisfied	Did Not Attend
Welcome Party	27.3	40.9	4.5	4.5	0	22.8
Study Guide Session	4.5	22.7	13.6	0	0	59.2
Clinic Tour	38.1	19.0	14.3	4.8	0	23.8
Campus Culture	14.3	28.6	19.0	0	0	38.1
Alumni Presentation	33.3	14.3	9.5	0	0	42.9

Table 3

2009-2010 ELLC Final Survey Program Recommendation Evaluation (in percentages)
(n= 22)

Please indicate whether or not you would recommend the following programs for next year's ELLC cohort.

Program	Yes - Recommend	No - Do not Recommend	N/A - Did not attend
Welcome Party	77.2	0	22.8
Study Guide Session	31.7	9.1	59.2
Clinic Tour	71.4	4.8	23.8
Campus Culture	52.4	9.5	38.1
Alumni Presentation	52.6	4.5	42.9

In October of 2009, a study guide session was presented to the ELLC students. One main objective of the ELLC was to provide academic support since the engineering major can be extremely challenging. In order to retain students each year it is important

that the students feel socially and academically supported (Astin, 1993). The study guide session appears to have been somewhat effective for those in attendance. The survey indicated that 27.2% of the respondents were completely satisfied or satisfied with the program, while 13.6% of the respondents were only somewhat satisfied. None of the students who participated in the program claimed they were dissatisfied, however over half of the ELLC participants (59.2%) did not attend the event (see Table 2). Again, I believe this was due to the lack of a common meeting time. The majority of those who attended, though, recommended that we bring back this program, as shown in Table 3.

In November 2009, the students took a tour of the Junior/Senior Clinic projects. The survey indicated that 57.1% of the respondents were completely satisfied or satisfied with the event. Only 14.3% of the respondents claimed they were only somewhat satisfied. A small percentage (4.8%) reported they were dissatisfied with the program. Additionally, 23.8% of the ELLC participants did not attend the program (see Table 2). The survey results indicated that 71.4% of the respondents recommended that we bring back this program for the 2010-2011 cohort, as shown in Table 3.

In January 2010 the ELLC participants received a Campus Culture presentation after an assessment of the January 2010 survey was analyzed and indicated a need to expose the participants to on-campus activities and organizations. Of those who attended, 42.9% of respondents indicated that they were completely satisfied or satisfied with the program. A few students (19%) claimed they were somewhat satisfied with the program. No one was dissatisfied with the event, however 38.1% of the students did not attend the program (see Table 2). Over half of the ELLC students (52.4%) recommended that we bring back this program for the 2010-2011 cohort, as shown in Table 3. It is important to

note that while students did enjoy this event, the data revealed that the timing was not appropriate. The feedback indicated that a presentation on campus culture and happenings should have been implemented within the first month of the academic year.

In April of 2010, some of the VSU engineering alumni came to campus to talk to the students about life after graduation. As with all of the events and programs during the pilot year, slightly over half of the ELLC members attended the program. Survey results indicated that 47.6% of respondents were completely satisfied or satisfied with the program; while 9.5% were somewhat satisfied. No students indicated dissatisfaction with the program. Almost half (42.9%) did not attend the event (see Table 2). Over half (52.6%) of the respondents recommended that we bring back this program for the 2010-2011 cohort, as shown in Table 3.

Leadership Application

My personal leadership goals were documented regularly in my journal entries throughout Cycle 1. My writings often referred to my espoused leadership theories and the ways I tied the various traits and characteristics of transformational and servant leadership (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002) styles into Cycle 1 of this action research project. In one entry I noted:

Never forget that a successful residential learning community hinges on developing relationships with others. Change will often fall flat if meaningful, trusting relationships are not built. Effective transformational leaders understand that relationships are crucial to implementing successful and sustainable changes in an organization.

While working with the ELLC advisor, I remained focused on listening and suggesting ideas for programs and events. I avoided pushing my opinions or agenda on

Dr. Howard. I wanted to ensure that the changes that were going to be implemented in the program were a shared, collaborative effort.

During Cycle 1, I learned that building relationships, staying positive, and displaying my emotions came naturally to me. I would often have conversations with people not connected with VSU or my research, and they would note how passionate I seemed about the research. I used to believe that putting my enthusiasm on display was an indication of my lack of maturity as a young professional. I thought that if I displayed too much emotion when I interacted with others, especially upper administration like a dean or department chair, that I would be perceived as young or inexperienced. However, as I reviewed my journal entries, I became aware that others were calling me refreshing and innovative. As a transformational leader (Barbuto, 2005; Conger, 1999; Spreitzer et al., 2005) I understood the importance of looking at old problems in new ways (Goleman et al., 2002). After this reflection I began to appreciate the discussions about my research without being self-conscious that others had preconceived notions about me based on my age or the zest that I had for a student-centered learning model.

These positive early interactions with people who were directly involved with the Engineering Living and Learning Community set an encouraging tone for the study. I learned that the organizational culture of the Engineering Living and Learning Community, although in its infancy, was very open to change. The climate seemed to be collaborative and supportive. It was clear that the focus of the ELLC was on the students, and absolutely nothing else. This program was set up with several goals and objectives to help minority, female, and low-income students stay in the major and eventually

graduate from VSU with an engineering degree. Everyone involved seemed invested in that mission.

I strategically solicited the support of key stakeholders in order to accomplish several objectives. First, I wanted to share my knowledge of residential learning communities and the ways in which these LLCs could dramatically enhance the participants' overall satisfaction with their college experiences. This way the stakeholders would be able to recognize, appreciate, and support the goals and objectives of my study. Secondly, I wanted to build relationships in order to establish a shared vision (Fullan, 2001) and allow the stakeholders to take ownership for the success of the program. And finally, I wanted to promote my vision to improve the community with the best interests of the participants in mind so that they could benefit from the most effective and valuable community experience possible.

My transformational leadership (Barbuto, 2005; Conger, 1999; Spreitzer et al., 2005) characteristics were most constructive during Cycle 1 of this study. It was clear from my journal entries that my need to make connections, build relationships, and seek a shared vision (Fullan, 2001) amongst all the stakeholders was evident throughout this cycle. Although my study did not hinge on stakeholder backing per se, it was important to me to gain their trust, support, and feedback prior to implementing the changes to the community. The collaboration and support that I received from the engineering administrators, faculty, and the ELLC advisor contributed to my self-assurance and motivation to re-calibrate and improve the community. It was very rewarding to me that the stakeholders valued my research and bought into my vision without hesitation. Garnering this type of cooperation was unexpected and exhilarating. Transformational

leaders inspire a shared vision (Bryant, 2003), which involves the leader offering a means for people to develop commitment and a common goal (Bass, 1990). It was very important for me to hear what others had to say about the community and to listen to their suggestions and feedback. This study was not about my vision, it was about implementing changes that would be supported by all the stakeholders so that the ELLC participants would benefit in every way possible from their involvement in the community. Transformational leadership is about implementing new ideas and continually improving the people around them (Leithwood & Jantzi, 2000).

I believe the success of Cycle 1 was a direct result of my leadership characteristics and my ability to infuse and implement the plan, act, observe, and reflect (McTaggart, 1997) model in order to successfully implement new programming. I was able to create a vision, design the blueprint to implement this vision, and gain support (Fullan, 2001) from key stakeholders in order to accomplish my purposes for the spring 2010 semester. Attaining these objectives was necessary in order for the change process (Fullan, 2001) to successfully transpire.

My transformational and servant (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002) leadership characteristics throughout this cycle were documented in my journal entries. In one entry I noted:

A leader's vision needs to be shared by those who will be involved in the realization of the vision. As a transformational leader I believe that the changes that will be implemented to the program should come from the feedback from the 2009-2010 cohort. This study is not about changes I want to see, or changes I believe will make a difference. This change project is about shared vision.

I used students' feedback in the focus group and the quantitative results on the end-of-the-year survey, in designing Cycle 2, the community for the 2010-2011 cohort. The newly redesigned calendar of events, I believe, was a true reflection of a

shared vision based on the feedback and data collected from the ELLC participants and stakeholders.

In servant leadership (Greenleaf, 1991, 2002), foresight is a characteristic that I could clearly see in this cycle of the study. Having foresight is the ability to understand lessons from the past, the realities of the present, and the likely consequence of a decision in the future. According to Greenleaf (2002) this is deeply rooted in the intuitive mind. In a journal entry after the focus group I wrote:

After listening to the ELLC participants in the focus group and connecting their experiences with my own LLC experience when I was a freshman in college I really believe that the changes they are suggesting are legitimate. After reflecting on their experiences and my own I think the 2010-2011 cohort are really going to benefit from these changes in the community.

During this cycle, listening, which is a crucial characteristic of servant leadership (Greenleaf, 1991, 2002), was important for me as a researcher and a leader. In the focus group I did not drive the discussion in a certain direction, provide my insight or opinions, and I did not finish the students' thoughts when they paused to find the words they wanted to say to convey their opinions. This does not come naturally for me. I really have to work on my listening skills because I often feel the need to empathize with people by giving advice, sharing a story, or filling in the blanks for the other person if they pause or have trouble conveying their emotions. Servant leaders make a deep commitment to listening intently to others (Greenleaf, 2002). As a servant leader I listened receptively to what was being and said (and not said) in the focus group discussion. The evening of the focus group I wrote in my journal that it was liberating to be a listener. I wrote:

I used to believe that being a leader meant standing tall in front of a crowd and telling them something – something inspiring, motivating, or compelling. Today I realized that sometimes being a leader is not about talking at all. It is about knowing when to close your mouth, open your mind, and listen to those around you.

As a servant leader I was committed to the growth and development of the ELLC participants. Greenleaf (2002) describes servant leaders as people who become personally invested to those they lead. I could see this in my reflections and interactions with the ELLC students. I journaled:

I am deeply committed to the personal and academic growth of each and every individual in the ELLC. I hope I can watch their maturation process and their personal growth and development over the year as a result of being part of the ELLC program. I hope that I can have an impact on their experience in a positive way.

As I reflected on my action research study, I became conscious that in Cycle 1, I was able to explore the experiences of the ELLC students from a multitude of perspectives. By utilizing a qualitative focus group and a survey, I could identify various patterns and themes through the eyes of the participants. While evaluating the data, I assessed my leadership skills through my journal entries. Transformational leaders are able to seek shared values among followers in order to build vision, relationships, and commitment (Barbuto, 2005; Conger, 1999; Spreitzer et al., 2005). As the leader of this change project, I had to connect and engage the ELLC participants through empathy and a patient ear. Servant leaders are able to listen and understand others and, in doing so, are able to construct meaningful relationships with those they lead (Greenleaf, 2002).

After conducting the focus group discussion in May 2010, I reflected on the experience in my journal. I wrote:

I have only been working with these students for five months. I was introduced to the community in the middle of their first-year. I am an outsider. I am not faculty or an administrator. I am not a member of the group. I am aware that my presence could be an annoyance or confusing for many of the participants. I was not sure how many students would agree to attend the focus group discussion. When the maximum amount of students signed up for the focus group my next concern was their trust in me. Would they take the discussion seriously? Would their responses be authentic? My fears disappeared as the focus group commenced. The students were very open and respectful of each other, of the process, and of me. I

listened intently. I was acutely aware of their honesty and their sincerity when providing feedback that would help shape the 2010- 2011 ELLC. It was the first time since I began my research that I felt like I was not an outsider. I felt like I was a part of the community.

Conclusion

This cycle was the foundation for my motivation, enthusiasm, and drive to make my vision of creating and implementing effective and sustainable changes into the ELLC program a reality. I took ownership and responsibility for nearly every aspect of the new social programming model. It was through collaborative inquiry (Heron, 1996) and constant self-reflection that I was able to implement the changes to the ELLC program for the spring 2010 semester. The subsequent cycle of this study was about satisfying the gaps based on the Cycle 1 needs assessment by implementing a new social component into the ELLC program. Toward the end of this cycle the redesigned and recalibrated social and campus-wide events and activities were implemented in order to help maximize the benefits of the community. This new programming model was intended to enhance the students' overall satisfaction with the community by increasing their connection to campus and building stronger peer-to-peer relationships.

Again, I have reflected that Cycle 1 was crucial to this study because it involved gaining the perceptions and feedback from the 2009-2010 ELLC cohort, evaluating the data, and using the results to implement change for the 2010-2011 cohort. The students from the pilot program were very open and honest about their experiences, both positive and negative, with the community throughout their first year of college. I think that we ultimately had a successful first year with the 2009-2010 ELLC cohort, but there was a lot of room for improvement looking forward to the 2010-2011 cohort.

Since I began this study mid-year, there was an adjustment period for me. I was an outsider attempting participatory research, while the students had already formed their community throughout the fall semester. To the students, my presence was out of the ordinary and probably strange. What the students did not know is that attempting to become a trusted member of the cohort in the middle of the year was equally strange and challenging for me. As a transformational leader (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002) it was important to me to make connections and build relationships (Fullan, 2001). I was on a strict timeline to form trusting relationships, collect data, and implement changes to the pilot cohort in a very small window of time.

Overall I felt confident that my transformational, servant leadership (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002) qualities were transparent and the students seemed very open to forming a connection with me. I was upfront and honest from the beginning that my purpose for working with them in early January was to make improvements to the community so that their spring 2010 experience with the ELLC would be successful. The students seemed to understand that by being honest with me in the focus group and on the survey that they were ultimately enhancing their own experience with the community. When the participants saw their feedback being translated into changes they wanted implemented into the program, they seemed more engaged, involved, and excited about the ELLC program and events. I believe that the 2009-2010 pilot cohort provided excellent data and feedback that helped make fundamental changes to the program. Their willingness to give both positive and negative feedback helped to shape the 2010-2011 cohort and

beyond. I believe these changes will benefit the future Engineering Living and Learning Community participants and will help to meet and exceed the objectives and goals of the ELLC program long after this study has concluded.

I employed both action and reflection in Cycle 1. I evaluated my responsibility and my espoused leadership theories-in-use. My aspiration for the students to feel engaged through relationships and campus connectivity was clearly aligned with my transformational and servant leadership styles (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002). I am a very caring and nurturing person, so it was clear to me that I was leading from a human resource frame focused on empowering and building meaningful relationships with others (Bolman & Deal, 2003). I took the opportunity when facilitating the focus group discussion to make connections, build relationships, and empower those I lead. It was clear from my journal entries throughout this cycle that I was being empathetic and compassionate toward the students involved in the ELLC community. I encouraged the participants to share their experiences, and to feel comfortable communicating their experiences, both positive and negative, to me without judgment.

My journal entries revealed my excitement and eagerness to implement the new changes into the 2010-2011 ELLC cohort. I was enthusiastic and ready to begin working on the programming model for the next ELLC cohort. I was eager to infuse my leadership traits and characteristics from the first time I would meet the new cohort. I felt excited and energized to try new programs, events, and activities with the 2010-2011 cohort in order to build stronger peer-to-peer relationships, help them to feel more connected to the

VSU campus, and repeat the peer-to-faculty connections that were obviously forged with the 2009-2010 ELLC cohort.

In another journal entry I became acutely aware that I embrace change rather than resisting it. This was somewhat startling for me, as I have resisted change aggressively in the past prior to my enrollment in the doctoral Educational Leadership program. After learning about change, the process of change, and the effects of change, I unknowingly forged a strong desire to lead a positive change myself! I noticed that this paradigm shift in thinking had a domino effect in my personal and professional life. From changes at work to adjustments in my personal life, both big and small, I was learning to find the positive influences that the changes could bring. It was empowering and fun to live in a new mindset where instead of having knee-jerk reactions or immediately passing judgment I was reflective, positive, and willing to embrace new ways of looking at old problems (Fullan, 2001).

This cycle evaluated and assessed areas of need so that the 2010-2011 cohort could be redesigned to enhance the ELLC community experience. Cycle 1 was a meticulous process of reviewing, evaluating, and researching the Engineering Living and Learning Community in its pilot year in order to assess the needs of the participants to improve the program. I completed an exhaustive review of the current literature on residential learning communities. I also thoroughly examined the literature regarding first-year engineering majors with an emphasis on minority, female, and low-income students. Additionally, I met with key stakeholders involved with the community in order to gain their feedback, perceptions, opinions, and support prior to making improvements to the community. Through meetings and interactions a shared vision emerged. I also

conducted a focus group (Appendix C) with the pilot ELLC cohort to gauge their thoughts, opinions, and feedback on their first year experience at VSU. Lastly, I collected and analyzed data from a survey I administered in January 2010 based on the ELLC participants' feedback on their experiences throughout the fall 2009 semester. In summary, my data collection exposed the need for more social programming to be incorporated into the ELLC calendar of events and the need for more opportunities for the participants' to gain a sense of belonging to VSU through increased involvement on-campus outside of the College of Engineering. These were the key objectives that I researched, re-designed and re-calibrated, and reflected on throughout Cycle 1. The subsequent cycle of this study reflected data from Cycle 1 in the redesign of the 2010-2010 ELLC program in order to fulfill the objectives of the residential learning community: easing the transition from high school to college, building peer-to-peer and peer-to-faculty relationships, and establishing a connection to the Virginia Smith University campus.

Chapter 6

Cycle 2 Analysis: (May 2010-November 2010) Redesign Fall 2010

Introduction

After the data were analyzed in Cycle 1, I spent the summer months (May 2010 - August 2010) reflecting (Hinchey, 2008; McTaggart, 1997) on that cycle and planning the calendar of events for the 2010-2011 ELLC cohort, based on the feedback from the pilot community participants. According to the Cycle 1 data, while some of the programs offered were well-received by the community, there was a need to add social events to the ELLC program. One of the objectives of the Engineering Living and Learning Community was to provide the ELLC participants the opportunity to achieve academically, personally, and socially. I kept this objective in the front of my mind as I was implementing improvements to the ELLC. The addition of more social programming was deliberate, and these events were not chosen at random. I understood that the social events needed to have purpose in order to improve the students' peer-to-peer relationships and peer-to-faculty relationships, and to assist students in forming connections to the VSU campus.

The Virginia Smith University College of Engineering aims to provide students with a well-rounded education that includes program offerings that are challenging and prepare each student for success after graduation. I wanted the community to reflect this vision whereby the ELLC events and activities would offer a variety of social, academic,

and campus-wide programming designed to help support the participants and assist in their overall satisfaction with their college experience.

The 2010-2011 cohort consisted of 22 students participating in the ELLC program. In Cycle 2 of this action research study I planned several programs designed to help the ELLC students, with a primary focus on social programming. A calendar of events was established over the summer of 2010. Events included a welcome pizza party, a study guide session, a Microsoft Excel demonstration, a volleyball game, and a wiffle ball tournament. As I show, I hoped that the addition of more social programs would be both beneficial and effective in meeting the objectives of the living and learning community.

The social activities allowed the students to interact with each other in a community atmosphere. These social events offered opportunities for the participants to interact outside of the classroom, which as the data indicate, increased camaraderie and was beneficial for many of the participants. The events scheduled for the fall 2010 were targeted to address the areas of need identified from the data collected from the 2009-2010 ELLC cohort. I intended to strike a balance between the necessary academic programming aimed to support the students academically and social programming designed to complement the participants' academic experiences with social interactions. With the assistance of the ELLC advisor, I partnered with several engineering faculty and guest speakers to develop the ELLC calendar of events for the fall 2010 semester. One of the challenges in establishing the calendar of events was finding the right balance of academic and social programming so that the students could develop the necessary

scholastic skills to flourish in the classroom and have opportunities to enjoy social events in order to build relationships with each other.

Redesign for 2010-2011 Cohort

The first, and one of the most important, changes implemented in the redesign for the 2010-2011 ELLC cohort was the implementation of a common meeting time. The ELLC faculty advisor coordinated with the VSU Registrar's Office to include a zero-credit, built-in meeting time into each ELLC students' class schedule. The meeting time was a mutually acceptable time that fit into nearly every participant's schedule. With the exception of a few students who had classes that ended slightly after the meeting start time or students with classes that began slightly before the meeting end time, all of the students were able to attend the ELLC meetings without interfering with their academic class schedule.

As the advisor of the ELLC and I were planning the calendar of events, our main objective was to get the students engaged and involved in activities outside of the classroom. The data from the 2009-2010 cohort indicated that many of the participants were unsure of exactly what steps to take to become involved in activities with their peers or on-campus. While each student's academic performance was a primary goal of the Engineering Living and Learning Community, we understood the numerous advantages and opportunities outside of the classroom that could contribute to each participant's academic performance and overall satisfaction with their collegiate experience. One of the objectives of this action research study was to explore how participation in the ELLC affected the students' connection to the Virginia Smith University campus. Involvement

is one of the best ways for students to associate and connect themselves with the university (Dunphy et al., 2006).

Virginia Smith University has over 75 student organizations on campus and hundreds of opportunities to get involved on the campus. When selecting the activities, events, and programs for the ELLC fall 2010 calendar of events, I was aware that the vastness of these opportunities might be overwhelming and could keep some students from committing themselves to activities outside of class. The ELLC advisor and I worked to offer a variety of programs on an assortment of topics ranging from an Excel tutorial session to a group volleyball game. We also decided to gather data on students' interests via an e-mailed survey in the summer of 2010 (see Table 4).

An interest survey (Appendix I) was e-mailed to the ELLC participants with 10 various social programming activities. In the directions the students were asked to choose the programs they were most interested in. After the data from the interest survey were collected and analyzed, we added several new social programs including a volleyball game and a wiffle ball game to the calendar of events. When selecting the programs for the ELLC, we used the feedback collected from the 2009-2010 ELLC cohort in Cycle 1, which indicated a need for more social programming and an interest survey (Appendix I) that was distributed to the 2009-2010 and the 2010-2011 cohorts via e-mail over the summer. We reviewed the programs that the students from the 2009-2010 cohort recommended and repeated those successful activities. We also added some additional activities based on the results of the interest survey taken by some of the 2009-2010 and 2010-2011 cohort members, as will be discussed. Although a majority of the events were optional, we wanted to select programs that would appeal to the students so that they

would choose to attend the activities because they wanted to get involved and not because they were forced to participate. Since the students involved with the ELLC were engineering majors, their free time was limited. By selecting desirable events we felt that the participants would get the most benefit from their involvement in the activities and would choose to remain active members of the community.

With the 2010-2011 cohort I decided to be more creative with the social aspect of the programming. Based on the feedback from the 2009-2010 ELLC community and the interest survey (Appendix I), I wanted try some new programming that would assist students in forming stronger peer-to-peer relationships, which is one of the linchpins of student success and their overall satisfaction with college (Astin, 1993; Pike, 1999). I understood that part of the fun of getting involved is trying new things. It was my hope that the hybrid of academic, social, and school-spirited activities would offer a variety of programs that would strike the appropriate balance to address each participant's needs.

I wanted to ensure that students would have the opportunity to get involved in a variety of programs. The calendar of events offered a plethora of activities, some repeated from the 2009-2010 ELLC cohort, and some new activities selected by the volunteers who completed the interest survey. Throughout the process of selecting what programs to reinstate and which to eliminate, I was hesitant to create a calendar full of new activities because I had not surveyed the entire 2010-2011 ELLC cohort about their interests. Only those who completed the interest survey were able to provide feedback on the new social activities. Although research shows that higher levels of involvement provide additional benefits, I was cognizant not to overextend the ELLC participants. As students majoring in an extraordinarily challenging discipline, I wanted to encourage

their engagement in various out-of-classroom activities without allowing these programs to affect their academics. With the exception of one program, the wiffle ball game, it became increasingly clear that the new built-in meeting time on all the ELLC participants' schedules worked well in increasing the number of students in attendance over the previous year.

Interest Survey

The interest survey results from the 2009-2010 and 2010-2011 ELLC cohorts provided feedback regarding what types of social programs should be offered throughout the 2010-2011 academic year. The ELLC students were also presented the opportunity to provide their program suggestions and recommendations for various events and activities; however no one volunteered any activity ideas via e-mail. The students were given two weeks to complete the interest survey.

According to the data, 100% of the respondents were interested in attending a welcome party, as seen in Table 4. Results indicated that 83.3% of the respondents were interested in a volleyball game. An off-site bowling trip received 66.7% approval from the respondents. A board game night was not a well-liked program idea with the respondents. Only 15.3% of the students who took the interest survey found the activity appealing. A wiffle ball game received a higher level of interest with 81.8% of the respondents choosing the activity. Another physical social program, an Ultimate Frisbee game, was recommended by less than half of the respondents (46.1%).

Table 4

Interest Survey (in percentages)
(*n*= 13)

Please indicate if you would be interested in attending the following events/activities.

Event/Activity	Yes	No	Response Count	2009-2010 cohort member responses	2010-2011 cohort member responses
Welcome Party	100	0	13	6	7
Volleyball Game	83.3	16.7	12	6	6
Bowling	66.7	33.3	12	6	6
Board Game Night	15.3	84.7	12	6	6
Wiffle Ball Game	81.8	18.2	11	5	6
Ultimate Frisbee	46.1	53.9	13	6	7
Ice Cream Party	100	0	13	6	7
Book Club	7.7	92.3	13	6	7
Bar-B-Que	63.7	36.3	11	5	6
Campus Scavenger Hunt	15.4	84.6	13	6	7

An ice cream party program was selected by all the respondents. Unfortunately, due to limited freezer space, Dr. Howard and I were not able to schedule an ice cream party for the fall 2010 semester. A book club was another suggested program, but only 7.7% of the respondents were interested in that activity. Over half of the respondents (63.7%) were interested in attending a bar-b-que. Dr. Howard and I originally scheduled a bar-b-que for the Welcome Party, but Dr. Howard needed to substitute this idea for a pizza party shortly before the start of the fall semester. Finally, a campus scavenger hunt was suggested but received a low level of interest (15.4%). Apparently the students participated in an on-campus scavenger hunt during their orientation. This may be the reason the program did not receive a lot of interest from the respondents. The students

were encouraged to e-mail the survey back to me with their own ideas for events and programs, but none of the 13 respondents offered original suggestions.

ELLC Fall 2010 Activities

Because the engineering major has such a heavy workload, the ELLC advisor and I were mindful of the participants' time. We discussed the number of activities and events at great length in hopes of striking a balance among the participants' class schedules, extracurricular activities, homework, and study time. After our lengthy dialogue, based on the interest survey results, Dr. Howard recommended one activity every two weeks so that the events would complement the students' schedules and not impede on academic or personal time. Due to midterm exams and the Thanksgiving holiday, we opted to leave November 2010 free of activities and events so that the participants could devote enough time to prepare for their exams.

The events offered to the 2010-2011 ELLC were:

- Welcome Party (September 1, 2010)
- Study Guide Session (September 15, 2010)
- Volleyball Game (September 29, 2010)
- Excel Workshop (October 13, 2010)
- Alcohol Awareness Program (October 27, 2010)
- Wiffle Ball Game/Homerun Derby (December 1, 2010)

I attended three programs, the welcome party, the volleyball game, and the wiffle ball game, and took field notes in my journal. I did not attend the Study Guide Session, the Excel workshop, or the Alcohol Awareness program, but debriefed with the event hosts and then journaled about those discussions.

Welcome party. The purpose of the Welcome Party was to allow the students to get to know each other and their professors prior to the beginning of classes. We aimed to make the event fun, with an icebreaker game and an interactive discussion on engineering with the participants' future faculty members. The overarching goals were to provide a comfortable environment in which students could get to know each other and gain a sense of belonging to the Engineering Living and Learning Community. By becoming familiar with each other and the faculty, and by learning about the objectives of the ELLC, the aim was for the participants to become committed and engaged in the community. The principle function of the welcome session was to positively kick off the academic year as a community. As the facilitator of the first icebreaker, my purpose was to implement an easy and fun get-to-know each other game that would put the participants at ease and get them talking to each other right away. As the name suggests, the purpose of the icebreaker game is designed to "break the ice" among the participants. I wanted to get these individuals united under a common purpose (Fullan, 2001). This icebreaker was especially important because the Engineering Living and Learning Community participants were from different backgrounds. It was a challenge to gain trust from people right away. I used the icebreaker as a way to unite the participants and help them to bond quickly in order for the group to form a community.

After Dr. Howard welcomed the students and provided some information about the Engineering Living and Learning Community, he asked me to begin the icebreaker game. I started the session by telling students my name, a little about myself, and my role in the community. I offered a little known fact about myself in hopes that the students would feel comfortable sharing information about themselves as well. My objective in

sharing personal information was to step away from my role as a researcher and become a participant along with the students (Greenleaf ,1991, 2002).

Once my introduction was complete I passed around small sheets of paper with three empty lines and directions for the icebreaker. I asked the students to write down three statements about themselves, but the catch was that one of the statements had to be false. When the group finished I randomly called two students to the front of the room to introduce themselves, and read off their statements. After one read the statement aloud, the other person would try to figure out which statement was false. I encouraged the group to be as creative as possible so we could get to know some interesting facts about each other. The icebreaker seemed to be successful. The roar of applause and laughter after some of the little known true and untrue facts were read aloud were both amusing and interesting. The group was able to get to know each other as individuals and the activity started the crucial interaction within the group that was necessary in order for the students to form connections and build relationships (Fullan, 2001; Goleman et al., 2002).

The next activity was an interactive discussion with the ELLC professors. Each faculty member stood in front of the ELLC participants and explained why and how they got into engineering. Some of the answers were humorous, for example, one professor explained that he got into engineering after his first time at an amusement park. He talked about his passion for rollercoasters and his quest for understanding how they worked. Another professor talked about his love for the environment. He told the students that he got into engineering to figure out ways he could get involved with renewable energy and sustainability in order to help the environment. The students seem amused and intrigued as they learned about how their professors got into engineering. When the faculty

finished with their stories, students were given the opportunity to give their reasons for entering the major. The students seemed eager to share their motives for choosing their respective major. Some came from generations of engineers, some identified their love of math and science, while others told elaborate stories of taking apart their toys when they were little to see how they worked and putting them back together again. Their stories were fascinating. The students were engaged and invested in the discussion. The participants were respectful of each other and did not interrupt or ignore whoever was talking at the moment. While listening to the faculty and students' talking about how and why they were pursuing engineering, I could sense the students were feeling comfortable talking to their future faculty members just minutes after they met. My journal reflected this sentiment:

Several of the students explained why they decided to pursue engineering. The faculty had just revealed their reasons, so it was refreshing to hear many of the ELLC students begin their rationale with, 'Like Professor [Jones] or Professor [Smith] or Professor [Howard], I enjoy understanding how and why things work the way they do...

Once each of the students finished sharing their experiences, Dr. Howard told the group to help themselves to pizza. Students could either eat pizza or leave the meeting. I noticed that all the participants stayed for pizza. The room was buzzing with discussion. I observed peers mingling with peers, participants talking to faculty, and students elaborating on the icebreaker game, or their reasons for getting into their major. The students were connecting with the ELLC faculty. They were able to relate to their professors in a comfortable environment. The ELLC participants mingled among each other and the faculty. It was truly rewarding for me to see such sincere and positive interaction within the Engineering Living and Learning Community.

It looked to me that the meeting was a useful opportunity for everyone connected with the ELLC program to meet. I journaled about this experience. I wrote:

The welcome pizza party was a great way to begin the semester. The students seemed engaged and connected to each other. I learned so much about each of the students from the ice breaker. They seemed to enjoy hearing fun facts about their peers. I watched as one student would mention that they were from out-of-state and others in the audience from far away would relate and yell out where they were from. I felt like I could see the seeds of potential relationships budding.

My initial reaction was that the event achieved the original objective: assisting individuals to form a community. I journaled about this experience after the meeting.

I wrote:

After working with college students for so long I am aware that when a commitment is over that most students race to the door like ants scattering after their hill has been destroyed. It was reassuring to see that when the ELLC students had the opportunity to leave after the informational portion of the meeting was over no one did. The students seemed really eager to get to know each other and to expand on their stories from the icebreaker game or the major discussion. Most of the faculty, who lingered for a long time after the meeting was over, left before the students! I feel very energized and enthusiastic about this initial meeting. I hope this event set the foundation in creating an effective community this year.

Study guide session. The next ELLC event was the Study Guide Session. For engineering students, especially first-year students, trying to find balance between personal time and academics can be a daunting task. Based on feedback from the 2009-2010 ELLC cohort in Cycle 1, it was clear that because of the course material and many projects involved in obtaining an engineering degree, finding the time and the right way to study was difficult. One of the ELLC professors volunteered to host a study guide session ironically entitled, "Surviving an Engineering Program."

I was unable to attend this event because of a conflicting commitment, but I received a summary of the activity, which was documented by the ELLC faculty host from Dr. Howard via e-mail. The program began with an icebreaker game. The ELLC

students were asked to introduce themselves to an ELLC peer they did not already know. Next, the ELLC professor engaged the class in a group discussion by asking the students which classes they were taking and inquired about upcoming exams.

The professor reviewed the importance of getting to class on time, being an active learner, and getting involved by participating actively in class discussions and labs. Absences were not going to get any student through the program. He highlighted the importance of working on assignments right away. The ELLC faculty member explained the importance of taking ownership of one's education and being responsible. He explicated that excuses would not be tolerated at this level and in this major. One of the objectives of the study session was to enlighten students about taking control of their own education by asking questions of the ELLC professors, tutors, and peers problems developed.

The ELLC professor reminded the students that engineering is difficult at times even for the most gifted of minds. Due to the amount of course material, the quantity of projects and labs, and the other required classes outside of the major, it was easy for things to quickly spiral out of control. In order to avoid this, the professor explained that it is up to each individual student to be responsible and stay prepared by meeting deadlines and expectations. He drove home the point that staying on top of everything involves a lot of effort from each student.

At the end of the session, the students were given a handout on study tips, emphasizing setting regular study and relaxation schedules, taking advantage of professor's office hours, and forming study groups. According to the ELLC faculty host, the program content was well received by the community. He explained that the students

were able to connect their experiences to the overarching themes and topics discussed in the presentation. The faculty host further explained how the ELLC participants gave their own tips and ideas for success in the major by volunteering their own study tips. For example, one student suggested using a planner or the calendar function on a cell phone to keep track of assignments.

Volleyball game. As a lifelong athlete I have experienced firsthand the positive effects of making connections and building relationships through athletic activities. Over the years I have learned that the word "TEAM" is merely an acronym for "Together Everyone Achieves More." Throughout my research on living and learning communities I have often found connections between LLCs and athletic teamwork. I believe that the concept of teamwork correlates to the success of a residential learning community. Coaches of victorious athletic teams often talk about working as one unit, as a unified team. Transformational leadership also relies on unifying organizational members (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002). Leading a united community with teamwork and unselfishness helps create the backbone of a great team; without a shared vision (Fullan, 2001), the community would merely be a group of individuals in the same room. I planned and implemented social programming involving teamwork to get the community working as one cohesive unit in order to achieve success in-and-out of the classroom.

The volleyball game was held at the Rec Center on the Virginia Smith University campus. This was the first time many of the students had stepped foot into the facility. Introducing the Rec Center to the students became a secondary objective of the program. During the game, I could see the participants openly encouraging and supporting one

another. The students engaged in friendly and playful communication with one another, as well as with the ELLC advisor and myself. I wrote in my journal about the noticeable mutual respect among the players despite ability or skill level. I wrote:

As I was playing volleyball with the students from the ELLC I was surprised by the support the students were giving to each other. Instead of grimacing when one student missed a volley the team would rally around that person and say encouraging remarks like, "You'll get it next time!" or "Nice try." I missed a few volleys myself and even I felt comforted by members of my team when I would hear these positive comments despite my inability to score a point or at least keep the ball in motion. Each game was full of camaraderie, enthusiasm, and support. It was a really fun event to be a part of.

Regardless of capability or athletic talent, there were individual contributions from each player; when one student made a skillful volley, or another was merely trying to keep the ball in bounds, every individual was recognized by their peers regardless of ability. During the first of several games, I observed a student who was having difficulty getting her serve over the net. I watched as game after game she still had not successfully served the ball. During the last volleyball game of the night, she took her final opportunity to serve the ball over the net. The first attempt was unsuccessful, while her second attempt flew through the air and nicked the net but did not actually clear to the other side. She was visibly upset that she had come so close to achieving her goal of properly serving the ball into play. When it was time for her team to shift positions and allow the other team to serve the ball several students began cheering her on and gave her as many attempts as she needed until the ball finally sailed through the air and over the net. Everyone began cheering or applauding her on a job well done. I wrote in my journal about my feelings while observing this level of support among the participants. I wrote:

The volleyball game was an excellent teambuilding event. The students were incredibly supportive of one another. Watching the student who was having difficulty getting her serve over the net, and challenging myself not to step in to encourage her to keep trying, was hard for me. I wanted to see her succeed but I

realized that I was not the only one who wanted her to accomplish her goal of getting the serve over the net. Both teams were cheering her on and rooting for her to get the serve right. Even though the ELLC was split into two competing squads it was obvious that we were all one team.

Although one team was clearly dominant over the other, there was a positive team environment in which the score became a gauge of when one game ended and another would begin instead of a competition. I thought the ELLC was working together as a team. They seemed committed to helping each other achieve goals. I journaled:

The ELLC participants are working together as a group. They find joy in accomplishing goals together. Their camaraderie during this event reminded me of the bond of a winning team not of a group of individuals being forced to interact with each other.

The volleyball game seemed to be an appropriate and enjoyable social programming choice. Everyone from the ELLC who chose to participate in the event had a positive attitude and displayed an exceptional amount of teamwork. The event provided the students an opportunity to interact and participate in a fun group activity in which each person contributed and relationships were strengthened.

Excel workshop. The third ELLC event was the Microsoft Excel demonstration. The purpose of the Microsoft Excel presentation and demonstration was to provide ELLC students personal attention and extra support with Excel. The engineering major requires application of this program in many of the core classes. This event provided the ELLC students with the opportunity to review the program and get individual attention as needed for specific functions of the program. The one-hour program presented the ELLC students with a thorough overview of Excel and its applications.

Although I was not able to attend this event, Dr. Howard sent me a detailed description of the program that was documented by the hosts. The event was a student-led program presented by the ELLC tutors. The program was a broad tutorial on the

functionality of the Excel program and how Excel will be applied to the student's current and future engineering classes. The student tutors who hosted the workshop were available to assist the ELLC students with answers to their Excel questions and advice on how to be successful in the engineering major.

Alcohol awareness program. The forth program was hosted by one of the ELLC Resident Assistants (R.A.) was entitled, "Knowing the Facts about Alcohol." The R.A. asked to present this program independently without the ELLC advisor or myself in attendance. After the program the R.A. e-mailed me a detailed account describing the event. The program was divided into two sessions. The first session was a Jeopardy-inspired trivia game about alcohol facts. The second session was entitled, "Mocktail Contest," where the students competed to concoct the tastiest non-alcoholic beverage.

The Jeopardy trivia session was intended to be a fun way to present the alcohol policy to the ELLC students. Since the freshmen had already been educated about how alcohol affects their health during one of their mandatory orientation presentations, the R.A. applied what the ELLC students already learned and connected their alcohol awareness to the policies and potential penalties of being caught at VSU.

The Jeopardy-inspired categories included questions regarding:

- Virginia Smith University's Alcohol Policy
- Virginia Smith University's Alcohol Penalties
- Judicial Authorities (Departments and Key Personnel)
- Facts About Alcohol
- College Alcohol Statistics

After the game concluded the R.A. Mocktail Contest commenced. The Resident Assistant hosted this fun activity in which the ELLC students created their own mock cocktails or “mocktails,” highlighting the point that alcohol is not needed to have a good time. The event was both educational and relaxing for the busy engineers.

The ELLC Resident Assistant explained to me that he thought the program was a success. Nearly all of the ELLC students participated in the trivia and mocktail programs. The students were actively engaged in the program and took pride in their non-alcoholic concoctions. This program was an excellent opportunity for the ELLC students to learn about campus policies and later apply what they learned in the mocktail activity.

Wiffle ball - Homerun derby. The final ELLC program of the fall 2010 semester was the Wiffle Ball Game/Homerun Derby contest. The wiffle ball game was one of the social events chosen from the interest survey based on the 2009-2010 and 2010-2011 programming preferences. Unfortunately the turnout was low. Only 5 out of the 22 ELLC students attended the event. One reason for the dismal attendance was the date of the event was close to finals. Since only five students attended, the wiffle ball game turned into a Homerun Derby Tournament.

The smaller group activity allowed for me to talk one-on-one with each of the attendees and get to know each of them better. The students who attended had a good time, although most of them voiced their displeasure with what they saw as the randomness of the ELLC programs and the lack of mandatory attendance. I wrote about the candid conversation with the students in my journal. I wrote:

Even though the students who attended the program had a good time it was obvious that they were frustrated at the lack of attendance. They complained that finals were coming up soon, two of them were planning on pulling all-nighters to get a paper done that night, and another one took off of his on-campus job to be at

the activity. Needless to say they found it unfair that others decided not to show up for an event they thought was mandatory. This was distressing for me because I wanted the events to be relaxing, fun, and entertaining for the students. I did not want the activities to seem like a chore. Dr. [Howard] and I did not want to force the students to attend every event and so we did not implement an attendance policy. I am going to discuss employing some kind of attendance measures with Dr. [Howard] for future activities.

Although the turnout was small, those who were there had a good time. The timing of the event may have been the reason for the lack of participation, but I detected the real problem was the lack of an attendance policy regarding the ELLC events and programs. The ELLC Advisor did not want to make every event mandatory, but with that flexibility came confusion about whether the students had to come to anything at all. Even though the attendance was problematic the program seemed fun for those in attendance. The conversations I had with the students who were at the event raised some concerns about attendance obligations and equity. I reflected on the attendance issue in my journal. I wrote:

It does not seem right to force the students to attend the physical social programs like wiffle ball but what is the alternative? Tonight those in attendance were not even able to play an actual wiffle ball game because we did not have enough students to form even one team. I do not want to punish the students for not attending every event, but Dr. [Howard] and I will need to find a balance between voluntary and forced participation. I want the students to want to attend events so making the activities obligatory rather than voluntary is contradictory to my feelings on building community.

Leadership Application

The Engineering Living and Learning Community was not just a group of students all majoring in engineering at the same school; they were a community of engineers, a team, and a family. These students were in the same peer group but they were very different. Some were minorities, some females, some low-income. The ELLC brought all of these students together during a very challenging time in their lives -

transitioning from high school to college, and living away from home for the first time. At the welcome party, these different individuals were all grouped together in a room with unfamiliar people in a new place. The purpose of the welcome party was also the biggest challenge of the event. We were bringing together people from different backgrounds and cultures and attempting to build a community. As a leader in this situation I knew I needed to get to the participants to get to know each other, know me, and that I needed to get to know each of them right away in order for the group to form a community.

As a transformational leader (Barbuto, 2005; Conger, 1999; Spreitzer et al., 2005) I tried to stay focused on meeting my objectives while keeping each of the individuals in mind as I decided on what type of icebreaker to implement. I internally reflected on the situation from various perspectives pondering the best way to create a relaxed environment for the participants so that each student felt comfortable contributing to the icebreaker game. I also aimed to create a lasting common sense of purpose (Fullan, 2001) among the group.

In analyzing my journal data, I found I was able to connect my espoused leadership theories, transformational and servant leadership (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002) in this cycle. I was not merely an observer, I became a participant. Greenleaf (2002) describes servant leaders as people who become personally invested in those they lead. I could see this at the welcome pizza party, the volleyball game, and at the wiffle ball game. I journaled:

I wanted to work with the students, collaborate, and show them that I care. I was overjoyed by the turnout and the teamwork at the volleyball game but equally as bummed that the wiffle ball game was a letdown. Regardless of the attendance levels I enjoyed participating with and among the students. It was exciting for me

to lead by serving the needs of others. I really enjoyed getting to know the students through participation in the activities.

As a transformational leader (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002), I aimed to inspire the participants to share common goals, a universal vision (Fullan, 2001), and to engage in a level of interdependence that required interaction and communication from each person. A flourishing residential learning community can only be successful if the participants have a shared vision and a common goal (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Fullan, 2001; Goleman et al., 2002). The ELLC students may be different, but their goals were the same. Each student wanted to achieve in the classroom and benefit from a fulfilling college experience.

Conclusion

Cycle 2 was a growing and learning experience for me personally. Following the plan, observe, act, and reflect (McTaggart, 1997) model, I kept reflecting on ways I wanted to change and improve the ELLC further. Even after the planning, observing, and action cycles were complete, the reflection phase continued to be a crucial element in making lasting changes (Argyris, 1990) to the ELLC program. This is the beauty of action research (Hinchey, 2008). I designed the fall 2010 ELLC calendar with the data from the 2009-2010 cohort results and the interest survey results from both cohorts, but, at the end of the day, not every program was a success despite my best efforts. Some of the activities we implemented in the fall 2010 semester worked, and some were not successful.

I understand that many first-year students have trouble adjusting to the demands of college-level education. The programs offered to the ELLC students were

implemented to help ease the transition from high school to college, to build relationships, and to connect to the VSU campus. Our programming efforts aimed to assist with the college adjustment by helping to create student and faculty relationships. The programming that was executed in Cycle 2 was meant to be a significant part of the first-year experience. In Cycle 3 of this action research study I collected additional data in order to redesign the Engineering Living and Learning Community program for the spring 2011 semester.

Chapter 7

Cycle 3 Analysis: (November 2010-January 2011) Spring 2011 ELLC Redesign

Introduction

In Cycle 2 of this study I implemented new social events into the Engineering Living and Learning Community programming model. The intention of these activities was to meet the objectives of the study: ease the transition from high school to college, build peer-to-peer and peer-to-faculty relationships, and increase the students' sense of belonging and connection to Virginia Smith University. The programming that was implemented in Cycle 2 aimed to increase the ELLC participants' overall satisfaction with their first-year experience. In Cycle 3 I collected both quantitative and qualitative data in order to redesign the ELLC as necessary, implement or modify scheduled or unscheduled programs to meet any new needs for the community, and make recommendations for the spring 2011 semester. This phase of the study included collecting data from a focus group (Appendix F), two surveys (Appendix G & M), and an interview with the two ELLC resident assistants (Appendix E). This large amount of data was thoroughly examined, coded, and analyzed for emerging patterns and themes (Glesne, 2006). The focus group, survey, and the resident assistant interview questions were all designed based on the analysis and reflection of the results discussed in Cycle 2 of the study.

In Cycle 3 of this study I assessed the effectiveness of these aforementioned objectives in the fall 2010 semester. Throughout this cycle I collected data from the ELLC participants, while concurrently outlining the redesign for the spring 2011

semester. I consistently wrote in my journal my reflections on the adjustments that had already been made and my plans for the future redesign of the program.

Data Analysis

Focus group results. I conducted a focus group (Appendix F) in December 2010 in order to assess the students' thoughts, feelings, perceptions, and the impact that the ELLC had on the students overall experiences in the fall 2010. Four males and one female attended the volunteer focus group, which lasted for approximately one hour. The focus group was audiotaped, transcribed, and coded. Questions were pre-determined prior to the group discussion, however the open-ended forum allowed for subsequent follow-up questions to be asked, if necessary, to further clarify responses (Creswell, 2003). The data that were collected and analyzed were utilized to make recommendations for the redesign and recalibration of the ELLC program for the spring 2011 semester.

The data from the transcribed focus group were exhaustively evaluated for emerging themes (Creswell, 2003). The themes that were uncovered and discussed in this cycle were (a) frustration with the lack of meetings and attendance policy, (b) addition of more varied academic programming pertaining directly to each engineering major, (c) introduction and exposure to on-campus engineering clubs and organizations, and (d) successful peer-to peer and peer-to-faculty relationships as a result of participation in the community.

Attendance policy and meetings. Similar to the data from the previous ELLC members captured in Cycle 2, the first theme that was uncovered was the students' clear frustration with the lack of regular meetings and the absence of an attendance policy. The 2010-2011 ELLC cohort still met infrequently despite the inclusion of a built-in meeting

time on each of their class schedules. The ELLC faculty advisor did not insist on a mandatory attendance policy, which impeded consistent attendance at the meetings, events, and activities. Since attendance was more or less optional, the programs, which were designed to satisfy and support the ELLC participants' needs and the goals of the LLC, tended to be hit or miss with the participants. It became progressively evident throughout the focus group that a clear majority of the students voiced their displeasure with the laissez-faire attendance policy and the sporadic scheduled meetings. During the discussion one student stated, "I didn't like how participation was not mandatory. I think that random meetings that aren't mandatory caused a lot confusion." Another student added:

At the first Wednesday meeting I thought the meetings would be mandatory which I was fine with. I wouldn't have minded meeting every week or every other week. I don't think that's too demanding. If the meetings are optional a lot of engineers are going to opt not to come because we are busy. But if the meetings were mandatory and the times were built into our schedules we were confused about having to participate or not.

This reoccurring theme was also identified in Cycle 2 of this study. It became gradually evident that the students craved stability and structure in the program. The participants wanted to have regular weekly or bi-weekly meetings in which the attendance policy was clear. All of the participants agreed that the meetings were too infrequent and the relaxed attendance policy was confusing and frustrating to the ELLC members.

All of the participants acknowledged the absence of regular group meetings. The participants articulated that the ELLC meetings were intermittent and there seemed to be resentment amongst the group that some students attended all the events while others did not attend any. Several students mentioned that they were aware of a few students who

attended only one ELLC meeting or event and that it went completely unnoticed by administration. One student commented, "If given the choice I bet no one would come to some of the activities. A lot of us found it unfair that some people attended a lot of events while others came to just one."

Varied academic programming. The second emergent theme was the addition of more varied academic programming pertaining directly to each engineering major. Virginia Smith University offers four engineering degree concentrations: mechanical and environmental, electrical and computer, civil, and chemical engineering. The students in the focus group felt the academic programming was too broad in nature and was not tailored to each specific major. For example, one of the well-attended academic programs offered in the fall 2010 was a session on Microsoft Excel. One student commented, "Half of the group already knew Excel so we were bored during that program. I think we should choose our activities or get the chance to make suggestions on what programs we want to learn about." Another student added, "I learned Excel extensively in high school. I would have wanted to see more academic programming where we could have all participated in a non-classroom engineering project." In the focus group a student said:

The academic programming was a little boring for me. As an engineering major I wanted to do engineering related projects. It would have been cool to team up with some of the sophomore engineering students and hear what they had to say about the [Virginia Smith] engineering program from their perspective. Maybe we could have built something together or done a project together. That would have been better than watching a demonstration on Excel or listening to study tips.

Engineering clubs and organizations. The third theme that emerged from the data was the students' desire to be introduced and exposed to on-campus engineering clubs and organizations. Virginia Smith University supports five engineering clubs: AICHE (Chemical), ASCE (Civil), ASME (Mechanical), IEEE (Electrical), and SWE

(Society for Women Engineers). One student said, “I went into a ASME meeting and I felt awkward and out of place. Everyone just looked at me. I tried to find a seat but I felt uncomfortable so I just left.” Another student commented, “I agree. It would be great if all of the engineering clubs could present a little about their organization at one of our meetings. I want to join IEEE but I have no idea when they meet.” A third student commented:

I was disappointed that the ELLC did not introduce us to the various engineering clubs on campus. I really wanted to get to know ASCE but I was not going to just walk into a meeting on my own. It would have been nice to have a representative from each club come to an ELLC meeting to introduce the organization and invite us to come check it out.

The focus group participants were actively engaged in a conversation about the various engineering clubs and what they had heard about each of them. One club builds a robot, another a car. After a few minutes listening to the students converse and debate back and forth about each club, I regained order and moved on to the next question. It was clear, however, from their enthusiastic discussion about the engineering clubs that there was a definite interest in building bridges between the ELLC program and the on-campus engineering clubs.

Successful peer-to-peer and peer-to-faculty relationships. The final emergent theme was the success of the students formulating peer-to-peer and peer-to-faculty relationships. There was an overwhelming affirmation that the participants felt connected to each other, despite the inconsistent meeting schedule, and felt connected to the ELLC faculty members. One student said:

I liked the ELLC because you met people right away that were involved in your majors. My suite had three engineering majors. We helped each other with homework. We had clinic together so we would remind each other about homework assignments.

Another student added, "I do like my clinic teacher, he has helped out a lot. He has been more than helpful."

In such a challenging discipline peer support is crucial (LaVine & Mitchell, 2006). According to Dr. Howard, engineers at Virginia Smith University have their four years of college mapped out from their first semester through graduation. Without the possibility of fitting in a variety of stress-free electives, peer and faculty relationships become extremely crucial. The participants in the focus group responded favorably to the peer and faculty support they received during their fall semester. One student said, "I really liked clinic because we got to work together as a group. I got a lot better at writing labs because of our teacher. We had a really good relationship with the professor."

Another student added, "My first semester of college would not have gone as smoothly if I wasn't living with my peers and going to the same classes. It was really helpful."

2010-2011 ELLC fall semester survey results. In addition to the focus group, I administered a survey (Appendix G) to the Engineering Living and Learning Community participants at the conclusion of the fall 2010 semester. The survey explored participants' perceptions of their freshman year experiences and their involvement with the ELLC, and to assess whether or not the objectives and goals of the redesign of the community were met. The survey was available online via Survey Monkey and was completed by 21 out of 22 ELLC students at the end of December 2010. The survey format used Likert-scale questions in order to gain feedback from the participants on their ELLC experience. The purpose of the mid-year survey was to assess the students' overall satisfaction with the ELLC experience in the fall 2010 semester. The data that were collected in this phase were utilized for the redesign recommendations for the spring 2011 semester.

During Cycle 3, I assessed the ELLC program based on the calendar of events, peer-to-peer and peer-to-faculty relationships, and finally campus connectivity. I carefully reviewed the data that were collected and analyzed the results. Based on the information I received from the ELLC participants, I recommended ways to improve the ELLC community for the spring 2011 semester. The data from the survey are shown in Table 5.

Table 5

2010-2011 ELLC Survey Results (in percentages)
(*n*= 21)

Question:	Strongly Agree	Agree	Disagree	Strongly Disagree
My involvement in the Engineering Living and Learning Community improved...				
my transition from high school to college	0	68.2	31.8	0
my adjustment to academic challenges	9.1	72.7	18.2	0
my ELLC peer-to-peer relationships	31.9	54.5	13.6	0
my ability to form a network of peer support	18.2	72.7	9.1	0
my peer-to-peer relationships with engineering students outside of the ELLC program	13.6	77.3	9.1	0
my ability to get to know other ELLC members	18.2	77.3	4.5	0
my opportunities to interact with [Virginia Smith] University engineering faculty and staff	4.5	63.7	22.7	9.1
my opportunities to interact with [Virginia Smith] University faculty outside of class	18.2	59.1	18.2	4.5
my connection to the [Virginia Smith] University campus	0	90.9	9.1	0
my sense of belonging to [Virginia Smith] University	13.6	77.3	9.1	0
my opportunities to become more involved on-campus	4.5	68.2	27.3	0
the quality of my overall experiences at [Virginia Smith] University	4.5	68.2	27.3	0

The results indicated that 90.9% of respondents agreed that they felt more connected to the Virginia Smith University campus as a result of their involvement in the Engineering Living and Learning Community. In terms of the participants' transition from high school to college, 68.2% of respondents agreed that the ELLC helped to ease their transition from high school to college. Another 81.8% of the ELLC participants strongly agreed or agreed that their participation in the community helped with their adjustment to academic challenges.

Results indicated that 86.4% of respondents strongly agreed or agreed that the Engineering Living and Learning Community improved their peer-to-peer relationships with other ELLC members. Another 90.9% of respondents agreed that the ELLC had increased their network of peer support. Furthermore, another 90.9% of respondents agreed that the ELLC increased their ability to get to know other engineering students outside of the Engineering Living and Learning Community program.

The survey results in table 5 indicated that 68.2% of respondents strongly agreed or agreed that the Engineering Living and Learning Community helped build their connections with the engineering faculty. Another 77.3% of participants strongly agreed or agreed that participation in the ELLC increased their opportunities to interact with Virginia Smith University engineering faculty and staff outside of class.

Survey results indicated that 90.9% of respondents agreed that the ELLC increased their connection to the Virginia Smith University campus (see table 5). Another 90.9% of respondents strongly agreed or agreed that the ELLC increased their sense of belonging to Virginia Smith University. And, finally, 72.2% of respondents agreed that the Engineering Living and Learning Community increased their opportunities to get

more involved in on-campus activities, and contributed to the overall quality of their experiences at Virginia Smith University in the fall 2010 semester.

Regarding their specific ELLC experiences, survey results indicated that 90.9% of respondents strongly agreed or agreed that they were satisfied with the social programming offered in the fall 2010 semester (see table 6). Furthermore, another 95.5% of ELLC participants strongly agreed or agreed that they were satisfied with their overall learning community experience.

Table 6

2010-2011 ELLC Overall Program Satisfaction Evaluation (in percentages)
(n= 21)

Statement:	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
Please indicate your level of satisfaction with your living and learning community experience.				
Satisfaction with the ELLC social activities	27.3	63.6	9.1	0
Overall satisfaction with your learning community experience	27.3	68.2	4.5	0

Resident assistant interview results. Leo Grimaldi and Melissa Jean Kelley (pseudonyms) were the Resident Assistants (R.A.s) overseeing the Engineering Living and Learning Community at Virginia Smith University. To better understand the roles that Leo and Melissa Jean (both were sophomore engineering majors) played in establishing community amongst the residents, I asked each of them about their positions as resident assistants. I conducted an interview with Leo and Melissa Jean in late December 2010 on the last day of the fall 2010 semester. The interview lasted

approximately one hour and was conducted in a private study room in the VSU library. The interview was audiotaped, transcribed, and coded for emerging themes (Creswell, 2003).

As R.A.s, Leo and Melissa Jean assumed major responsibilities in the residence hall, particularly in developing and fostering an environment that promoted comfortable and safe living arrangements, academic support, and personal growth. Leo and Melissa Jean supported these initiatives in their roles as R.A.s for the Engineering Living and Learning Community, but had additional responsibilities because they were serving a unique community designed with an emphasis on academic success in engineering. Throughout our interview, several themes were uncovered. Although neither Leo nor Melissa Jean participated in a LLC in the past, they articulated their understanding that learning communities are designed to help increase the involvement and connections between peer relationships, faculty interaction, and out-of-classroom social interactions. The themes that emerged throughout the interview were (a) the significance and relevance of being engineering majors (b) the value of establishing community and making connections with the ELLC students in the residence hall, and (c) the importance of R.A. sponsored programming.

Significance of R.A.s majoring in engineering. The two R.A.s, especially Leo, had been extremely communicative, responsive, and available at all times for me throughout the fall 2010 semester. Leo and I would often exchange e-mails about the community, particularly on the topics of programming and community involvement throughout the semester. During the interview I was surprised to hear that both Leo and Melissa Jean admitted that they were not originally selected as the Engineering Living

and Learning Community R.A.s. They were both wait-listed and two other R.A.s were selected to supervise the community. Equally as astonishing, the two former R.A.s that were selected for the positions were not engineering majors. I was particularly surprised by this, because Dr. Howard and I had lobbied for the ELLC elected Resident Assistants to be engineering majors. Thankfully, for reasons unknown to either Leo or Melissa Jean they each received telephone calls a few days before the summer R.A. training that they were selected off the waiting list for R.A. positions with the Engineering Living and Learning Community. Dr. Howard and I had no knowledge that this switch occurred or the identity of the original R.A.s. We did not have any bearing on the decision to hire Leo or Melissa Jean, in fact, it was not until the R.A. interview with the ELLC Resident Assistants that we became aware that the R.A. selection process had unfolded this way. Regardless, Dr. Howard and I were extremely pleased with Leo and Melissa Jean's contributions to the community. We both felt that it was an asset to the community that both Leo and Melissa Jean, second-year engineering majors, could identify with the academic challenges the participants faced throughout the year. We felt this provided an additional level of support to the participants and was crucial to the learning community environment.

Leo and Melissa Jean shared their experiences with their transitions to Virginia Smith University from high school only one year before they became R.A.s. of the ELLC program. Both students discussed their hardships with feeling insecure and lost in the competitive engineering environment. Melissa said:

I graduated first in my class from my high school then suddenly here I was just another smart kid in engineering. I got through the first semester because my roommate was from the same town as me, otherwise I don't know how I would have survived my first year. My R.A. my freshman year was not an engineering

major so she did not get why I was stressed all the time. I really felt like she couldn't relate to me so I never went to her for help or advice. I feel that I could relate to the ELLC students' struggles in the beginning, so it was important for me to reach out to them from the first day and let them know I was here for them.

Leo elaborated on the importance of being an engineering major when overseeing a learning community of people in the same challenging discipline. He said:

I was motivated to become resident assistant because I enjoy helping people. It feels great to know that you've helped a student to pass a tough engineering exam. No offense but I doubt other majors have any idea what it takes to pass an advanced physics exam.

Both Leo and Melissa Jean felt that having the same difficult and demanding major as the residents was a benefit to the students. They each elaborated on experiences with tutoring their residents, passing around old notes from similar classes, and knowledge sharing with the residents. Both Leo and Melissa Jean insisted that R.A.s and other VSU students outside of the major simply cannot understand how taxing any of the four engineering disciplines can be. Leo admitted the first year can be a shock, even for the brightest of students. Melissa agreed and said, "I would love to return as an ELLC Resident Assistant next year, but no matter where I am placed I think it is really important to these students that whoever is their R.A. is an engineer."

Building community and out-of-classroom connections. Leo and Melissa Jean were primarily responsible for taking the lead on helping the students to form a community inside the residence hall. The two R.A.s talked about the importance of the linked courses and commented on the way the students voluntarily formed impromptu study groups in the residence halls. According to Melissa, Witzig Hall where the community resided, lacked the necessary large and bright common space required for the ELLC students to study. She said:

I remember coming back to the hall after a night class and I saw two students in the hallway of our floor with their laptops doing a homework assignment and studying for a class. I ended up putting my bag down and sitting with them. We must have been talking loudly because a few minutes later a bunch of other doors in the hallway began to open and community members started to come out of their rooms and sat with us. About an hour later I noticed there was about fifteen of us all sitting in the hallway studying and sharing information. It went on for hours. I actually had to go into my room and get a power strip because we ran out of outlet space in the hallway for people's computers.

Leo and Melissa Jean shared the philosophy that building a trusting and inclusive community helped to support the Engineering Living and Learning Community objectives. Melissa said:

I really believe that I was able to build community on the floors and address specific student concerns. I let the students know that I was here to assist with their adjustment to college. I wanted to bring them all together socially so that we could form a family-like environment. Most of all, unlike their professors that have office hours for questions or concerns, I reinforced that I was there for them anytime day or night.

Importance of R.A. programming. The last emergent theme was the importance of the residence hall programming. Although Leo and Melissa Jean served as the supervisors, and essentially the leaders of the floor, in the interview they identified themselves as part of the ELLC team. The two ELLC R.A.s discussed the importance of their programs in order to meet the objectives of the community program. Both Leo and Melissa Jean wanted to promote programs that were conducive to the ELLC students' academic pursuits and personal growth while fostering a sense of community. The programming was established to support the community of minority, female, and low-income students in their everyday lives while achieving academic success in the engineering major.

The importance of R.A. exclusive programming with the residents was repeated throughout the interview. By R.A. exclusive I mean social programming without any

ELLC faculty or administration in attendance. Leo and Melissa Jean shared several stories with me about their connections with the residents through group programming and one-on-one interactions. Leo and Melissa Jean each sponsored one individual program and three group programs with other R.A.s outside of the ELLC on a variety of topics. Melissa said that the programs helped to establish relationships with her residents. Leo said, "The programming definitely helped the students to get to know each other a lot better." According to Leo and Melissa Jean one of the most important factors in bonding the participants of the ELLC together was executing successful programming. Melissa discussed the importance of the R.A. sponsored programming without the inclusion of ELLC faculty or administrators. She said:

The R.A. programs were about me and the residents. I became someone that the residents could relate to and know they could trust. I believe I earned the respect of the residents because the ELLC students felt comfortable coming to me for help with sensitive issues that they were experiencing. I think that if the ELLC administrators were always around then the students would associate my role with that of an ELLC supervisor rather than their friend and someone they could come to.

Leo and Melissa Jean admitted that although their programming in the fall 2010 semester was successful, they were looking forward to making improvements and changes for the spring 2011 semester. Both Leo and Melissa Jean implemented separate programs throughout the semester, which were heavily attended by a majority of the residents, yet they admitted that they should have worked together on more programs.

Leo said:

The one thing I would change if I could was Melissa Jean and I should have collaborated on more programs in order to unite the students earlier. Sometimes, because our schedules were so hectic, I had my floor programs and she had her floor programs. The residents were free to attend any floor events they wanted but it ended up being *her* residents and *my* residents. It still all worked out in the end but we could have done a better job in working together to get all the residents together.

Melissa Jean agreed that separate programming was both counterproductive and more work. Leo and Melissa Jean decided that in the spring semester they would work to maintain open communication between each other despite their busy school schedules and implement more co-sponsored programs.

ELLC vs. non-ELLC experiences. In January 2011 I asked Dr. Howard to send an e-mail to all the freshman and sophomore engineering students at Virginia Smith University asking for their participation in an online survey (Appendix N) regarding their experiences at VSU. The students were asked to complete the survey within one week and were told their responses would be completely anonymous. At the end of the week, the results from 109 students out of 319 or 34% of the total freshman and sophomore engineering students completed the survey. The surveys were separated based on ELLC participants versus non-ELLC participants. Students who indicated involvement in either the 2009-2010 or 2010-2011 ELLC cohort were separated and compared to the non-ELLC population's results. The purpose of the survey was to determine if the students' involvement in the university was different for the students in the Engineering Living and Learning Community compared to those who did not participate in the ELLC program. The survey was taken by 72 males and 37 females. Of those 109 students, 50.3% were freshman and 49.7% were sophomores. Of the respondents 83% (90 students) were non-ELLC participants and 17% (19 students) of the respondents indicated their participation of one of the two ELLC cohorts. These numbers, while overall substantial, are not sufficient to compare the ELLC to the non-ELLC students on tests of statistical significance (Patten, 2002).

Results indicated that 87.5% of the Engineering Living and Learning Community respondents strongly agreed or agreed that they felt connected to the Virginia Smith University, compared to 66.7% of the non-ELLC respondents, as shown in Table 7. When examining transition from high school to college, non-ELLC respondents reported a smoother transition, the only variable with which they had higher levels of agreement.

Table 7

ELLC vs. Non-ELLC Experience Survey (in percentages)
(*n* = 109)

Statement:	Strongly Agree	Agree	Disagree	Strongly Disagree
Please evaluate your experiences at [Virginia Smith] University by indicating your level of agreement with the following statements.				
I feel connected to the [Virginia Smith] University campus. (ELLC respondents)	58.3	29.2	12.5	0
I feel connected to the [Virginia Smith] University campus. (Non-ELLC respondents)	46.4	20.3	33.3	0
I experienced a smooth transition from high school to college. (ELLC respondents)	28.3	47.6	19.3	4.8
I experienced a smooth transition from high school to college. (Non-ELLC respondents)	35.7	49.1	11.9	3.3
I have strong relationships with the engineering professors and/or faculty. (ELLC respondents)	45.8	41.7	12.5	0
I have strong relationships with the engineering professors and/or faculty. (Non-ELLC respondents)	3.6	21.7	55.4	19.3
I have built strong relationships with other students in the College of Engineering. (ELLC respondents)	68.3	22.7	4.5	4.5
I have built strong relationships with other students in the College of Engineering. (Non-ELLC respondents)	41.7	45.2	11.9	1.2
I am satisfied with the overall quality of my experiences at [Virginia Smith] University (ELLC respondents)	37.5	54.2	8.3	0
I am satisfied with the overall quality of my experiences at [Virginia Smith] University (Non-ELLC respondents)	27.3	63.6	6.7	2.4

Forming relationships with faculty and peers was a goal of the Engineering Living and Learning Community. Survey results indicated that 87.5% of the Engineering Living and Learning Community respondents strongly agreed or agreed that they had formed strong relationships with the engineering faculty (Table 7). On the contrary, only 25.3% of non-ELLC respondents strongly agreed or agreed that they had formed strong relationships with the engineering faculty. Similarly, survey results indicated that 91% of the ELLC respondents strongly agreed or agreed that they formed relationships with other engineering students, while, 86.9% of non-ELLC respondents strongly agreed or agreed that they had formed relationships with other engineering students.

Finally, the survey asked about satisfaction levels. According to the results, 91.7% of Engineering Living and Learning Community respondents strongly agreed or agreed that they were satisfied with the overall quality of their experiences thus far at Virginia Smith University (table 7). Additionally, a higher percentage of ELLC students (37.5%) strongly agreed that they were satisfied compared to non-ELLC students (27.3%).

In summary, the survey results indicated that the students who participated in the Engineering Living and Learning Community reported they were connected to campus. The purposeful infusion of student-faculty programming in the ELLC seemed to increase student-to-faculty interactions, which can build stronger connections and relationships between the professors and ELLC students. Although the non-ELLC students seemed to have a smoother transition from high school to college, one reason for this result may be the population of students involved with the Engineering Living and Learning Community. The ELLC only admits minority, female, and low-income students. These

students often experience a more difficult transition into the major because the discipline is primarily composed of middle-class, White males (Zhang et al., 2004).

Furthermore, based on the data from the December 2010 survey, two-thirds of students agreed that the ELLC assisted their transition from high school to college. Based on the data, the changes that I suggested to Dr. Howard for the spring 2011 semester included the implementation of an attendance policy and pre-registration for the programs so that events with a low level of interest could be modified, cancelled, or changed so that the students interests and needs were being met.

Leadership Application and Assessment

As the fall 2010 semester commenced I was full of emotions. Although logistically speaking my study had concluded, which I was happy about, I also felt a sense of abandonment to the project, the students, and to the entire research process. I was constantly reflecting on my experiences throughout the study and was feeling a mixed sense of accomplishment and unfinished resolve. I imagine these two feelings, as different as they may be, are congruent with action research. In action research there is no definitive beginning, middle, and end; it is a continuous cycle of planning, observing, acting, and reflecting (McTaggart, 1997). Realistically I knew that I was still going to be affiliated with the Engineering Living and Learning Community, and I was going to continue assisting Dr. Howard and the students whenever necessary, but I realized that the action research paradigm had become indoctrinated into my life. I made changes that were going to impact others and I wanted to follow up and reflect on the impact of those decisions.

Cycle 3 helped me to realize that consistently engaging in deep reflection on the study, assisted me in cogitating on my leadership in a very profound way. This reflexive process was developmental for me. In the beginning I would have to consciously and methodically reflect on my decisions and experiences; however, over time reflexive thinking became innate and inherent.

I employed both transformational and servant leadership (Barbuto, 2005; Bass, 1990; Bryant, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002) styles in Cycle 3. I was making connections and building relationships with the students, which are important characteristics of effective transformational leaders. As a servant leader (Greenleaf, 1991, 2002), listening was crucial throughout the Cycle 3. I knew I needed to listen and be empathetic to each student. Servant leaders understand that in order to best serve those they lead, they must first listen and understand the needs of those they assist (Greenleaf, 1991, 2002).

Conclusion

The conclusion of my data collection was bittersweet. The last phase of the study was not only a benchmark for me academically, but was also a time of deep reflection and understanding that I had profoundly changed as a leader throughout the study. My desire was to continue with the plan, act, observe, and reflect paradigm (McTaggart, 1997) and prepare for the redesign of the spring 2011 semester, but I understood that my concentration needed to shift to making lasting change (Fullan, 2001) for the future of the program. I wanted to ensure that the Engineering Living and Learning Community would be institutionalized (Schein, 2004) and sustained (Fullan, 2001) in the College of Engineering.

The large amount of data that was collected in this final cycle showed that the ELLC program had evolved, improved, and met the objectives of the community. A majority of the participants' first-year experience at Virginia Smith University was enriched because of their involvement in the ELLC program. The objectives and goals of the community were realized. The ELLC program foundation was set and the groundwork for the program to develop, grow, and progress in the future was put in place. I am optimistic that the two-year development and progression of the pilot and subsequent ELLC cohort communities should stimulate and encourage a sustained and prosperous future for generations of minority, female, and low-income engineers at Virginia Smith University.

Chapter 8

Analysis and Implications

Introduction

This study tracked two Virginia Smith University Engineering Living and Learning Community cohorts from December 2009 to January 2011. Both cohorts were comprised of minority, female, and low-income first year engineering students who received a S-STEM scholarship. This action research study was designed to evaluate, assess, and improve the first-year Engineering Living and Learning Community experience using a mixed methods approach while simultaneously evaluating my leadership. The purpose of the study was to answer the following research questions:

1. In what ways did the Engineering Living and Learning Community contribute or ease students' transition from high school to Virginia Smith University?
2. How did the Engineering Living and Learning Community contribute to the participant's campus connectivity to Virginia Smith University?
3. How were the students' peer-to-peer relationships established, maintained, and affected as a result of participation in the Engineering Living and Learning Community?
4. How were the students' peer-to-faculty relationships established, maintained, and affected as a result of participation in the Engineering Living and Learning Community?

5. In what ways did my leadership qualities and characteristics develop as a result of my involvement with the Engineering Living and Learning Community?

The fifth research question regarding the evaluation and analysis of my leadership is answered in Chapter 9. The other four research questions are reviewed in this chapter.

Overview of the Study

Engineering Living & Learning Community (ELLC)

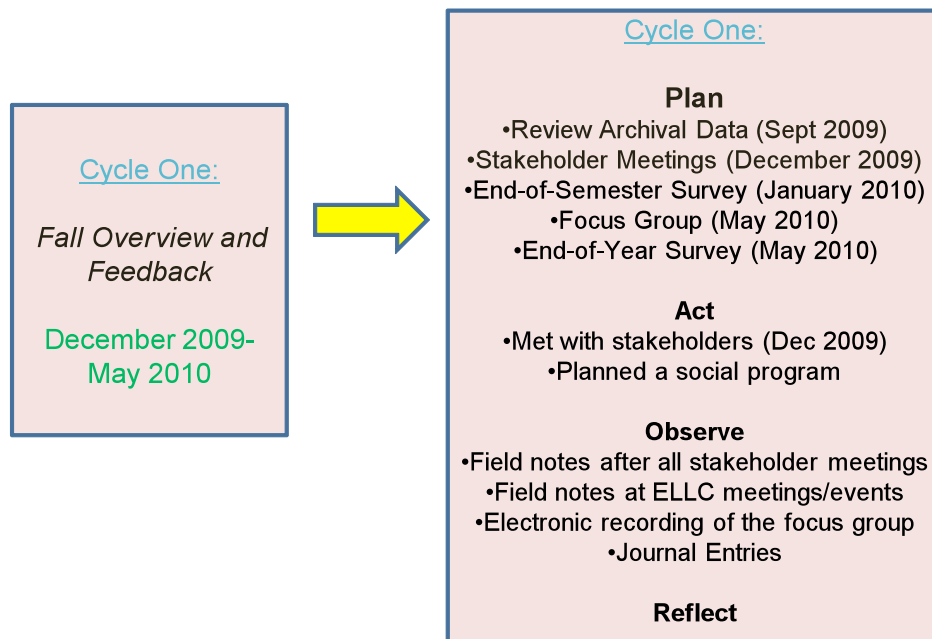


Figure 2. Cycle One Model

Cycle 1. Figure 2 is an illustration of the first cycle of action research in this study. Cycle 1 of the study assessed the pilot Engineering Living and Learning Community. This cycle was administered from December 2009 through May 2010. The

sample population during Cycle 1 consisted of 23 S-STEM scholarship awardees from the 2009-2010 ELLC cohort. I reviewed archival data collected during the fall 2009 semester based on a participant survey (Appendix A). I collected and analyzed past and current literature regarding residential learning communities with an emphasis on minority, female, and low-income engineering students. I analyzed my observations and field notes that were recorded during several stakeholder meetings. I conducted an evaluation of the ELLC program as a whole including the recruitment of members, the residential living arrangements, the calendar of events and meetings, peer-to-peer and peer-to-faculty relationships, and finally campus connectivity. I administered and analyzed a survey (Appendix B) to the ELLC participants in January 2010. The intent of Cycle 1 was to gain an overview of the ELLC program in order to improve the Engineering Living and Learning Community at VSU in the spring 2010 semester and the subsequent ELLC cohort in 2010-2011.

Based on the data collected, I was able to redesign the programming model for the Engineering Living and Learning Community for the spring 2010 semester. Since the data indicated that the students had formed strong relationships with the faculty throughout the fall 2009 semester, the purpose of the redesign in spring 2010 was to strengthen peer-to-peer relationships and help the students to gain a sense of belonging to VSU. These objectives had not received as much focus in the fall 2009 semester, therefore the redesign of the programming model aimed to fulfill these ELLC goals. I created more opportunities for the students to develop a supportive peer network of friends and encouraged the participants to take advantage of the multitude of opportunities to get involved on the VSU campus.

I recalibrated the spring 2010 ELLC programming model and assessed those programs via a focus group (Appendix C) and survey (Appendix D). The results from this mixed methods approach helped to determine what activities to repeat and which to eliminate in the fall 2010 for the new ELLC cohort. Also during Cycle 1, the recruiting process for the 2010-2011 ELLC cohort was in progress. I developed a recruitment letter (Appendix J), which explained the ELLC community objectives and potential benefits to the prospective student participants. When students accepted the scholarship, I sent out a summer informational bulletin (Appendix K), followed by a welcome/move-in letter (Appendix L).

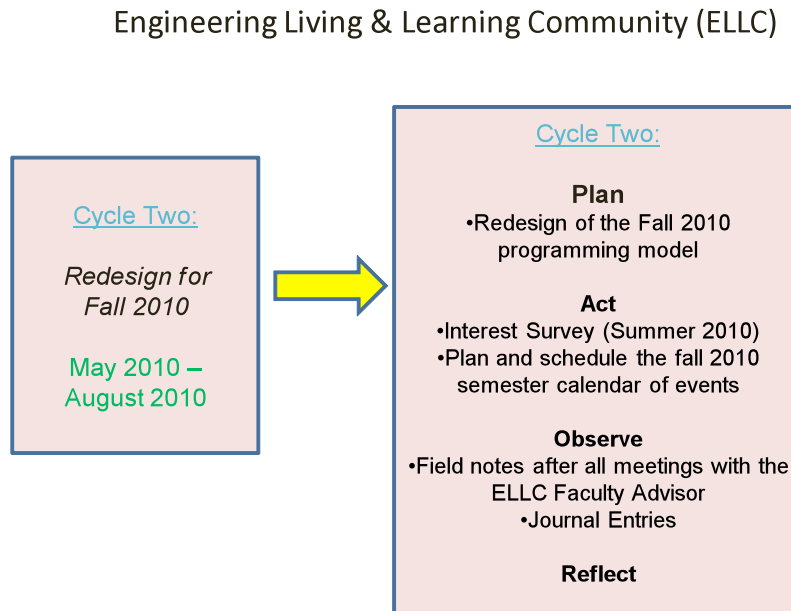


Figure 3. Cycle Two Model

Cycle 2. Figure 3 is an illustration of the second cycle of action research in this study. In Cycle 2 I utilized the summer months (May 2010-August 2010) to formulate a calendar of events for the subsequent Engineering Living and Learning Community cohort based on the feedback from the Cycle 1 focus group (Appendix C) and end-of-semester survey (Appendix D). In Cycle 2, an interest survey (Appendix I) was e-mailed to the 2009-2010 and 2010-2011 ELLC cohorts in an effort to collect feedback on various new programming events and activities. The results from this survey combined with the results from the Cycle 1 focus group and end-of-the-year survey helped to determine which new social programs to implement in the fall 2010 semester. Once the ELLC calendar of events was completed, it was sent to the 2010-2011 participants via e-mail. The e-mail contained the dates, times, and places for the meetings and scheduled events. In Cycle 2 I utilized all the data collected and analyzed from Cycle 1 and the interest survey results from Cycle 2 in order to entirely redesign the ELLC programming model. The new programming model was implemented in Cycle 2 and contained new programming in an effort to help ease the academic and social transition to college, build peer-to-peer and peer-to-faculty relationships, and help to connect the ELLC students to the VSU campus.

Engineering Living & Learning Community (ELLC)

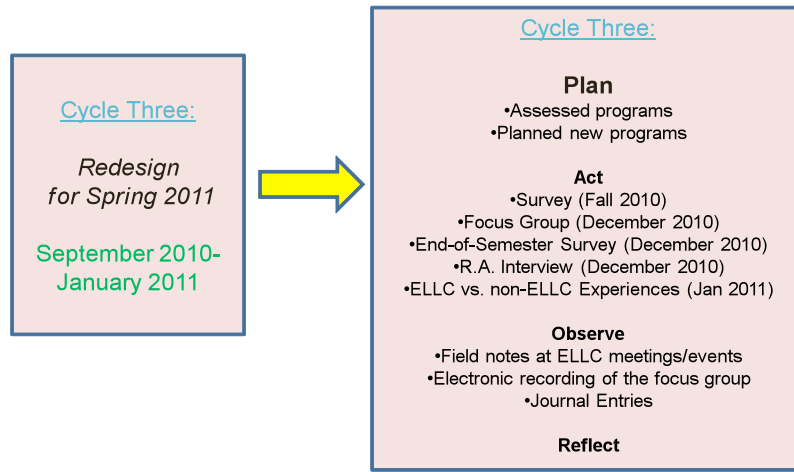


Figure 4. Cycle Three Model

Cycle 3. Figure 4 is an illustration of the third and final cycle of action research in this study. Cycle 3 took place from December 2010-January 2011 and was the final cycle of the action research study. This cycle included a focus group (Appendix F), an ELLC end-of-semester survey (Appendix G), Resident Assistant (R.A.) interview (Appendix E), and another survey (Appendix N) that was distributed to all of the freshman and sophomore engineering majors at Virginia Smith University. The purpose of the survey, focus group, R.A. interview, and larger engineering survey was to gauge the participants' development, changes in feelings or attitudes, and to gain valuable feedback in order to improve the spring 2011 experience for the ELLC participants. The results from the data in Cycle 3 were collected and analyzed in order to make recommendations for the spring 2011 semester.

Participants' Transition from High School to College

The first research question in this study explored the impact that the students' participation in the Engineering Living and Learning Community had on their transition from high school to Virginia Smith University. According to the data results from the surveys, focus groups, meetings, and informal conversations, the ELLC participants had an easier time adjusting to the college environment as a result of their involvement in the Engineering Living and Learning Community. Although each ELLC participant had their own unique experiences with their transition to college, a majority of both cohorts revealed that the ELLC program helped to ease their adjustment academically and socially to Virginia Smith University. Students indicated that the three biggest contributing factors that affected their adjustment to the college environment were the academic resources available to assist with the challenging workload, the importance of the linked courses, and peer relationships. These predominant themes emerged from the results collected from the data in Cycles 1, 2, and 3. These themes were aligned with past and current trends regarding minority, female, and low-income students pursuing engineering degrees in higher education (Zhang et al., 2004). Success for minority, female, and low-income students in the engineering discipline is a critical issue in higher education. The emergence of residential learning communities is an effective strategy in order to help ease the transition and academic adjustment into the major (Landis, 1991; May & Chubin, 2003; Youngman & Engelhoff, 2004). Although the non-ELLC engineering students who responded to the ELLC vs. non-ELLC survey (Appendix L) reported an easier transition to college, the residential learning community did help ease the transition from high school to college for the participants.

Transitioning from high school to college is a time of new academic demands, added social pressures, and developmental changes. The ELLC program was designed to emphasize the importance of addressing the specific needs of the participants to help ease the shift into the university environment. The transition to college does not happen magically, nor does it happen overnight. The transfer from high school to a university is complex process regardless of how prepared students think they are for college (Astin, 1993). As a leader in this action research study I understood that each ELLC participant was beginning a new way of life. An important aspect of my leadership focused on being accessible and available to the students whenever needed. The function of the community, the academic and social programming, and the linked courses were all intended to support each student's adaptation to Virginia Smith University.

ELLC academic resources. The first theme that emerged from the data regarding students' transition was the academic resources. For many first year students, college represents independence, exploration, and growth (Astin, 1993). In survey responses, 88.9% of the participants from the 2009-2010 cohort and 77.3% of participants from the 2010-2011 cohort reported that their involvement in the ELLC had increased their awareness of available academic resources on-campus. These results indicated that a majority of the students in both ELLC cohorts were aware and informed of various on-campus resources available to help them achieve academic success.

The Engineering Living and Learning Community academic programs were designed to connect the participants with resources on campus that could help to provide the academic and emotional support they might want and/or need during college. The objective of bringing awareness to the on campus academic resources was to help the

ELLC students' knowledge of the supportive on-campus organizations, departments, and resources available that would help encourage their academic success at Virginia Smith University. The goal in promoting the on-campus academic resources, which included private tutoring and exclusive presentations and demonstrations on engineering-related topics, was to connect the ELLC students with an additional level of support to help ensure their academic success throughout their transitional first year of college.

College is a period of intellectual stimulation and growth, increased autonomy, self-exploration and discovery, and social involvement (Brower et al., 2003; Elkins et al., 2000; Pike, 1997). One of the aims of the ELLC was to help each student find balance among their courses, assignments, outside work, extracurricular activities, and varied responsibilities, while adjusting to the newfound freedom the college environment supports. Since the transition to college is unique for each specific student, one of the objectives of the Engineering Living and Learning Community was to empower the participants to take responsibility for their own academic success. By bringing awareness to the multitude of on-campus academic resources available at VSU, the students became mindful of who and where they could go if they needed additional academic support. Having awareness of these on campus resources was crucial in participants' academic adjustment to college. In a focus group one student said:

My adjustment from high school to college was a lot easier because of my involvement in the ELLC. I learned how to set and reach my goals for school. The programs taught me how to improve my study habits and I always knew I could turn to my advisor or professors if I need help.

College is a time of change for students as they struggle with the first year of college, their academic responsibilities, and the temptations of the social atmosphere (Dunphy et al., 2006). During the transitional first year of college, students are making

countless daily decisions independently and it becomes increasingly more important that students feel they are supported, whether or not they are active in seeking out that support (Schroeder et al., 1999). I understood that the transition academically and emotionally could be extremely difficult. I journaled:

During the first year of college, the changes that the ELLC students may experience can occur quickly, as they begin to develop peer relationships, gain competency in new areas, and learn to manage their independence. It is important that I recognize that each participant will experience his or her own unique set of challenges and adjustments. I want to help the students recognize all of the on-campus resources that are available to them. The students need to know that there is support all around them and that we are here to help them achieve. I believe that this will help them adjust to college in a way that is comfortable and puts each student at ease.

The study guide programs implemented in Cycles 1 and 3 of this action research study were intended to give the students an overview of academic priorities, productive study habits, the available free tutoring services, and techniques on how to deal with stress. One ELLC student identified specific ways the program helped ease his transition to college. He said, "The faculty presenter encouraged us to form study groups or seek out help from the ELLC tutors." Academic adjustment takes time but most students will succeed with the right resources and support system (Seymour & Hewitt, 1997).

The students' GPAs were not reported as part of this study, so although some ELLC participants admitted to difficult academic adjustments to VSU, there were no data collected to support whether or not the participants' involvement in the ELLC did or did not contribute to their grade point averages. However, 88.9% of the 2009-2010 cohort and 81.8% of the 2010-2011 cohort reported that their involvement in the ELLC helped their adjustment to academic challenges.

The ELLC students had dual roles and responsibilities in and out of the classroom through their involvement with the program. The ELLC aimed to help the students

understand the resources and tutoring services available to them in an effort to make the academic course load feel more manageable. Dr. Howard and I, wanted to assume roles as leaders who sent a clear message that there were many on-campus resources available to help support the ELLC participants' needs.

Linked courses to ease the academic transition. The second theme that emerged from the data regarding students' transition was the linked courses. Since the students were familiar with each other through the linked courses and housing assignments, the classroom environment became a comfortable space where students could feel at ease speaking out in class. Moreover, the ELLC professors operated from a student-centered learning model, so the ELLC participants were engaged and took ownership of their own learning. The linked classes frequently brought the ELLC students together, which really helped their transition and adjustment to the new college environment.

The college workload in any major can be difficult for first year students to master, but engineering majors especially have the challenge of a higher than normal volume of work that can be incredibly intellectually demanding (Zhang et al., 2004). The challenge of a stressful workload during a time of transition can be exceptionally difficult. One of the purposes of the ELLC was to support the students during the crucial first semester of college. Although the students were becoming more autonomous during this critical first year, it was important for the participants to know that the ELLC faculty and administrators were there for them and available. Maintaining a supportive relationship (Fullan, 2001) with the participants was critical, particularly during the first semester, which is a heightened time of adjustment and transition for the students.

An overwhelming majority of the students from both cohorts cited positive outcomes relating to their transition to college as a result of the linked courses format.

One student from the 2009-2010 cohort in a focus group discussion said:

In high school I was in all honors classes so most of the students who I was in class with were the same people. This was one of the reasons I was so successful in high school because I was surrounded by the same people for a majority of my day. When I joined the ELLC I really did not realize the influence the linked courses would have on my adjustment. Thinking about it now I really feel like my transition from high school to college was so easy was because, like in high school, I was seeing the same people in all of my classes. It made the classes more fun and a lot easier. The adjustment from high school to college was not a big deal for me because I felt comfortable in my classes because I was surrounded by my friends.

The participants enjoyed having other ELLC members in the same classes and later studying with their peers in the residence hall, which made the adjustment to the college atmosphere easier. Cooperative and group assignments helped many of the ELLC students with their adjustment to the new workload the college environment promotes. Students were less satisfied with the linked courses that did not encourage collaborative assignments, which included physics, writing, and calculus (depending on the semester). Since collaboration with others was limited in these courses, many ELLC participants recommended linked classes with more group projects and the ability to work together on assignments. It is important to note that many of the ELLC students benefitted from having their clinic class together because there was a lot of group work and collaboration on lab projects, which helped to smooth the transition from high school to college. A student from the 2010-2011 cohort said, "I really enjoyed having clinic with my ELLC friends. For me, I think all of the ELLC courses should have a lab component because it made the adjustment to the new academic workload more manageable."

The Social Adjustment to College: Importance of Peer Relationships

The third theme related to the first research question was the importance of peer relationships on the participants' adjustment to college. Most parents and faculty mistakenly assume that the major obstacle in adjusting to campus life is academics. However, research shows that emotional issues are most likely to interfere with success at college (Tinto, 1996). Based on data that were collected from both the 2009-2010 and the 2010-2011 ELLC cohorts, students' transition to college was greatly enhanced as a result of their peer-to-peer relationships. The participants had access to various ELLC programming activities, which significantly affected their comfort with each other and the engineering professors. Students admitted that interacting with faculty and other students outside of the classroom was advantageous when making such a big change from high school to college life. The students acknowledged that these programs contributed to their adjustment to college. In the 2009-2010 focus group (Appendix C) one student said:

I really enjoyed the programming because it helped me to become familiar with other people in the ELLC group. It was easier to adjust to the college environment when I had so many friends from the community around me. I always had someone to help me with homework or studying and someone to eat with in the cafeteria. I got really close to some of the people in the community.

The Virginia Smith University Engineering Living and Learning Community sought to create strong peer-to-peer relationships in order to provide a high level of support and satisfaction with the participants' first-year experience at the university. Peer support helps to increase the success and retention rates of first-year students (Pike, 1997; Tinto, 1993). A student's social and interpersonal environments, including peer-to-peer relationships, are important factors in student persistence (Pascarella, Terenzini, & Hibel, 1978). Students involved in residential learning communities form relationships with

their peers that tend to influence social integration and can have a positive influence on retention (Tinto, 1993). Peer relationships can help with adjustment issues, academic performance, on-campus involvement, grade point averages, and persistence (Kanoy & Bruhn, 1996). Learning communities that encourage and support peer relationships help the participants to acclimate to campus and develop personal, academic, social, and cultural experiences through programming and guidance (Arboleda et al., 2003; Dunphy et al., 2006; Gabelnick et al., 1990; Schussler & Fierros, 2008).

The literature on students' adjustments to college indicate that a major influence on the transition from high school to college is the creation of a network of peer support. Throughout this study, the ELLC peer relationships did assist in the participants' transition to Virginia Smith University. The ELLC developed and fostered peer-to-peer interactions that seemed to have a positive impact on participants' adjustment to college. The familiarity of the ELLC students and the frequency of contact among them, in linked classes, at activities, programs and events, and while residing in the same residence hall all provided a heightened level of involvement among the community members. This frequent interaction among the community members stimulated peer-to-peer relationships, which ultimately assisted in the students' transition and adjustment to VSU.

In the 2010-2011 ELLC cohort focus group (Appendix F) one student said:

We were always around each other in class, in the hall, and on campus so it was easy to make friends. For me, the friendships I made with some of the ELLC members made the adjustment to college easy and fun. My relationships with the other people in the community helped make the transition into my first semester of college really enjoyable.

The peer-to-peer relationships the students developed and maintained as a result of their involvement in the Engineering Living and Learning Community helped them to become more comfortable in the new college setting. Especially for students in

underrepresented populations, having a strong peer network is one of the most pivotal aspects of integrating oneself into the college landscape (Maton, 2000). Since the ELLC was comprised of minority, female, and low-income students, who are considered the underrepresented groups in the engineering major, coupled with the fact that they were thrust into an unfamiliar environment, creating supportive peer-to-peer relationships to help ease the transition to college was one of the primary goals of the study. In the 2010-2011 ELLC cohort focus group (Appendix F) one student said:

There are not that many girls in engineering at [Virginia Smith]University but in the community it feels like there are a lot of us. I got to become really good friends with a lot of the guys in the ELLC but it is always nice to have other females around who can relate to each other.

Throughout this study students were encouraged to form peer relationships with other ELLC members, but were not alone in that process. Through the ELLC programming, the linked courses, and the housing assignments, the ELLC students developed friendships with their cohort peers which helped to ease their transition from high school to college. In the 2009-2010 focus group discussion one student said:

Living in such close proximity to one another, seeing each other in class, and running into each other on campus helped us to become close friends. For me, I assumed the first semester of college would be a huge struggle in adjusting to the new workload and college life but living together and attending the same classes helped me to become friends with my neighbors. We were all in the same classes so we could help each other out and relate to what each other was going through. This made the leap to college, in my case, so much easier. I would say that I had no problems adjusting to college. I actually had a harder time fitting in and feeling adjusted in high school than I did here.

Connection to Campus

The second research question in this study explored the impact that the students' participation in the Engineering Living and Learning Community had on their connection to the Virginia Smith University campus. According to the data, results from the surveys,

focus groups, meetings, and informal conversations, the ELLC participants felt connected to campus, the VSU College of Engineering, and to the residential learning community as a result of their involvement in the Engineering Living and Learning Community.

Students indicated that the two main themes that affected the participants' campus connectivity was the ELLC programming that exposed the students' to the available on-campus activities, and the participants' involvement in on-campus events, clubs, and organizations outside of the ELLC programs.

Connectedness to a university campus is the students' general sense of feeling supported and accepted by peers and faculty in a university, as well as a sense of commitment, engagement, and belonging to the institution (Blackhurst et al., 2003). Effective residential learning communities that engage and encourage campus connectivity have been linked to a variety of positive academic and social outcomes (Knight, 2003; LaVine & Mitchell, 2006; Pike, 1997). More specifically however, campus connectivity has been defined as a student's sense of belonging to a school community, and feelings of being cared for by other members of that school community (Kuh et al., 1991).

Part of the intent of the ELLC was to develop students' campus experiences and provide resources that otherwise would be difficult for members of the community to discover on their own, similar to previous studies (Lenning & Ebbers, 1999). Students involved in successful living and learning communities feel a sense of belonging to a close-knit community regardless of university size (Pike, 1999; Schroeder et al., 1999). This study employed a mixed methods approach through an action research design to investigate the extent to which the participants in the community felt connected to the

Virginia Smith University campus because of their involvement in the ELLC program. The experiences and perceptions of both the 2009-2010 and 2010-2011 ELLC cohorts were explored through surveys, focus groups, and informal conversations with the goal of understanding how their perceptions and behaviors contributed to their overall sense of belonging to the university.

Campus connectivity through ELLC programming. The first theme that emerged from the data regarding students' connection to campus was the Engineering Living and Learning Community programming. The participants' involvement in the ELLC did contribute to their campus connectivity. Student involvement outside of the classroom, particularly in on-campus activities, has been linked to students' learning and development, as well as persistence and retention (Astin, 1993). Students involved with LLCs seem to possess an advantage over non-residential students in terms of getting involved in some aspect of campus life, and moreover, this contributes immensely to a student's social integration within the institution (Pike, 1999). Since the students who participated in the ELLC spent so much time within the university community, the ELLC programming offered lots of opportunities to get involved on campus.

Results from the ELLC versus non-ELLC survey (Appendix N) indicated that 87.5% of the Engineering Living and Learning Community participants' strongly agreed or agreed that they felt connected to the Virginia Smith University, while 66.7% of the non-ELLC respondents indicated they felt a connection to the Virginia Smith University campus. The focus group and survey results indicated that the Engineering Living and Learning Community participants were connected to the Virginia Smith University campus.

One of the objectives of the study was to enhance the ELLC students' awareness and knowledge about on-campus activities, including, clubs, organizations, and VSU events. Student involvement outside of the classroom, particularly in campus activities, has been linked to students' learning and development, as well as persistence and retention (Blackhurst et al., 2003). The ELLC created a living and learning environment that encouraged the students to become involved on campus. The ELLC programs in Cycles 1 and 3 of this study promoted university sporting events, VSU clubs and organizations, and on-campus activities with the intention of developing an association and connection between the ELLC students and the VSU campus. On one of the open-ended questions on the 2009-2010 end-of-semester survey one student wrote, "The ELLC introduced me to various societies and organizations on-campus. I am involved in these clubs because of the Campus Culture program." On a similar survey (Appendix G) a student from the 2010-2011 cohort wrote, "The ELLC made me aware of different clubs on campus which made me feel a part of the campus community."

A majority of the participants in the 2009-2010 and the 2010-2011 Engineering Living and Learning Community felt connected to the College of Engineering and the VSU campus in a variety of ways. In a focus group in the fall 2010 semester, one student talked about how he specifically benefited from the increased levels of attention that was provided by the smaller ELLC community. He said, "I felt more comfortable to get involved on campus because the ELLC programs made it easy to make friends and do things outside of the engineering building."

There was a significant difference in feeling connected and a sense of belonging to the university between the 2009-2010 ELLC cohort and the 2010-2011 ELLC cohort.

The results from the end-of-the-year 2009-2010 ELLC survey (Appendix B) indicated that 72.2% of respondents disagreed that the ELLC increased their sense of belonging at Virginia Smith University. Additionally, the same percentage (72.2%) of respondents disagreed that the ELLC had increased their connection to the VSU campus. The redesign for the 2010-2011 ELLC cohort included new events, programs, and activities to promote and bring awareness to the multitude of on-campus organizations, activities, and programs on the Virginia Smith University campus. Results from the 2010-2011 ELLC end-of-fall-semester survey (Appendix J) indicated that 90.9% of respondents strongly agreed or agreed that they felt more connected to the Virginia Smith University campus as a result of their involvement in the Engineering Living and Learning Community. Furthermore, the survey results also indicated that 90.9% of respondents agreed that the ELLC increased their connection to the Virginia Smith University campus. Moreover, another 90.9% of respondents strongly agreed or agreed that the ELLC increased their sense of belonging to Virginia Smith University. There was a distinct increase in campus connection between the 2009-2010 ELLC cohort and the 2010-2011 ELLC cohort.

Gaining a sense of belonging through involvement. The second theme from the data that emerged regarding students' connection to campus was their involvement in on-campus activities. Since the students were familiar with the on-campus clubs, organizations, and events from the ELLC programs the participants felt more comfortable joining these campus societies thus creating a stronger sense of belonging to the university. Organizational memberships are important to academic success, especially for minority students (Mayo, Murguia, & Padilla, 1995). The ELLC participants articulated

feeling supported by the Engineering Living and Learning Community and the VSU campus environments because of their involvement in VSU sponsored activities.

According to the results of the surveys 50% of the 2009-2010 cohort agreed and 72.2% of the 2010-2011 cohort strongly agreed or agreed that their participation in the ELLC provided more opportunities to become involved in on-campus activities. Furthermore, 27.8% of the 2009-2010 cohort and 90.9% of the 2010-2011 cohort agreed that they felt connected to the Virginia Smith University campus. The 2010-2011 ELLC cohort identified their association in the ELLC program as the catalyst for the increased levels of connection as compared to the 2009-2010 ELLC cohort. Lastly, only 27.8% of the 2009-2010 ELLC cohort compared to 90.9% of the 2010-2011 ELLC cohort reported feeling a sense of belonging to Virginia Smith University as a result of their involvement in on-campus activities.

Understanding student perceptions and identifying how students make sense of their environment and make meaning of their interactions, their communities, and the institutional culture is essential in establishing a student's sense of belonging to the university (Knight, 2003). In the focus groups and informal discussions with the students, I listened to the ELLC participants' feedback to identify the ways in which the ELLC program could fill those needs and help encourage a sense of belonging to VSU. Between ELLC programming and students' individual commitment to on-campus events, clubs, and organizations, the participants were able to make a strong connection to campus and feel a sense of belonging to the university.

Peer-to-Peer Relationships

The third research question in this study examined the impact that the students' participation in the Engineering Living and Learning Community had on their peer-to-peer relationships. According to the data, results from the surveys, focus groups, meetings, and informal conversations, the ELLC participants' involvement in the community helped them to establish and maintain strong peer-to-peer relationships. Students indicated that the three foremost contributing factors that affected their peer relationships were the living arrangements, classroom collaboration, and the ELLC programming. These predominant themes emerged from the results collected from the data in Cycles 1 and 3.

Making friends with neighbors. The first theme that materialized from the data regarding students' peer relationships was the on-campus residential living arrangements. The participants' peer-to-peer relationships were established and maintained in part because of the pre-arranged housing assignments. Nearly all of the participants from both the 2009-2010 and the 2010-2011 ELLC cohorts claimed the residential component was pivotal in developing peer relationships. Since the students were housed on the same floor of the same residence hall, the participants were able to enjoy the benefits of having class together and living in the same community. The Engineering Living and Learning Community academic and social programming combined with in-hall R.A. sponsored activities offered a multitude of opportunities for the participants to get to know each other and build strong relationships. Both cohorts repeatedly highlighted the benefits and advantages of living with other members of the ELLC. A student from the 2009-2010

cohort shared her positive experience with the living situation during a focus group.

She said:

I made several great friends through the learning community. I met people right away during the dorm move-in. We all went to dinner together the first night and then we went back to the dorms and hung out all night long. It was cool living with the same people that I was going to class with.

A student from the 2010-2011 cohort said:

The most satisfying aspect of my experience with the ELLC was living with some of the people from the learning community. I ended up being lucky and getting people that I could co-exist with. We became great friends.

Research shows that LLC environments can change the quality of a student's overall college experience (Pike 1997, 2002; Schussler & Fierros, 2008). Furthermore one of the more critical benefits of the LLC environment is the creation of supportive peer relationships (Light, 2001). The living arrangements in the Engineering Living and Learning Community was one of the main catalysts in helping the ELLC students form peer-to-peer relationships. In the 2009-2010 ELLC cohort focus group (Appendix C) discussion one student said:

Living with members of the ELLC on the same floor was the most satisfying aspect of my freshman year. We decorated each other's doors and we constantly hung out in each other's rooms. I got close with my roommates, suitemates, and my neighbors pretty quickly. We were like our own little community on that floor. I am going to room with the same people again next year because we got along so well.

Peer relationships through classroom collaboration. The second theme from the data that emerged regarding students' peer-to-peer relationships was the development of those friendships through classroom collaboration. Since the students were in linked courses together the participants often worked collaboratively on group projects and lab assignments. This classroom collaboration was the foundation for many of the participants' relationships with their peers.

The linked courses format promoted collaborative learning among the participants and helped develop friendships among the students in the Engineering Living and Learning Community, which is similar to previous studies regarding LLCs (Inkelas et al., 2006). A student from the 2009-2010 cohort thought the linked courses were the catalyst for his peer relationships. He said:

I have always been pretty shy so I did not meet people in the residence hall or the programs in the beginning. Doing labs and projects in class got me talking to other members of the ELLC. Ever since the third or fourth class I got to know a lot of people that are now my friends.

A participant in the 2010-2011 cohort shared similar feelings about the linked courses. In a focus group she said:

I loved the clinic class because I got to work with ELLC peers on lab assignments. It is harder for me to interact with others socially. I tend to feel uncomfortable in the group programs, or maybe I just wasn't interested in the programs. Either way I enjoyed working together with people from the community in class. That was how I made friends.

Another student added:

I really enjoyed collaborating on labs and projects with other people in the community. I was paired with some people in the ELLC that I did not know on two different lab assignments. After we worked together we became really good friends. The group projects were fun and I was able to make friends with my lab partners.

Social programming benefits of the ELLC in building peer-to-peer

relationships. The final emergent theme related to the third research question was the importance of the ELLC social programming in building peer-to-peer relationships.

According to the data collected from the ELLC focus groups, surveys, field notes, and informal conversations the social programs helped to encourage, create, and build strong peer-to-peer relationships. The social programming included the ELLC sponsored programs, the R.A. hosted events and activities, and the ELLC meetings.

The Virginia Smith University Engineering Living and Learning Community sought to create strong peer-to-peer relationships in order to provide a high level of support and satisfaction with the participants' first-year experience at the university. Peer support helps increase the success and retention rates of first-year students (Pike, 1997; Tinto, 1993). Learning communities that encourage and support peer relationships help the participants to acclimate to campus and develop personal, academic, social, and cultural experiences through programming and guidance (Arboleda et al., 2003; Dunphy et al., 2006; Gabelnick et al., 1990; Schussler & Fierros, 2008).

The results from the fall 2009 end-of-semester survey (Appendix B) indicated that 44.4% of respondents disagreed that they had expanded their network of peer support. By the end of the spring 2010 semester, new programming was implemented to help establish and maintain stronger peer-to-peer relationships. The new social programming that was developed in order to create peer relationships was also implemented in the fall 2010 semester in order to help the 2010-2011 cohort create and maintain peer relationships more easily. Results from the fall 2010 end-of-semester survey indicated that 86.4% of participants strongly agreed or agreed that the Engineering Living and Learning Community improved their peer-to-peer relationships with other ELLC members. Another 90.9% of participants agreed that the ELLC had increased their network of peer support. Furthermore, another 90.9% of participants agreed that the ELLC increased their ability to get to know other engineering students outside of the Engineering Living and Learning Community program.

The results from the study indicated that students' active involvement in the ELLC programming was a strong contributing factor in their peer-to-peer relationships.

The 2009-2010 cohort findings provided valuable information on the importance of programming in establishing and maintaining peer-to-peer relationships. These results were then utilized to create the modified programming model for the 2010-2011 ELLC cohort, in keeping with the purpose of action research (Hinchey, 2008). Research has shown that residential learning communities that implement effective programming increase student retention, boost academic achievement, and enhance student involvement and motivation (Pike 1997, 2002; Schussler & Fierros, 2008).

The programming throughout the 2009-2010 and 2010-2011 academic years presented more consistent opportunities for students to interact with each other outside of the classroom setting, which enhanced their peer-to-peer relationships. The programs presented opportunities to increase the ELLC students' peer network. Those relationships offered more support within the challenging engineering major. Partnerships between and among students as a result of their involvement in ELLC programming helped to develop, strengthen, and maintain the peer relationships that collectively contributed to an encouraging community environment inside and outside of the classroom.

The results of the data from both ELLC cohorts revealed that the activities and events led to the formation of peer relationships. The ELLC programs emphasized interpersonal dialogue, collaboration, and experiential learning within the context of engineering; these programs helped the students to build peer-to-peer relationships that would lead to a larger supportive peer network inside of the community. In the spring 2010 focus group one student said:

I liked the programs and activities because those were the places that I really got to meet my friends. At all of the events I got to spend time with people in the ELLC. If it was not for the events I don't think I would have gotten to meet and hang out with as many people as I do.

Another student from the 2010-2011 ELLC cohort said:

The programs were my favorite part of my community experience. From the first welcome meeting to the interactive volleyball game I was able to see a side of my peers that I would not have taken the time to get to know before. I am friends with people who are different than me which is really cool because in high school I hung out with people with all the same interests as me. I can honestly say that I am friends with everyone in the group because the activities were like good forced interaction. The events made all the difference in me making as many friends as I have now.

A student's social and interpersonal environments, including peer-to-peer relationships, are important factors in student persistence (Pascarella et al., 1978).

Students involved in residential learning communities form relationships with their peers that tend to influence social integration and can have a stronger positive influence on retention (Tinto, 1993). Peer relationships formed by students involved in living and learning communities can help with adjustment issues, academic performance, enhance on-campus involvement, increased higher grade point averages, and persistence rates than for students not participating in a residential learning community (Kanoy & Bruhn, 1996).

Peer-to-Faculty Relationships

The fourth research question in this study examined the impact that the students' participation in the Engineering Living and Learning Community had on their peer-to-faculty relationships. According to the data results from the surveys, focus groups, meetings, and informal conversations, the ELLC participants' involvement in the community helped them to establish and maintain strong peer-to-faculty relationships. Students in cycle 3 indicated that they strongly agreed or agreed (77.2%) that the ELLC improved their relationships with faculty was interacting with professors outside of the classroom environment. According to the data, 88.2% from the 2009-2010 ELLC cohort

and 68.2% of the 2010-2011 ELLC cohort strongly agreed or agreed that the Engineering Living and Learning Community improved their opportunities to interact with faculty. One of the reasons the 2010-2011 ELLC cohort percentage was lower than the pilot program could be because data regarding peer-to-faculty relationships was only studied in the fall 2010 semester as opposed to the pilot program where the students were surveyed after knowing the faculty for a full academic year. Additionally, although the sample size was too small to test for significance, 87.5% of ELLC students compared to 25.3% of non-ELLC students reported building strong relationships with engineering faculty.

Interaction with faculty outside of the classroom. The singular emergent theme related to the fourth research question regarding the importance of interaction with engineering faculty outside of the classroom is the creation of strong peer-to-faculty relationships. According to the data collected from the ELLC focus groups, surveys, field notes, and informal conversations, the faculty sponsored or attended ELLC programs helped to encourage, create, and build strong peer-to-faculty relationships.

At Virginia Smith University, as with other institutions, the successful implementation of the Engineering Living and Learning Community required the coordinated and collaborative efforts of ELLC faculty members. A variety of student-faculty interactions can have a positive influence on student success during college and the inaccessibility of faculty can have a negative effect (Astin, 1993). Pascarella and Terenzini (1978) found that the range of student-to-faculty interactions was absolutely crucial, and non-classroom student-faculty contact may directly influence student success. Faculty members involved in living and learning communities tend to build

important mentoring relationships with the students, which can influence their academic achievement significantly (Gabelnick et al., 1990; Schroeder et al., 1999).

When developing the vision for the new programming model, I wanted to enhance the peer-to-faculty relationships. I understood how critical it was to facilitate interactions between the faculty and ELLC participants outside of the classroom setting. Research has shown that contact with faculty members outside the classroom has a multitude of benefits for students (Kuh et al., 1991; Pascarella et al., 1978). Programming such as the welcome party, the Tech Park trip, and the study guide session promoted personal contact between the ELLC participants and faculty members. In the spring 2010 focus group one student said:

I liked the programs where we got to interact with faculty outside of the classroom. I felt closer to my ELLC professors than the instructors not involved with the community. It was like we got to know them better by hanging out with them during the activities. I formed relationships with those professors and I now feel comfortable talking with them if I need extra help or if I want advice.

Another student from the 2010-2011 ELLC cohort said:

For me, getting to know the professors on a more casual level was really rewarding. From the first ELLC meeting we were able to connect with our teachers right away. I met them at the first meeting, then had them in class, and then got to see them at some of the community activities. A lot of my friends barely know their professors at all. I feel a real bond with the engineering faculty. I think that was the best part of the ELLC experience for me so far.

The ELLC faculty members were willing to collaborate with students outside of the classroom, which was very beneficial in forming the peer-to-faculty relationships.

The ELLC faculty understood that their contributions to the community were extremely valuable to the participants' outlook on feeling supported academically. One ELLC professor I spoke with said, "Working with the learning community reminds me that my involvement with the group is making a difference in their time at [Virginia Smith]."

From the faculty's perspective engaging with the students outside of the classroom was a pleasurable experience. I journaled about my informal conversation with an ELLC professor:

A faculty member told me that he thought his only contribution to the community would be on an academic level. He told me that he was surprised that the students really wanted to get to know the faculty on a personal basis. He said that he had a revelation when the students wanted to know how each faculty member got into engineering. The students were intrigued and truly interested in getting to know the faculty. This is one of the main reasons he agreed to get involved and host some ELLC programming events. He could see the importance of building relationships with the students outside of the classroom.

Culture and Change

Working with the Virginia Smith University Engineering Living and Learning Community was an amazing experience. Throughout my time with the ELLC the institution's culture played a fundamental role in the study's design, success, and reculturing process (Fullan, 2001). Fullan (2001) defines reculturing as a transformation of an organization's culture, not simply structurally speaking, but fundamentally changing the way that people act through critical inquiry and assessment and by implementing new ideas and practices into the organization regularly. According to Schein (2004) culture is defined as:

A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (p. 373-374)

In order to initiate change, leaders must first understand, recognize, and identify with the culture (Schein, 2004). In my capacity as a student, a researcher, and a participatory investigator at Virginia Smith University, I easily assimilated into the institutional culture. My own cultural understanding of Virginia Smith allowed me to see the university and student life from a variety of different perspectives.

ELLC initial culture. Cycle 1 was titled, "Design, Deliberation, Reflection, & Filling in the Blanks," because that phase of the study was the foundation for the change project during the pilot year for the Engineering Living and Learning Community. The ELLC, still in its infancy at the time, lacked the longstanding culture that many organizations have. Cycle 1 was the heart of the change project, because I was attempting to re-structure and re-culture (Fullan, 2001; Schein, 2004) a program that did not have an identity yet. I spoke to the key stakeholders and the ELLC advisor prior to implementing any changes to gauge their perceptions about the community and to explore their thoughts and feelings about the structure and culture of the community. As it turned out, the stakeholders and the ELLC advisor all bought in to the residential learning community concept, but since the community had just begun, they did not necessarily know if the ELLC program was effective in its mission.

Looking at the data that were gathered in the January 2010 survey (Appendix B), the 2009-2010 pilot ELLC was only achieving some of the objectives of the program. I analyzed the data from the survey (Appendix B) and the results indicated that in terms of peer-to-faculty relationships 88.2% of the ELLC participants strongly agreed or agreed that the ELLC afforded them the opportunity to interact with Virginia Smith University engineering faculty and staff. In terms of campus connectivity 44.4% of participants disagreed that they had expanded their network of peer support. A staggering 72.2% of participants disagreed that the ELLC increased their sense of belonging at VSU. Another 72.2% of the participants disagreed that the ELLC had increased their connection to the VSU campus. And finally, 50% of the participants disagreed or strongly disagreed that the ELLC had increased their opportunities to become more involved in campus activities

(see Table 2). In Cycle 1 it became clear that there was an existing culture of good academic programming that enhanced peer-to-faculty relationships, but there was a lack of social programming that was crucial in establishing strong peer-to-peer relationships and assisting students in making connections to campus.

The results of the survey indicated that, although the ELLC program was in its infancy, there was an identity and a culture that was established in the fall 2009 semester. The students in the program were clearly creating relationships with faculty, but lacked the fun, social programming elements that could unite the students, help them to form relationships, build community, and gain a sense of belonging to the ELLC, the College of Engineering, and Virginia Smith University. Moreover, the culture was an open, encouraging, and supportive climate in which stakeholders were willing to listen, provide their insight and feedback, and support changes to improve the program.

One of the most important benefits of these findings was that stakeholders' support of the ELLC program was crucial. The engineering administration and faculty encouraged the growth and development of the program. Everyone was positive and supportive of the implementation of new strategies to enhance the ELLC experience for the participants. I found the key personnel behind the ELLC were extremely helpful, willing, and eager to help improve the community if needed.

Fullan (2001) believes the reculturing process begins with top down change. Reculturing facilitates sustainable change through the development of standards and expectations which help to develop new culture or a reculturing in an environment (Fullan, 2001). Reculturing focuses on supporting changes that are implemented into the culture. To be effective, reculturing demands teamwork, commitment, and a shared

vision in order for the changes to be cultivated (Fullan, 2001). After assessing the original ELLC culture, I proposed and implemented changes to the program, which helped to reculture (Fullan, 2001; Schein, 2004) the community. I hoped these changes and reculturing would lead to positive outcomes in the ELLC program that would impact future cohorts for years to come. My realization that I could implement reculturing (Fullan, 2001) came after I carefully reflected on the VSU Engineering Living and Learning Community through the four frames (Bolman & Deal, 2003).

VSU, similar to many higher education institutions, primarily relies on the structural framework for the daily operations of the organization. With such a heavy dependence on this frame, I developed a clear structure appropriate to the objectives of the program and environment. I outlined specific goals when planning the development and implementation of new programs that would enhance the Engineering Living and Learning Community. I felt that this approach was constructive, because my objectives and goals throughout the action research study were clear and understood, which are important elements of the structural framework (Bolman & Deal, 2003). Structurally, I needed to re-organize the program to include social programming without impeding on the students' valuable personal time that was supposed to be dedicated to studying, homework, extracurricular activities, and personal time. Leading engineers with a heavy workload and ELLC programming expectations that were already taxing to the students proved to be a challenge. With the help of Dr. Howard, I accomplished balancing all of the students' obligations to the community by implementing a zero-credit class that was built into each student's schedule and was dedicated solely to the ELLC programs.

The Engineering Living and Learning Community operated mainly from the human resource framework (Bolman & Deal, 2003). Leading the Engineering Living and Learning Community through the human resource lens meant I viewed the participants as the heart of the organization. I attempted to be as responsive as possible to each student's needs in order to gain commitment and loyalty among the community members. As a leader I put an emphasis on supporting and empowering the ELLC students. From the human resource framework, I needed to make connections and build relationships with the stakeholders, the faculty advisor, and the ELLC participants. Establishing relationships with the ELLC stakeholders was essential to gain their trust and support. Building these relationships (Fullan, 2001) was crucial to establishing a culture that promoted peer relationships, faculty interaction outside of the classroom, and a connection to campus. Such relationships are also crucial for creating change (Fullan, 2001). I needed to build connections with the ELLC participants in both the 2009-2010 cohort and the 2010-2011 cohort so that the students would open up to me about their honest thoughts, feelings, and perceptions about the community. I would not have been able to make the changes in the program that the participants wanted and needed without their input. I could not have received their genuine feedback without building trusting relationships. While leading in the human resource frame (Bolman & Deal, 2003) I listened attentively to the stakeholders and students and always tried to convey my communication with personal warmth and openness. By making connections and building relationships with those directly involved with the ELLC, I attempted to empower each person through program participation and build a supportive community

climate that would stimulate and cultivate relationships, making change possible (Fullan, 2001).

In tandem with the human resource frame, politically, I had to acquire the support of those associated with the Engineering Living and Learning Community including VSU College of Engineering administration, faculty members, the ELLC advisor, and the community participants (Bolman & Deal, 2003). All of the stakeholders, the faculty advisor, and the students were receptive to implementing changes aimed at improving the program for the benefit of the participants. This support was crucial to the success of the changes that were implemented into the Engineering Living and Learning Community. When examining VSU through the political lens, I understood the reality of politically-driven organizations and recognized the importance of interest groups, such as the stakeholders in the ELLC program. Through an understanding of the political framework I recognized that stakeholder involvement and support was crucial to the success of the ELLC program. I felt very supported and encouraged by the ELLC stakeholders and the faculty advisor, which gave me the confidence to employ changes into the program. Part of sustainable change means provoking conversation about the organization's current values, practices, and structures (Fullan, 2001). I was in a very unique position, because I was an outsider operating from a non-authoritative position in a leadership capacity. Although I was not an employee at Virginia Smith University, I did sense that my role was understood and appreciated.

Finally, I examined the ELLC from the symbolic frame so that I could continue to make a shift in the culture. I established the current attitudes, beliefs, and viewpoints about the benefits of residential learning communities. Symbolically, I identified the

initial beliefs and values of the ELLC program before attempting to alter or modify the community.

The culture of the ELLC after the introduction of social programming.

Through the re-structuring and reculturing (Fullan, 2001) of the ELLC, a new culture that included social programming and campus connectivity emerged. At the end of the fall 2010 semester, data from the 2010-2011 ELLC cohort indicated that 86.4% of the participants strongly agreed or agreed that the Engineering Living and Learning Community improved their peer-to-peer relationships with other ELLC members. Another 90.9% of the participants agreed that the ELLC had increased their network of peer support. Furthermore, another 90.9% of the participants agreed that the ELLC increased their ability to get to know other engineering students outside of the Engineering Living and Learning Community program (Table 5).

The same survey indicated that 90.9% of participants agreed that the ELLC increased their connection to the Virginia Smith University campus. Another 90.9% of the participants strongly agreed or agreed that the ELLC increased their sense of belonging to Virginia Smith University. And, finally, 72.7% of the participants agreed that the Engineering Living and Learning Community increased their opportunities to get more involved in on campus activities (Table 5).

The redesign of the ELLC community for the fall 2010 semester results indicated that 95.5% of ELLC participants strongly agreed or agreed that they were satisfied with their overall learning community experience (Table 6). Furthermore, the change in the culture of the community was evident in the data results when 90.9% of respondents strongly agreed or agreed that they were satisfied with the social programming offered in

the fall 2010 semester. This was in stark contrast to the 2009-2010 ELLC cohort who overwhelmingly expressed their discontent with the social programming in their end-of-the-year focus group discussion in May of 2010 (Appendix D). The infusion of social programming appeared to be a catalyst for peer-to-peer relationships and the participants' connection to campus and sense of belonging to the university.

The ELLC faculty advisor, Dr. Howard, played a critical role in helping to implement the new social programming into the ELLC culture that supported peer relationships and campus connectivity. The implementation of social programming into the ELLC created a culture in which the students were comfortable speaking out in class, enjoyed a smooth transition from high school to college, created strong peer-to-peer and peer-to-faculty relationships, and gained a sense of belonging to the university as a result of their involvement in the ELLC. The new programming model did contribute to creating a culture in which peer relationships blossomed and in which students made genuine connections to Virginia Smith University. The 2009-2010 cohort did not feel connected to their peers or the university.

The re-structuring of the ELLC programming model was a reason for the success in the reculturing (Fullan, 2001) of the community. While reading the students' open-ended responses in the surveys, I could see connections to the past and current literature on the benefits of residential learning communities. Throughout the change project, the ELLC faculty advisor and the ELLC cohort participants recognized the effects of their involvement in the community on their academics and in their peer relationships. The new programming model provided the necessary support to help meet the objectives of the study and the ELLC mission: to help ease the transition to college, create peer-to-peer

and peer-to-faculty relationships, and make a connection and establish a sense of belonging to the university. By altering the structure of the ELLC, I was able to establish expectations for building relationships and forming a connection to campus (Bolman & Deal, 2003). The implementation of new social programming into the original ELLC structure into each students' schedule helped to increase program attendance, encourage peer relationships, and promote a strong association between the ELLC students and Virginia Smith University.

One of Fullan's (2001) principle views on successfully implementing change is that change is a learning process and can only take place satisfactorily if the process is a collective experience based on exchange and collaboration in real-life, pertinent situations. In other words, the importance of building relationships lies in the creation of a suitable context for collaborative learning. Change can then emerge from interactions between people. Building relationships alone will not automatically predict the successful implementation of change. Fullan (2001) urges that there needs to be focus to get things moving in the right direction. Fullan places considerable emphasis on emotional intelligence as a form of knowledge necessary for relationship building in complex, often emotional situations. I relied heavily on relationship building (Fullan, 2001) in order to implement changes into the Engineering Living and Learning Community program at Virginia Smith University. When I first began working with the ELLC program in December 2009 I could see that the stakeholders were committed to the evaluation and assessment of the program. There was an abundance of collaboration and shared responsibility that helped me to employ all of the changes that I felt were necessary to enhance the Engineering Living and Learning Community at Virginia Smith University.

The ELLC stakeholders were tremendously supportive of the implementation of any changes that would enhance the Engineering Living and Learning Community. The stakeholders were not the only supporters of the changes that were implemented to the community; the participants were the real voices in making meaningful changes to the program. Their feedback helped select the types of new events and activities that were put into practice throughout the cycles of action research.

Implications

The implications for this action research dissertation were crucial because the repercussions of this study directly affected the 2009-2010 cohort, the 2010-2011 cohort, and future cohorts of the VSU Engineering Living and Learning Community. My work with the ELLC program was embraced and supported by the stakeholders and the faculty advisor. They all seemed to understand that although the fundamentals of a living and learning community were intact, they encouraged me to bring my expertise in establishing community, implementing programming, and building relationships to the ELLC. The remainder of the implications section will summarize the residential learning community benefits and future recommendations for the community.

The results of the data indicated that the Engineering Living and Learning Community was beneficial for the participants and should carry on in the future and perhaps continue into the ELLC participants' sophomore year. This dissertation study outlined the positive outcomes the ELLC program produced for a majority of the participants. The data indicated that most of the 2009-2010 cohort and the 2010-2011 cohort enjoyed the supportive academic and social experiences they obtained as a result of their involvement with the community. A majority of the ELLC students were

optimistic about their involvement with the community throughout their first year at VSU and connected their association in the community with a smoother transition to college, stronger peer-to-peer and peer-to-faculty relationships, and a greater connection to the Virginia Smith University campus.

These results are aligned with past and current literature about residential learning community outcomes, which include an easier transition to college, an increased supportive peer network, greater interaction with faculty, and a sense of belonging to the university (Arboreta et al., 2003; Gabelnick et al., 1990; Inkelas et al., 2006; Kuh et al., 1991; Pike, 1999). Although every residential learning community is unique in its own way, the benefits can be universal. These benefits include providing students with a mutual support network, interactive group meetings, and tutoring programs designed to increase overall academic performance and increase social interaction with peers and faculty (Pasque & Murphy, 2005). Residential learning communities offer a multitude of opportunities for students to develop a network of friends, improve GPA, and graduate at higher rates than those who are not in LLCs (Pike, 1999).

Throughout this study my objectives remained steadfast. I wanted the ELLC participants to meet other peers in the community in order to cultivate a supportive peer network of friends within the engineering major. One of my main objectives in the redesign of the ELLC was for the students to engage in fun social activities in order to build strong peer-to-peer relationships. The ELLC was a program in which students could find help and encouragement informally through networking with their peers since they lived on the same floor of the residence hall and attended linked courses together. The

Engineering Living and Learning Community enabled students to experience a residential setting that was an active, supportive, and exciting place to live and learn.

Research shows that strong faculty contribution and interest help LLCs to become more effective (Gabelnick et al., 1990). The faculty involvement in the ELLC was an added benefit for the participants. I understood that participation in academic activities related to engineering outside of the traditional classroom setting would encourage peer-to-faculty relationships. Faculty participation in the program offered an extra layer of support for the students. Studies have shown that faculty interaction outside of the classroom is directly linked to student retention, enhanced learning, and increased social and intellectual development (Gabelnick et al., 1990). The students in the Engineering Living and Learning community enjoyed the presence of the faculty in the community.

It was clear that the literature and the ELLC community objectives were aligned and the participants of both the 2009-2010 and the 2010-2011 cohorts benefited from their involvement in the Engineering Living and Learning Community. The ELLC students demonstrated a bond among their peers and with faculty, a connection to campus, and a sense of belonging to the community. All of these elements combined positively played a part in their overall satisfaction with their first-year experience at Virginia Smith University.

Recommendations

Regardless of whether or not VSU obtains S-STEM grant money, the Engineering Living and Learning Community should become institutionalized in the College of Engineering due to the immeasurable benefits the program provided to the participants. The College of Engineering could potentially extend the community to include any

engineering student with an interest to join or perhaps start a second LLC cohort of students who are not eligible for the S-STEM ELLC program. I also recommend extending the ELLC to include the sophomore year experience. I believe a greater number of students will benefit from a larger and enhanced ELLC program. Expanding the program would mean enlisting a second faculty advisor, increasing the ELLC faculty, and potentially adding more administrative staff to help coordinate each community to ensure that the programs would be operating at an optimal level. Everyone involved with the future of the ELLC, and any spin-off engineering LLCs, would need to have a shared vision (Fullan, 2001) and teamwork in order for the community to become sustainable. With the continued evaluation, assessment, and improvement of the ELLC, and potentially the addition of another engineering living and learning community, more graduate student assistance would be valuable so that the responsibilities involved with the operation of the residential LLCs would be most effective.

Although the programming cycle of evaluation, improvement, and implementation occurred repeatedly throughout this action research study, the programming model needs to be constantly revisited so that the ever-changing needs of the students will continue to be met. Surveys and informal conversations with the students need to be conducted in order to gauge the students' satisfaction with the programs and to meet their academic and social requests. Based on the results from the 2009-2010 and 2010-2011 ELLC cohorts, I highly recommend implementing a calendar of events each semester with four academic programs and four social programs. Students would receive dates and descriptions for each event so they could choose which programs they are interested in attending. It would be mandatory for the students to choose two

academic and two social programs to attend each semester. With this new format students would not be forced to attend programs they are not interested in and could go to the activities that appeal to their particular interests. The attendance issue would be resolved with this format since students would be accountable for attending four events per semester and would need to pre-register for each activity.

It is important that the ELLC faculty advisor is a part of the selection process for the Resident Assistants. The R.A.s play a critical role in the pivotal community building aspect of the ELLC. The R.A.s are an essential piece of the ELLC, perhaps the linchpin of the out-of-classroom experiences for the participants. The 2009-2010 R.A.s did not make a noticeable contribution to the experience for the pilot cohort, perhaps because neither R.A. was an engineering major. However, the 2010-2011 cohort had two engineering R.A.s; although this happened by luck not by design; the R.A.s proved to be a significant part of the success of the second ELLC cohort. They were able to relate to the students' academic challenges, cater their programming to include engineering-related themes, and were valuable mentors to the participants. It is important to give the R.A.s ownership in the programming model, the move-in process, and the in-hall community building events. I highly recommend that future R.A.s be engineering majors and I would advise that the ELLC faculty advisor meet with Resident Assistants prior to the start of the academic year in order to gain a shared vision (Fullan, 2001) for the fall semester.

Another recommendation is to institute a mentoring program into the Engineering Living and Learning Community. The mentors would be volunteers from a previous ELLC cohort that could help to support the new generation of community participants. The ELLC peer-mentoring program would pair former ELLC sophomore students with

new first-year ELLC students in a mentoring relationship. The ELLC mentor and mentee would get to know each another in order to form a relationship where the mentor could provide guidance and support to the first-year participant. The positive impact of peer assistance programs is well documented in higher education research literature (Astin, 1993). The purpose of a peer mentor program would be to provide first-year ELLC students a connection with someone who has already been through the community program. The mentor would act as a resource for the first-year ELLC participant throughout the academic year. The ELLC mentors could serve as role models, tutors, and resources regarding campus information.

I also recommend modifying the linked courses to include lab or clinic classes with the ability for student collaboration on various projects inside and outside of the classroom. The results from the 2009-2010 and 2010-2011 cohorts clearly indicated that the freshman clinic class was a success because of the group collaboration projects. A majority of the ELLC students liked having other classes together, however, in courses such as writing or calculus there were no team projects so the students did not have the opportunity to interact.

An additional recommendation would be to move the Engineering Living and Learning Community from Witzig Hall to Schomber Hall in the future. The ELLC students from both the 2009-2010 and 2010-2011 cohort complained about the older, cramped living space in Witzig Hall. The students suggested Schomber Hall because of the larger common space which is beneficial for the R.A. sponsored in-hall events and activities.

Lastly, the ELLC meetings need to be held regularly and an attendance policy should be implemented. Since the ELLC students are in a challenging major with a heavy workload, I would not recommend weekly meetings, however, I suggest bi-weekly mandatory meetings with required attendance at four ELLC programs per semester. There was frustration and confusion especially among the 2010-2011 cohort as to their obligations for attending meetings and/or activities. These policies need to be clearly stated at the welcome meeting and written down for each student. I suggest an electronic handbook with the ELLC objectives, policies, and schedule of events be emailed to each student prior to the beginning of the academic year. Clear policies regarding attendance and involvement are needed in order for the community to thrive.

Conclusion

My involvement with the Engineering Living and Learning Community emerged from my past experiences with a LLC and my passion for student development. I felt deeply connected to this action research project because of my personal successful experience with a residential learning community and my professional role as an administrator in a Residence Life Department at another higher education institution. It was this passion that fueled my desire to help evaluate and improve the Engineering Living and Learning Community. I saw the ELLC program as a vehicle for minority, female, and low-income students in a challenging major to have opportunities to collaborate inside of the classroom, engage in activities outside of the classroom, and build peer-to-peer and peer-to-faculty supportive networks. By achieving the aforementioned objectives, the participants were able to create relationships with

others and build strong connections to campus as a result of their involvement with the community.

Chapter 9

Leadership Reflection

Introduction

Learning, for me, has occurred both in the classroom and on my own. Working with the Engineering Living and Learning Community at Virginia Smith University meant more than leading a change project to produce positive results and foster a more student-centered approach to learning. I have deep personal connections with residential learning communities and I understand, firsthand, the benefits students can gain when participating in a living and learning community. Prior to beginning this action research study, I espoused using a hybrid of leadership theories and styles, which included servant and transformational theories; however, I discovered that I also have a heavy reliance on the feminist leadership theory as well (Burns, 1978; Greenleaf, 1991, 2002; Goleman et al., 2002).

My leadership research question asked, in what ways did my leadership qualities and characteristics develop as a result of my involvement with the ELLC? I gathered data on my leadership development from open-ended questions regarding my leadership on the ELLC student survey (Appendix G), a questionnaire/evaluation (Appendix H) about my leadership that was completed by the ELLC faculty advisor, Dr. Howard, and via my journal entries. Throughout this entire process, I discovered that I am a leader with positive energy; an enthusiastic attitude; the ability to organize, share, and inspire vision; and the capability to make connections and build relationships with those around me.

Transformational leaders use purpose, a shared vision, unified consensus, and a commitment among followers (Barbuto, 2005; Bass, 1990; Conger, 1999).

This study began in December 2009 and the data collection, analysis, and action research process continued through January 2011. Throughout the study, as a researcher, I was attempting to measure the benefits the ELLC had on the participants. However, over the course of time I realized that sometimes the benefits a residential learning community provides for its participants are simply immeasurable. It is difficult to evaluate the feeling a minority, female, or low-income student has when she feels accepted into a community in a new and unfamiliar environment dominated by others who are different than her. It is a challenge to measure a student's transition from high school to college when each participant's experience was vastly different. For some, the ELLC program provided a safe place to land, for others, an uncomfortable feeling of forced interaction with a group of strangers. With these thoughts in mind, it was hard for me to declare victory for the community. I tended to focus on the areas of improvement even when the data indicated that the community was by all accounts a success. In December 2010 I journaled about my concerns:

It is easy to get wrapped up in the quantitative data I collected throughout this study. The numbers show that the program was successful for a majority of the participants. In reality, I was more interested in the areas of improvement, the conversations with the students who, despite having the opportunities to get involved in the community and on-campus, did not. Some of them said they were not interested in the programming, while others admitted that they felt isolated and alone and simply did not know how to get involved. This is the kind of data, the raw emotions, and the pitfalls of the study that the numbers simply cannot adequately illustrate.

It was especially rewarding for me to get e-mails from students after events, or sporadically throughout the study indicating their satisfaction and enjoyment with their

community experience. I journaled in September 2010 about one of my experiences with a student I made a connection with at the fall welcome meeting. I wrote:

I received an e-mail today from an ELLC student who revealed how excited she was about the community. She is from out-of-state surrounded by dozens in-state students. The e-mail was no more than five sentences but the impact it had on me was heavy. I am committed to providing the best possible community experience I can for these students.

Each time I received an email or utilized the opportunity to talk to students individually before or after ELLC events, it became clear to me that the students knew that they could talk to me. I was struck by their candor and transparency when I asked them questions about classes or the community. In one journal entry I wrote:

I asked a student how he liked the community so far. He honestly said that he really enjoyed the living arrangements and linked classes but that he wished the linked classes were different courses. He suggested more lab classes or courses where there was more opportunities to collaborate and do group work. He told me that there was no group work in calculus so it seemed like an odd choice for a community linked course. I have to admit, he has a point.

It was amazing to me then, and it is still remarkable to me now, that despite the students' understanding of my role in working with the ELLC as a researcher, the conversations I had with the community students were often sincere and candid. The participants did not sugarcoat their responses to my questions; they were always forthright and frank with their answers. Perhaps my youthful appearance, my extraverted personality, or my ability to listen when the students were answering my questions was the rationale behind their truthful and straightforward answers to my probing questions about their experiences. The ELLC student's willingness to answer all of my questions was truly rewarding for me.

During the doctoral and dissertation journey, the leader that I already knew I was emerged, but I made some unexpected important discoveries about my leadership style

that I did not know before assessing my leadership. I realized that I can be independent and confident, but I prefer collaboration and shared decision-making (Fullan, 2001). I am driven by my personal code of ethics, which are to value and respect others, despite differences. My leadership style is a combination of the lessons I learned as a competitive athlete, the values my family instilled in me, my desire to be a good role model to my younger brother, and my longing to be a respected professional among my colleagues. These characteristics have set the foundation for my intense work ethic, my passion for teamwork and collaboration, my can-do attitude, and my personal mantra: "Tell me I can't and I'll show you I can."

This competitive intensity to not only do things well, but to be the best, was the driving force behind the improvements made to the Engineering Living and Learning Community at Virginia Smith University. Through my various leadership lenses I envisioned the evolution and redesign of the ELLC program. My initial desire to recalibrate the community stemmed from my need to serve others and to help those who are marginalized. When the opportunity to work with minority, female, and low-income engineering majors within a residential learning community context materialized I was thrilled to help evaluate, assess, and improve the community. Greenleaf (2002) explains that in order to serve one must start with an instinctive feeling. Based on my own positive experiences in a living and learning community my freshman year of college, over a decade ago, I envisioned the ELLC as a supportive community that could help to positively transform the participants first-year of college. Servant leaders do not focus on power, they focus on developing individual growth while cultivating others to become leaders (Goleman et al., 2002; Greenleaf, 1991, 2002). I had an innate ability to listen to

the ELLC participants and gauge their interests and feedback about the program in order to help build community. These are all important characteristics of servant leadership (Block, 1993; Greenleaf, 1991, 2002).

My action research cycles helped expose my desire to gain a common, shared, and inspired vision (Fullan, 2001). Transformational leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) changes people, structures, and values (Bass, 1997; Burns, 2003; Goleman et al., 2002; Leithwood & Jantzi, 2000). Through formal and informal conversations with the ELLC participants about their experiences with the community, I was able to encourage the students. While leading the changes in the ELLC, I learned to think critically about different ways to plan, observe, act, and reflect (McTaggart, 1997) over and over so that the students were getting the most out of the program. This deeper level of awareness, critical thinking, and reflection was a cyclical process throughout the dissertation study. During the exploratory process, I envisioned both meaning and purpose for my actions. Over time, I articulated my vision to others while leading from a transformational approach (Bass, 1997; Burns, 2003; Goleman et al., 2002).

My Leadership Through the Eyes of Others

Engineering Living & Learning Community (ELLC)

Leadership Assessment

In what ways did my leadership qualities and characteristics develop as a result of my involvement with the ELLC?

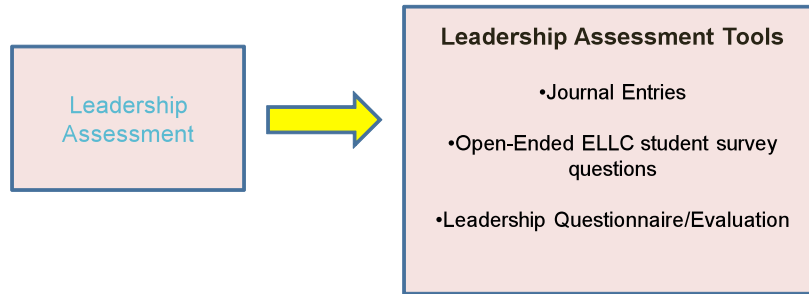


Figure 5. Leadership Assessment Model

I utilized several assessment tools to evaluate my leadership throughout this dissertation study: journal entries, open-ended ELLC student survey questions, and a leadership questionnaire/evaluation that was completed by the ELLC advisor. In December 2010 the 2010-2011 ELLC participants were asked to complete four open-ended questions (Appendix G) based on my leadership. These questions were the first instrument I utilized to assess and understand my leadership. I evaluated the responses to the open-ended questions to better understand my leadership traits and qualities from the perspectives of the ELLC participants. After analyzing and coding the results, I was able to see themes based on the student's responses. Not all of the ELLC participants opted to answer all of the questions regarding my leadership. Some students skipped the open-

ended questions on the survey. Of the four questions focused on my leadership, out of the 22 students who participated in the survey, eight students chose not to answer question one, nine students opted to skip question two, 11 students chose not to answer question three, and nine students skipped question four. For those who did answer the open-ended survey questions regarding my leadership, there were repeated adjectives and words that were used frequently. These repeated words formed patterns that emerged on several of the students' answers to the questions regarding my leadership. These adjectives, words, and themes from the data are explained further below.

Open-ended responses. I asked the 2010-2011 ELLC cohort several questions about my leadership on a survey (Appendix G) that was administered at the conclusion of their fall 2010 semester. I was more than a little nervous to see how the students would answer the open-ended questions regarding my impact on the community. I found myself feeling vulnerable, once again, about being open to criticism or, as dramatic as it sounds, heartbreak. I truly had put my heart into the ELLC program, and getting critical feedback about the events, activities, and programs seemed unemotional yet important in order to make changes into the design of the community. However, hearing feedback about my leadership which included my vision, my strengths, and my weaknesses was intimidating, to say the least. I decided, like the critiques about the programming, I was not going to let the students' honest opinions upset me, I was going to become a better leader from their feedback. After the survey was closed and all of the students had completed the assessment I read the results with an open-mind. I found it interesting to hear the ELLC participants' take on my role with the community.

The last four questions of the end-of-fall-semester survey (Appendix G), the ELLC participants were asked four specific questions about me: (1) What qualities or characteristics did Trisha Zobel have that were helpful to you throughout your first semester with the ELLC? (2) What could Trisha Zobel have done differently to help make your first semester with the ELLC better? (3) In what ways did Trisha Zobel's involvement with the ELLC program affect your overall cohort experience? (4) How would you describe Trisha Zobel's leadership qualities or characteristics? There was a pattern of responses to the first question. Certain qualities and characteristics were repeated by various participants. The following words were mentioned more than once: friendly, encouraging, caring, enthusiastic, supportive, open, and helpful. The second group of responses addressing improvement mainly reiterated that I could have been present for more of the ELLC activities. The third question asked how my leadership affected the participants' overall cohort experience. Two major themes were mentioned more than once: that I made their experience more fun and was always willing to listen. The last question asked the students to describe my leadership qualities or characteristics. The following words were mentioned more than once: encouraging, easygoing, positive, and motivating.

Engineering Living & Learning Community (ELLC)

LEADERSHIP ASSESSMENT FINDINGS

ELLC student open-ended responses:

- **Encouraging** (Transformational / Servant / Feminist)
- **Caring** (Servant / Feminist)
- **Supportive** (Transformational / Servant / Feminist)
- **Open** (Transformational / Feminist)
- **Helpful** (Transformational / Servant / Feminist)
- **Good Listener** (Servant)
- **Positive** (Transformational)
- **Motivating** (Transformational / Servant / Feminist)

Figure 6. Leadership Assessment Findings Model

In figure 6, I was able to connect many of the students open-ended responses to my espoused transformational and servant leadership theories, as well as my newfound emergent feminist leadership theory. Based on the students answers to the open-ended questions I could identify the traits and characteristic of all three leadership styles to the words the ELLC students were using to describe my leadership, as shown in table #.

“Trisha had an encouraging energy that made me feel comfortable,” wrote one student. This statement in particular resonates with me because it confirmed my espoused servant leadership (Greenleaf, 1991, 2002). I attempted to be clear and transparent about my function with the ELLC and the purpose of the community whenever possible. I felt I met those objectives when one student wrote, "She was friendly and responsive and was easy to talk to." It was fascinating, however, to find out that a few students were still

confused about my role with the community despite the lengthy introduction that was provided about my function at the initial welcome meeting. One student wrote, "I am not quite sure who she is even though she was around a lot." I overlooked the importance of reiterating my position with the students on more than one occasion. This was valuable feedback.

I was encouraged by comments like, "She was very kind and saw things from our perspective." Another student wrote, "She was very outgoing and helped us to get involved." These comments were especially rewarding to me because it affirmed that my transformational, servant, and feminist leadership qualities (Barbuto, 2005; Bass 1985, 1990; Block, 1993; Bryan, 2003; Burns, 2003; Conger, 1999; Goleman et al., 2002; Greenleaf, 1991, 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) were obvious to some of the students. I was gratified when I read one student's comment, "She was very friendly and helpful."

In Cycle 2 I worked tirelessly on the ELLC calendar of events so that the 2010-2011 cohort would have varied programming that would meet the objectives and goals of the community. I was thrilled when I read one student's comment, "She planned great activities and was always open to feedback." This comment was especially rewarding to me because that is exactly how I viewed action research: observe, plan, act, reflect (McTaggart, 1997). Another student wrote, "She would plan excellent activities and participant (sic) in them." I did not want to simply arrange the activities, I wanted to ensure the students' needs were being met and they were satisfied with the overall experience. Once the activities were planned I was not going to just sit around and watch; I wanted to join the students. It was important to me to participate in the events so that I

could make connections with the students. I wanted to break away from my perceived outsider/researcher role with the participants as soon as I could.

One of my main goals throughout the study was to make connections and build relationships with others but, regretfully, I was not able to do this with every single ELLC member. While many students commented on my enthusiasm, my approachability, and my openness, some students did not feel as connected to me personally. One student wrote, "I did not see her that often so I did not get to know her." It appeared that some of the students who I did not make a connection with wanted a relationship. Another student wrote, "She could have talked to us more. We did not hear much of her at the meetings." I had to agree with that comment. I often wrestled internally with my roles as participatory researcher, observer, and leader. I think this may have confused the students and I could have interacted on a group-wide level a lot more. I chose, instead, to form connections on a smaller scale at meetings and events. Looking back this is an area that I want to improve upon in the future.

There was a distinct dichotomy that I faced throughout the doctoral program of feeling that others have a potential negative perception that I have a lack of experience due to my age. What was most interesting was that I used my age to my advantage when working with the ELLC students. My age was an advantage rather than an inhibitor when I worked with college-aged students. This feeling was apparent in the survey when one student wrote, "She is young and easy to relate to." I did not expect such sanguine comments from so many students. To the students I appeared not too far removed from where they were in life so I was able to connect with the participants in a way that some seasoned professionals could not.

Overall the students' opinions on my leadership abilities were positive. One of my favorite comments was, "She was willing to listen to the ELLC members in order to improve the program." This feedback encapsulated everything I was attempting to achieve throughout the dissertation study. I wanted to redesign the program and modify the community constantly based on the data and the feedback from the ELLC. I was elated to see that this objective was met as I led the changes to the program.

The students described my leadership characteristics on the survey. While some students gave one-word answers, others were more detailed. One student said I was a "phenomenal leader." Another claimed that I was a "natural born leader." A majority of the students wrote that I was "outgoing" or "easy to talk to." Above all, one student wrote, "She was motivating and encouraging." While leading this change I always stayed true to myself. I was transparent and genuine in my interactions with the ELLC participants and I was more than happy when I read the students' responses. In their feedback on my leadership style I saw that my personality was reflected when I was working with the community.

In relating back to my espoused leadership theories, the comments provided by participants confirmed the theories I espoused. I was surprised and energized by the adjectives used by the ELLC participants regarding my leadership and my impact on their experience with the community. The open-ended response results confirmed my espoused and theories-in-use. I asserted in Chapter 2 that I used a mix of leadership styles. I espoused transformational and servant and I later recognized that my leadership theory-in-use was feminist (Burns, 1978; Greenleaf, 1991, 2002; Goleman et al., 2002). Despite the fact that, at times, I lacked confidence in my leadership abilities, I clearly

managed to lead others and to influence them based on the ELLC participant's comments to the open-ended questions.

Leader to leader. Dr. Howard and I had embarked on a long journey together that dated back to our first meeting in December of 2009. He created and established the Engineering Living and Learning Community from its inception and served as a constant source of encouragement and support for me as I evaluated the program and implemented changes. I valued his opinion and feedback throughout all of the cycles of research during this study. In January 2011, Dr. Howard filled out an evaluation (Appendix H) about my leadership throughout the 2009-2010 and 2010-2011 ELLC cohorts.

In the evaluation Dr. Howard wrote:

Her leadership style is transformative and facilitative. She worked with me to create a suite of activities for the students. Together, we created opportunities for S-STEM students to create their own social networks and find needed resources.

I was happy that Dr. Howard valued our collaboration and teamwork efforts as much as I did. I had not previously identified myself as facilitative, which was a refreshing perspective on my style of leadership that I had not yet seen in myself. Dr. Howard's opinions on my leadership characteristics were aligned with my own espoused ideals. He wrote that I had "enthusiasm, energy, organization, openness, sympathy, and joie de vivre."

Since I had such a profound experience with a residential learning community when I was in college, I was motivated to make the ELLC a meaningful part of the students' first year experience. Dr. Howard felt that my involvement with the ELLC program had a positive effect on the students. He wrote, "She created additional opportunities for student contact, hopefully leading to more social interaction of denser

social networks." This observation was aligned with the quantitative data that were collected from the 2010-2011 ELLC cohort survey (Appendix G).

According to the data collected from the ELLC focus groups, surveys, field notes, and informal conversations the social programs helped to encourage, create, and build strong peer-to-peer relationships. The social programming included the ELLC sponsored programs, the R.A. hosted events and activities, and the ELLC meetings. Prior to my involvement with the ELLC program, the results from the fall 2009 end-of-semester survey (Appendix B) indicated that 44.4% of respondents disagreed that they had expanded their network of peer support. By the end of the spring 2010 semester after I implemented new social programming to help establish and maintain stronger peer-to-peer relationships, results from the end-of-semester survey (Appendix G) indicated that 86.3% of participants strongly agreed or agreed that the Engineering Living and Learning Community improved their peer-to-peer relationships with other ELLC members. Another 90.9% of participants agreed that the ELLC had increased their network of peer support. Furthermore, another 90.9% of participants agreed that the ELLC increased their ability to get to know other engineering students outside of the Engineering Living and Learning Community program. These quantitative results were supported Dr. Howard's evaluation of my leadership throughout my time with the Engineering Living and Learning Community. It was rewarding for both Dr. Howard and I to see that the students did find comfort with peers as a result of their involvement with the ELLC.

Dr. Howard was with me from the very beginning of the dissertation process. He was able to watch me grow and transition as a leader throughout the course of the study. On the evaluation I asked Dr. Howard to describe how he saw me develop as a leader

throughout the study. He said, "She gained knowledge and expertise about Living and Learning Communities, which allowed her to better lead group meetings."

Finally, I sought to gain an understanding of how my leadership, from his perspective, had impacted the ELLC program. I felt that the leader inside of me was cultivated during my time with the Engineering Living and Learning Community, but would Dr. Howard agree? Dr. Howard did recognize the changes that I implemented had made a difference. He wrote, "She improved and increased the number and quality of the meetings. I expect that the improved meetings will help the student better adapt to college life." This evaluation was congruent with the results from the ELLC participants' responses regarding their transition and adjustment from high school to college. According to the data results from the surveys, focus groups, meetings, and informal conversations, the ELLC participants had an easier time adjusting to the college environment as a result of their involvement in the Engineering Living and Learning Community. Survey results comparing the ELLC and non-ELLC participants (Appendix N) indicated that 75.9% of the Engineering Living and Learning Community respondents strongly agreed or agreed that they experienced a smooth transition from high school to college.

Seeing my maturation process as a leader through the perspectives of the ELLC students and faculty advisor were important to this study. I was cognizant of my personal growth and development as a leader throughout the study, but it was especially important to me to see how others perceived my leadership capabilities. It was energizing to hear the students feedback about my ability to make connections, listen, and willingness to make changes in order to meet their needs. It was satisfying for me to hear Dr. Howard

felt that I had made a positive contribution to the program and that the students benefited from my involvement. Assessing my leadership, although intimidating at first, turned out to be liberating and empowering. I will take the feedback and insights regarding my style of leadership and continue to reflect on ways that I can become a better leader in the future.

Leading with a Combination of Styles

In the beginning of my dissertation journey I espoused that my leadership utilized a combination of transformational (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) and servant leadership (Block, 1993; Greenleaf, 1991, 2002) styles.

Transformational leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) inspires originality, creativity, motivation, and encourages collaboration (Bass, 1985, 2002; Burns, 1978; Goleman et al., 2002). Servant leadership (Block, 1993; Greenleaf, 1991, 2002) is grounded in trusting relationships, empathic encounters, and shared collaboration (Greenleaf, 1991, 2002). These espoused leadership theories were infused throughout Cycles 1, 2, and 3 of this action research study, but what I also discovered was that my actual theories-in-use also included feminist leadership characteristics (Larabee, 1993; Shugart, 2001). I discovered that I was relying on feminist leadership traits throughout the dissertation process in a variety of ways. My dissertation chair noticed these qualities in me and would often comment about my passion for collaboration and my constant conversations with her about teamwork, partnerships, and shared achievements. She would challenge me to reflect on my emphasis on collaboration

- did my espoused theories of leadership portray all of my leadership qualities accurately?

Once I began analyzing and reflecting on the data, I could see she was right. The leader that I am did not necessarily fit into just two leadership styles: transformational and servant. I was heavily relying on feminist leadership traits.

Emergence of the feminist leadership theory. After reviewing the research on feminist leadership and reflecting on this leadership style and the study, I discovered a deep connection to the feminist leadership theory. Gilligan (1983) defines feminist leadership as women's natural ability to preserve relationships utilizing their natural characteristics. The feminist leadership style embodies characteristics such as caring, intuition, morality, kindness, sensitivity, compassion, creativity, people oriented, and flexibility (Larabee, 1993). Regan and Brooks (1992) highlight the five attributes of feminist leadership as caring, vision, collaboration, courage, and intuition. These traits can provide strong and effective leadership. Throughout this study, as I learned more about my leadership, I could clearly see these characteristics were some of the qualities others used to describe my leadership style.

My openness towards the students did not go unnoticed. In one email I received from a student in the 2009-2010 cohort the participant wrote, "I appreciate that you ask us for our feedback regarding the programs. It is nice to feel like what we think matters." Another student from the 2010-2011 ELLC cohort e-mailed me after the wiffle ball game, which was only attended by a few students, he wrote, "I like that we can give you our feedback and opinions on the programs without feeling like we will get in trouble if we do not agree with a policy. You care about what we have to say."

My actions throughout the cycles of action affirmed my unknown feminist leadership theory-in-use. I was able to identify with this leadership theory because I was constantly encouraging collaboration, partnerships, and individual growth among followers (Goleman et al., 2002). In one journal entry I wrote, "I really enjoy collaborating with Dr. [Howard] on the programs. We have formed a really strong bond and partnership throughout our time leading the ELLC."

Feminist leadership emphasizes relationships among leaders and followers, and advocates for shared participation and collaboration (Larabee, 1993; Shugart, 2001). The most surprising and empowering aspect of the dissertation study, in terms of my leadership journey, was learning that I embody the characteristics of feminist leadership. I am not sure why I did not initially connect my leadership style to the feminist leadership characteristics. Once I began reflecting I could see feminist leadership qualities in myself all the way back to my swimming and coaching career when I was a budding leader. Today I recognize the connections and similarities between the transformational, servant, and feminist ideals. My leadership is a blended mix of all three leadership styles. This was an eye-opening and important discovery for me. If it was not for the reflexive practice in which I was consistently engaged, I question whether I would have ever revealed this leadership theory-in-use.

My journal entries throughout the dissertation process were constant reminders of the type of leader I was in action. When I first began the doctoral program, I did not know what kind of leader I was. I am not sure I even considered myself a leader. An advocate, yes. A mentor, absolutely. A role model, well I aspired to be one, but I certainly would not have declared myself a role model. I can honestly admit that I would

not have necessarily considered myself a leader outside of my role in competitive sports. Yet, today, I can attest that I am a leader. I do not have to be shy or modest about that fact. I came to the conclusion that I am a leader after reflecting on what I value most: shared vision, collaboration, and commitment. These values define a transformational, servant, feminist leader (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005).

Shared Vision

In order for the Engineering Living and Learning Community to continue to progress, the program needed to evolve based on the needs of the students. I had to envision and conceptualize the objectives and goals of the program and articulate this vision to the stakeholders in order to build relationships and gain a shared vision (Fullan, 2001). Prior to implementing any change endeavor, leaders must first begin with vision. According to Fullan (2001), vision is a strategic, organized, and coherent snapshot of the future whereby the leader has the ability to explain the purpose of action.

I applied my transformational leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) characteristics, which included vision to the ELLC programming model, which provided the framework for my dissertation. In Cycles 1, 2, and 3 of this action research study, I attempted to ensure that the ELLC objectives and goals were clear and inclusive of participants' feelings, values, and behaviors. Each ELLC survey, focus group, meeting, and program addressed the community objectives and goals so that the participants were clear on the intention of the program. I urged the

ELLC participants to ask questions and to provide feedback on the community whenever possible. Additionally, through email correspondence with the participants, I consistently reinforced the Engineering Living and Learning Community objectives and goals in a variety of ways. Any reply emails and conversations I had with the students regarding the aims of the ELLC were recorded in my field notes.

Once I had evaluated and assessed the ELLC in its pilot semester in fall 2009, I outlined the newly framed objectives and goals, shared these aims with the ELLC faculty advisor, discussed these purposes, and requested feedback. Sharing this vision to recalibrate the program was necessary in order to improve the community. I could correlate this shared vision with my transformational leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005) traits and characteristics. This process involved deep reflection and analysis to conceptualize the purpose, objectives, aims, and function of the Engineering Living and Learning Community. After this process was complete the new vision for the community became operational. By sharing my vision of the improved ELLC, I was able to gain trust and respect from the ELLC faculty advisor and the participants, which, in turn, morphed from my vision to a shared vision (Fullan, 2001).

Relationship Building

Transformational leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Leithwood & Jantzi, 2000; Spreitzer et al., 2005), servant leadership (Greenleaf 1991; 2002)), and feminist leadership (Larabee, 1993; Shugart, 2001) styles rely heavily on making connections and building relationships with others. Additionally, successful change is directly connected to a

leader's ability to build relationships by interacting and engaging his or her followers (Fullan, 2001). Relationships are paramount when leading change because people are more inclined to support programs led by those with whom they feel a connection (Fullan, 2001). Relationship building is essential in transformational and feminist leadership (Goleman et al., 2002). Both leadership theories emphasize the importance and value of participation and inclusivity, the ability to listen to followers, and the necessity to create a sense of social responsibility all centered on relationships (Goleman et al., 2002). It has become clear to me throughout this process that in leading any change initiative, leadership requires the application and adaptation of various leadership theories in order to meet short, transitional, and long-term goals.

When I was conceptualizing the redesign of the ELLC, I knew that relationship building (Fullan, 2001) with the stakeholders and the participants was of the utmost importance. I attempted to make connections and build relationships (Fullan, 2001) with the stakeholders through formal and informal meetings and email correspondence. I met with stakeholders on and off-campus and not only listened to their feedback, but also implemented their ideas in the programming activities. I made connections and built relationships (Fullan, 2001) with the participants during meetings, focus groups, and ELLC programming events. Whenever I had the opportunity, I shared my personal experiences with the students as a way to build trust among participants. As is typical of my leadership style, I was always empathetic, caring, and open with the students. In a journal entry from an informal conversation I had with a student I noted:

One student unapologetically said that she had not made friends with anyone in the ELLC. She blamed herself saying that she was too busy to attend the programs. I could hear in her voice that she was regretful and sad that she had not taken the opportunities that were available to get to know others in the

community. I shared one of my own residential learning community experiences with her. In college I did not know anyone at the school and I was nervous to go to the events because I did not have anyone to walk with or sit with at the activity. I told her that I gave an event a try and that is where I met one of my best friends to this day. She seemed encouraged after our conversation. One of my personal goals is to reach out to more students like her. It is easy to connect with students who are active and attend all the programs, but it is the students like her that are isolated and alone and may not know how to get involved that I really need to make connections with.

The excerpt above exemplifies a way in which I was open and transparent with one of the ELLC students. I shared a personal story, which allowed me to seem vulnerable, but more importantly, human. Through my doctoral journey, it was clear from my journal entries that I had concerns with feeling exposed or vulnerable and not being taken seriously. I had manifested deep-seeded concerns that since I was the youngest student enrolled in the doctoral program that my experiences would somehow seem immature or not relevant. However, my concerns about my age or experience were never in question, because of my authenticity and transparency, these characteristics are aligned with both servant and feminist leadership traits (Goleman et al., 2002; Greenleaf 1991, 2002; Larabee, 1993; Shugart, 2001). I formed trusting and meaningful relationships with my peers, which taught me that my experiences, although different than others, were of no less value. This scenario was also true of my relationships with the ELLC stakeholders and participants. My relationships with people are crucial to me. As a servant leader (Greenleaf 1991, 2002) I worked very hard to build camaraderie and community with the ELLC stakeholders and participants by making individual connections. Furthermore, transformational leaders motivate and inspire others to progress beyond their own individual roles within the organization by fostering collaboration and teamwork (Leithwood & Jantzi, 2000). I journaled after the first meeting with the 2010-2011 ELLC cohort:

Some of the ELLC participants appeared apprehensive to engage in the 2 truths and a lie icebreaker at first. Although the meeting was well underway and the environment was friendly and inviting, some of the participants seemed uncomfortable or shy with standing in front of the room with their assigned partner to play the game. I encouraged the students to get creative with their answers so it would be more challenging to pick out the true fact. The student's pens started to glide across their papers and I could hear some individuals giggling about their fabricated facts. After the first pair completed the icebreaker the room erupted with laughter and electricity. I felt happy that I was able to engage the students in discussion for the first time. I hope this triggers relationships and a sense of community.

Helping the students to engage in this important first activity helped to establish and build my own personal relationships with the ELLC participants. I firmly believe this first icebreaker was the catalyst that encouraged greater commitment among the participants. After that initial meeting a majority of the participants became invested in the community, because the ELLC program was collaborative and allowed for shared interaction between myself as leader and the participants (Fullan, 2001; Goleman et al., 2002).

Fullan (2001) contends that leaders who strategize a successful change initiative are able to create a coalition of supporters and stakeholders who possess varying levels of power. As a feminist leader (Larabee, 1993; Shugart, 2001) I valued those partnerships and collaboration with others. Those who lead together are able to effectively assist, implement, and support change (Fullan, 2001). After meeting with the ELLC faculty advisor one afternoon I journaled:

Dr. [Howard] is very supportive of all of my ideas and initiatives. He seems to believe in me and is willing to follow my lead on implementing successful LLC strategies into the current ELLC model. I feel confident and excited that he and the stakeholders are looking to me as someone with expertise who can take this pilot program to the next level.

My Leadership Evolution

As a young professional I just assumed I would turn into a leader over time. For me, being a leader meant experience. Today I do not believe that years on the job necessarily equates with leadership. Effective leadership is about vision, self-reflection, and improvement. Anyone can be a leader; I firmly believe that. My upbringing, my education, and my personal and professional experiences are all mixed together and these components as a whole have made me the leader that I am today. Over the course of the doctoral program, I became committed to being a life-long learner. I embrace and value education in a new way. As a university administrator, I am more aware, understanding, and accepting of change. Because of the doctoral program, I constantly engage in self-reflection. It can be a taxing and laborious process, but now I view my words and actions at home and at work differently. I challenge myself to see situations from multiple perspectives. My critical thinking skills are more attuned and I have learned to respectfully challenge the process if I have questions or feedback, instead of sitting back and allowing artificial harmony (Argyris, 1990) to set in. The person I was four years ago would have been fine, more than fine, with artificial harmony (Argyris, 1990). Today I understand the importance of listening to resisters (Argyris, 1990) in order to gain valuable feedback before making decisions. I feel more empowered by listening to others, especially those who do not agree or see things the same way I do. Understanding others' views has made me feel more connected to the larger community, and given me a deeper appreciation and awareness for the culture of an organization (Fullan, 2001).

Understanding the culture of an organization is not always easy, in fact, it is often

difficult. It means uncovering uncomfortable issues such as low morale, artificial harmony, or other undiscussables (Argyris, 1990).

Although I enjoy being liked, I no longer use that as a barometer of my ability to be a good leader. This was one of the most difficult realizations I faced. I always knew that it was impossible for someone to be liked by everyone, but as long as the majority did, I thought that was an indication of successful leadership. That is truly not the case. After a lot of reflection I began to recognize that some of my best managers and teachers were people who were not necessarily the most likable people, but were the ones who challenged me to bring out the best in myself. Burns (1985) describes effective transformational leaders as those who identify themselves as change agents, are courteous individuals, believe in people, are value-driven, life-long learners, effectively deal with complexity, and are visionaries. These are all very admirable qualities and none of these qualities include popularity. Throughout this process I have learned that I am a lifelong learner, and I do embody the traits of a transformational leader (Bass, 1985).

For me, understanding the importance of self-reflection during this dissertation process has been a truly awakening and enlightening experience. I learned to be less self-conscious about my age and experience, to respectfully confront resistance, and to always be true to myself. I am a positive, outgoing, authentic, and transparent person. These qualities used to seem sensitive to me; certainly not qualities that an effective leader would possess. However, I have learned that leaders are those who stay true to themselves, who care about all things not just the big things, and who understand and value others. I embody these characteristics and these qualities describe the traits of both transformational and servant leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003;

Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005).

At first I did not see myself as a leader that came over time. I began to see myself as a leader through other people's eyes. This dissertation journey pulled me from my comfort zone, a place where I was an outsider looking in. All of the qualities and characteristics of who I see myself as today were always there, I just had not identified them. For a person who has always felt a great deal of self-confidence with a can-do attitude it was alarming to see how powerless, and unconfident I felt about myself as a leader outside of competitive sports. This journey helped me to embrace all that I am and to let go of trying to embody the qualities I admire in other people. My experiences are unique, and despite my age or years of professional experience, they are relevant and important.

I have goals beyond this dissertation that I want to achieve. This process has shown me that I can achieve success by utilizing my transformational, servant, and feminist leadership qualities (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005). I do not need to change or try to become something I am not.

My Leadership Inspiration

I recently requested a day off from work in mid-May for my little brother's graduation from college. As I requested the date my mind flashed forward to a time when I would be requesting off for his commencement ceremony from graduate school. I have taken a personal interest in his education throughout his entire life. I remember his birth

vividly as I was seven years old when he was born. He has been in the forefront of my mind throughout the process of my own educational journey and especially during my doctoral years. From the moment he was brought into this world I believe the leader in me was born. In servant leadership (Greenleaf 1991, 2002) people have a natural inclination to serve, and such a conscious choice makes them aspire to lead. I have lived my life in a way that would encourage, inspire, and motivate my little brother to be the best he could be. The servant leader deviates from many traditional styles of leadership, in which dominating subordinates and telling others what to do is the norm. Servant leaders empower and inspire others to perform at their best. The servant leader acts proactively to set the way, and inspire others to follow (Greenleaf, 1991, 2002). I recognized the traits of servant leadership (Greenleaf (1991, 2002) from the beginning of my time in the doctoral program. Early in the doctoral program one of the professors went around the room and asked every student why they were attempting to earn their doctorate. The responses, while all unique, were similar in nature. Some cited a job promotion, or to learn how to conduct research, while others admitted they wanted to earn more money that would inevitably come with earning a terminal degree. My answer? "I am enrolled in this program because I want to inspire my brother to keep going in his education."

This dissertation has been a wonderfully twisted journey of self-discovery. I have learned to tackle my self-consciousness demons, handle conflict, embrace resisters, and acknowledge my unique contributions as a leader. I have marveled at the process of change and my role in leading that change (Argyris, 1990; Fullan, 2001; Schein, 2004). I am grateful for all the encouragement and support I have been blessed to have both at

home and academically throughout this study. I learned that one person can make a big difference, but that the victory is a lot sweeter with collaboration and teamwork which are aligned with my feminist leadership (Larabee 1993; Shugart, 2001) characteristics. For me, building community (Greenleaf, 1991, 2002) was both gratifying and rewarding. I was able to take my positive experience with my own residential learning community my freshman year of college and keep those treasured memories close to my heart while redesigning the Engineering Living and Learning Community at VSU.

As I continue on my leadership journey I will take my memories of my own experience with a residential learning community and my new memories of this living and learning community with me. I am wonderstruck when I think about the possibilities of working with students in a learning community format for years to come. I am inspired by my leadership evolution and I am eager to see what the future holds. Today, I feel ready to tackle any challenge with a fresh perspective on change. As a transformational, servant, feminist leader (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005) when I am faced with a challenge I have a brand new toolbox equipped with all the necessary skills to confront adversary. The future seems very bright and I have several new pairs of lenses to wear in order to see the world from different perspectives.

For me, working in higher education is a way of life: a profession with so much responsibility, challenge, and joy. It has, and continues to be, so rewarding for me to watch students develop, mature, and grow throughout their academic career. My journey throughout the doctoral program has challenged me to learn something new every day. I

understand that as a leader what I do and say matters. From a transformational, feminist leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005) perspective, I have found that there are countless ways that I can create residential learning communities that can lead to opportunities for learners to achieve.

As an administrator, I feel I must approach student development in a way that promotes student learning when others are not there to guide them, with the goal that critical inquiry becomes a way of life for them and they become thoughtful, sensitive, citizens who have something to contribute to the world around them. My goal in the future for working with students is to help them realize their roles as decision-makers who make countless important decisions every minute.

The lives and accomplishments of my professional and personal mentors have made it clear to me that something worthwhile takes hard work and dedication, that learning never stops, and that with disappointments there are also rewards. Throughout this study I have had the privilege of working with diverse populations in the Engineering Living and Learning Community. I have learned with and from these students. I want to be the leader that helps students to think critically and creatively about their work, build meaningful relationships with others, and to care deeply about their education.

The Future of the Engineering Living and Learning Community

In late December prior to a doctoral presentation I was conducting, the ELLC faculty advisor sadly informed me that the S-STEM grant money was not going to be available for the 2011-2012 academic year. I was immediately deflated. The community's purpose was strong and I genuinely felt that the minority, female, and low-income

engineering students could benefit from being a part of the community with or without a scholarship element. I felt helpless, almost paralyzed, because as an outsider what could I do to ensure the ELLC's future at Virginia Smith University? After countless hours and days of reflection I corresponded with Dr. Howard about continuing the community without a scholarship. I suggested opening up the residential learning community to any first-year engineer who had an interest in the LLC environment. Today, with the help of the College of Engineering at VSU, Dr. Howard is devising a way to keep the program intact. Only time will tell if the community will endure. I do hope the legacy that was left will help influence the stakeholders to continue the program with or without funding.

The issue of funding is another reminder of the political difficulties when infusing and maintaining change in the budget conscience world of higher education. Although the research endorses and promotes student-centered learning, money tends to be the defining element when it comes to implementing change. It is very difficult to employ changes and shifts in thinking into an organizational culture rooted in old ways of thinking, learning, and practices, and replace them with innovation, creativity, and a new way of doing things (Fullan, 2001). I understand, based on my experience and research, that resident learning communities can operate at a minimal cost. However in order for the LLC to be effective it takes the work of many (Pike, 1999). With the new dilemma of whether or not there will be an Engineering Living and Learning Community next year I realized that although this dissertation study has commenced, a new journey has just begun. I wrongly assumed that because the ELLC was productive and successful that it would inevitably continue on for years. However, that naïve way of thinking was replaced with the reality that when the resources are gone, programs, even good programs

like the ELLC, get cut. This is a hard pill for me to swallow after I was able to see firsthand the benefits that the community had on its members.

Overall, the data garnered positive results. The outcomes of the study indicated that the 2010-2011 ELLC cohort enjoyed a smooth transition to college, felt a sense of belonging and a genuine connection to campus, and built strong peer-to-peer and peer-to-faculty relationships as a result of their participation in the community. I will continue to support this community and do what I can to ensure its viability for future generations. In the spring 2011 semester I stayed in contact with Dr. Howard to see how I could contribute to the fight to save the program with or without funding. This process is ongoing. The 2010-2011 Engineering Living and Learning Community cohort calendar of events was planned and executed while this dissertation was being written. As Dr. Howard and I persist on our quest for the future of the ELLC, I am aware of the value the program has brought to the students who were able to participate over the years.

Final Reflection

Even with a tremendous amount of support and encouragement throughout the study I had not truly internalized my status as a leader. One day after speaking with my dissertation chair about some of my hesitations with implementing change she reminded me that I was the expert in my change initiative. She told me that I had done the research, I was leading the change, and others were looking to me to guide them through the change process. Her confidence in me helped to reinforce that I was equipped to manage and lead an organizational change. I felt empowered. I began to see that everything I had learned about a change process throughout my studies in the doctoral program was being applied to my action research dissertation. I knew what I was doing, I was doing what I

knew, but I clearly did not have the self-confidence to admit that I could make a difference. My dissertation chair continually motivated me throughout our bi-weekly meetings whenever I questioned my self-confidence. During the dissertation process I reflected often, which led to many self-awakening moments. After a meeting with my chair I journaled:

Why do I need someone to pat me on back or assure me that I am on the right path? Effective leaders are not always going to be greeted with the support and encouragement that I have had the pleasure of being surrounded by throughout this study. I always thought I was confident. Confident, yes but independent, not so much. I should not need someone to tell me I am a leader to feel like a leader. I need to find more inner-strength and learn to challenge myself and understand that I might not always make the perfect decision but that I will always make decisions that I feel are the right ones whether or not I get a pat on the back.

I believe my insecurities about leading the change came at the hands of being considered an expert in my change initiative. At the pinnacle of my educational journey I was still uncomfortable with being a decision-maker whose choices would affect the lives of many students. Of course, I was enthusiastic about making positive changes, but there was concern that sometimes I would miss the mark. What if the new ELLC programming model I implemented was a failure? As a strong-willed, determined, former competitive athlete, failure in my mind was not an option. My chair, the sage advice giver that she was, told me something in one of our meetings that stayed with me throughout the dissertation journey. She revealed that in research not getting the results I wanted was not a failure but a lesson. She said that research was not about always getting successful or positive results, but the process of getting to those results, good or bad. My need to win and not fail was a trivial personality trait that I needed to put on the shelf throughout the action research study. From that moment on I stopped focusing on perfection and challenged myself to remember the purpose of action research. I would learn from

failures - plan, observe, act, and reflect (McTaggart, 1997) - and continue to make meaningful changes.

I firmly believe as a transformational, servant, and feminist leader (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005) my transparency, honesty, passion, and confidence regarding my motivation to work with the VSU Engineering Living and Learning Community at the stakeholder meetings encouraged others to feel invested in the program. As a transformational leader I aimed to build and develop consensus, commitment, and community, which are all important characteristics of transformational and feminist leadership (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Goleman et al., 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Spreitzer et al., 2005). At all times I was purposeful in ensuring the stakeholders and the ELLC faculty advisor were clear on the changes that would be implemented to improve the community. I emailed Dr. Howard, the ELLC faculty advisor, regularly to share ideas, progress, observations, and student feedback. I often asked for his feedback on the changes in order to gain his perspectives on the improvements. In one journal entry I wrote:

I just finished writing a summary about the ELLC volleyball game. Dr. [Howard] and I both played with the participants on opposite teams. Since so many of the participants showed up to play we ended up sitting on the sidelines when the teams got too crowded and chatted about the success of the first social program of the year. The students were cheering for each other, laughing, and co-mingling on the court. As we were talking he told me that I had done a good job. It felt great but it was hard for me to individually take the credit. I smiled and told him that we did a good job.

Effective leaders understand the importance of building relationships and sharing knowledge among the followers (Fullan, 2001). According to Fullan (2001), the more

knowledge that is shared among a group of individuals, the greater the collective commitment (Fullan, 2001). The VSU Engineering Living and Learning Community fostered a genuine sharing of knowledge. Transformational and feminist leaders (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Greenleaf, 1991, 2002; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005) utilize relationship building as a major component in leading others. As a transformational, feminist leader, I built relationships with the ELLC stakeholders, the faculty advisor, and the students every chance I had throughout the study.

In my capacity as a student and higher education professional, I have heavily relied on my ability to make connections and build relationships with others which are the cornerstones of transformational and feminist leadership theories (Barbuto, 2005; Bass 1985, 1990; Bryant, 2003; Burns, 1978; Conger, 1999; Larabee, 1993; Leithwood & Jantzi, 2000; Shugart, 2001; Spreitzer et al., 2005). I recognize through interactions with all types of people throughout my personal and professional endeavors that creating connections and building relationships with others is a skill. My successes in professional work related relationships have led to others having confidence in me and my abilities, which have translated into increased responsibilities and promotions over the years. I realized that when others saw me as a leader, someone who could handle adversary, pressure, and additional responsibilities, that gave me the added confidence to believe in myself and view myself in the same light. If others could hold me to a high standard I would challenge myself to set my expectations of myself even higher.

References

- Angelo, T. (1993). A Teacher's dozen: Fourteen general, research-based principles for improving higher learning in our classrooms. *American Association of Higher Education*, 45(8), 3-8.
- Arboleda, A., Wang, Y., Shelley, M. C., & Whalen, D. F. (2003). Predictors of residence hall involvement. *Journal of College Student Development*, 44(4), 517-531.
- Argyris, C. (1990). *Overcoming organizational defenses: Facilitating organizational learning*. Upper Saddle River, NJ: Prentice Hall.
- Astin, A. W. (1993). *What matters in college: Four critical years revisited*. San Francisco, CA: Jossey-Bass.
- Astin, A. (1996). Involvement in learning revisited: Lessons we have learned. *Journal of College Student Development*, 37, 123-133.
- Astin, A., & Astin, H. (1992). *Undergraduate science education: The impact of different college environments on the educational pipeline of the sciences. Final report*. (University of California, Los Angeles Higher Education Research Institute ED 362404). Washington, DC: National Science Foundation.
- Barbuto, J. E. (2005). Motivation and transactional, charismatic, and transformational leadership: a test of antecedents. *Journal of Leadership and Organizational Studies*, 11(4), 26-40.
- Bass, B. M. (1985). *Leadership and performance beyond expectation*. New York, NY: The Free Press.
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics*, (Winter), 19-31.
- Blackhurst, A. E., Akey, L. D., & Bobilya, A. J. (2003) A qualitative investigation of student outcomes in a residential learning community. *Journal of the First Year Experience and Students in Transition*, 15(2), 35-59.
- Block, P. (1993). *Stewardship: Choosing service over self interest*. San Francisco, CA: Berrett-Koehler Publishing.
- Bobilya, A. J., & Akey, L. (2002). An evaluation of adventure education components in a residential learning community. *Journal of Experiential Education*, 25(2), 296-304.

- Bolman, L. G., & Deal, T. E. (2003). *Reframing organizations* (3rd ed.). San Francisco, CA: Jossey- Bass.
- Brower, A. M., Golde, C. M., & Allen, C. E. (2003). Residential learning communities positively affect college binge drinking. *NASPA Journal*, 40(3), 132-153.
- Browne, M. N., & Minnick, K. J. (2005). The unnecessary tension between learning communities and intellectual growth. *College Student Journal*, 39(4), 775-783.
- Bryant, S. E. (2003). The role of transformational and transactional leadership in creating, sharing and exploiting organizational knowledge. *Journal of Leadership and Organizational Studies*, 9(4), 32-44.
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.
- Cabrera, A. A., & Castaneda, M. (1993). College persistence: Structural equations modeling test of an integrated model of student retention. *Journal of Higher Education*, 64(2), 123-136.
- Chubin, D. E., May, G. S., & Babco, E. L. (2005). Diversifying the engineering workforce. *Journal of Engineering Education*, 4(2), 73-86.
- Clewell, B., Anderson, B., & Thorpe, M. (1992) *Breaking the barriers: Helping female and minority students succeed in mathematics and Science*, San Francisco, CA: Jossey-Bass.
- Cohen, J. (1994). Matching university mission with service motivation: Do the accomplishments of community service match the claims? *Michigan Journal of Community Service Learning*, 1(1), 98-104.
- Conger, J. A. (1999). Charismatic and transformational leadership in organizations: an insider's perspective on these developing streams of research. *The Leadership Quarterly*, 10(2), 145-170.
- Corte, A. D. (2003). The critical role of higher education in creating a sustainable future. *Planning for Higher Education*, 31(3), 15-22.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). London, UK: SAGE.
- Daie, J. (1994). Science education and residential learning communities. *Journal of College Science Teaching*, 24, 159-61.
- Denzine, G., & Kennedy, A. (1997). Creating *learning communities* across the lifespan. *Journal of College Student Development*, 38, 668-9.
- Dewey, J. (1993). *How we think*. Lexington, KY: Heath Publishing.

- Dunphy, L., Miller, T. E., Woodruff, T., & Nelson, J. E. (2006). Exemplary retention strategies for the freshman year. *New Directions for Higher Education*, 60, 39-60.
- Elkins, S., Braxton, J., & James, G. (2000). The impact of a living learning center on students' academic success and persistence. *Research in Higher Education*, 41(2), 251-268.
- Ford, V. (1974). No woman no cry [B. Marley]. On Natty Dread [Album]. Kingston, Jamaica: Harry J's Studios.
- Fullan, M. G. (2001). *Leading in a culture of change*. San Francisco, CA: Jossey-Bass.
- Gabelnick, F., MacGregor, J., Matthews, R., & Smith, B. L. (1990) Learning Communities: Building connections among disciplines, students, and faculty. *New directions for teaching and learning*. San Francisco, Ca: Jossey-Bass.
- Gibbons, M. (2007). Engineering by the numbers. Retrieved November 3, 2010 from <http://www.asee.org/publications/profiles/upload/2007/ProfileEng.pdf>
- Gilligan, C. (1983). *In a different voice*. Cambridge MA: Harvard University Press.
- Glesne, C. (2006). *Becoming qualitative researchers: An Introduction* (3rd ed.). Boston, MA: Pearson Education.
- Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership learning to lead with emotional intelligence*. Boston, MA: Harvard Business School Press.
- Greenleaf, R. K. (1991). *The servant as leader*. Indianapolis, IN: The Robert K. Greenleaf Center.
- Greenleaf, R. K. (2002). *Servant leadership: A journey into the nature of legitimate power and greatness* (25th Anniversary Edition). (2002). Mahwah, NJ: Paulist Press.
- Habley, W., & McClanahan, R. (2008, July). *What works in student retention?* Presented at the ACT Information for Life's Transitions Seventeenth Annual Enrollment Planner's Conference, Chicago, IL.
- Heron, J. (1996). *Cooperative inquiry: Research into the human condition*. London, UK: Sage.
- Hinchey, P. H. (2008). *Action research primer*. New York, NY: Peter Lang Publishers.

- Inkelas, K. K., Daver, Z. E., Vogt, K. E., & Leonard, J. B. (2007). Living-Learning programs and first-generation college students' academic and social transition to college. *Research in Higher Education*, 48(4), 403-434.
- Inkelas, K. K., Vogt, K. E., & Longerbeam, S. D. (2006). Measuring outcomes of *living-learning* programs: Examining college environments and student *learning* and development. *The Journal of General Education*, 55(1), 40-76.
- Inkelas, K. K., & Weisman, J. L. (2003). Different by design: An examination of student outcomes among participants in three types of living-learning programs. *Journal of College Student Development*, 44(3), 335-368.
- Johnson, J. (2001) Learning communities and special efforts in retention of university students: What works, what doesn't, and is the return worth the investment? *Journal of College Student Retention: Research, Theory, and Practice*, 2(3), 219-238.
- Johnson, W. G. (2006) Strategies for enhancing student learning in the residence halls. *New Directions for Student Service*, 75, 69-82.
- Kanoy, K. W., & Bruhn, J. W. (1996). Effects of a first year living and learning residence hall on retention and academic performance. *Journal of the Freshman Year Experience and Students in Transition*, 8(1), 7-23.
- Kellog, K. (1999). Learning communities. *Clearinghouse on Higher Education*, 43(5), 20-42.
- Knight, W. (2003). Learning communities and first-year programs: Lessons for planners. *Planning for Higher Education*, 31(4), 5-12.
- Kuh, G. D., Schuh, J. H., & Whitt, E. J. (1991). Involving colleges: Successful approaches to fostering student development and learning outside of the classroom. San Francisco, CA: Jossey-Boss.
- Landis, R. (1991). Retention by design: Achieving excellence in minority engineering education. *Journal of Engineering Education* 6(3), 12-26.
- Larabee, M. J. (1993). *An ethic of care. Feminist and Interdisciplinary perspective*. New York, NY: Routledge, Chapman and Hall.
- LaVine, M., & Mitchell, S. (2006). A Physical education learning community: development and first-year assessment. *Physical Educator*, 63(2), 58-68.
- Leithwood, K., & Jantzi, D. (2000). The effects of transformational leadership on organizational conditions and student engagement with school. *Journal of Educational Administration*, 38(2), 112.
- Lenning, D. E., & Ebbers, L. H. (1999). The powerful potential of learning communities: Improving education for the future. *Association for the Study of Higher Education*, 26(4), 18-42.

- Levin, J., & Tompkins, D. (1996). Making learning communities work: Seven lessons from Temple University. *American Association of Higher Education Bulletin*, 6(2), 3-6.
- Light, R. J. (2001). The power of good advice for students. *Chronicle of Higher Education*, 47(25), B11-B12.
- Maton, K. (2000) African American college students excelling in the sciences: College and post college outcomes in the meyerhoff scholars program. *Journal of Research in Science Teaching*, 37(7), 629–654.
- May, G. S., & Chubin, D. E. (2003) A retrospective on undergraduate engineering success for underrepresented minority students. *Journal of Engineering Education*, 92(1), 27-40.
- Mayo, J. R., Murguia, E., & Padilla, R. V. (1995). Social integration and academic performance among minority university students. *Journal of College Student Development*, 36(6), 542-552.
- McTaggart, R. (1997). Guiding principles for participatory action research. (Reprinted from *Participatory action research: International contexts and consequences*, pp. 263-274, by McTaggart, 1997, New York: State University of New York Press.
- Meath-Lang, B. (1997). Dramatic interactions: Theater work and the formation of learning communities. *American Annals of the Deaf*, 142, 99-101.
- Pascarella, E., Pierson, C., Wolniak, G., & Terenzini, P. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *Journal of Higher Education*, 75(3), 249-284.
- Pascarella, E. T., Terenzini, P. T., & Hibel, J. (1978). Student-faculty interactional settings and their relationship to predicted academic performance. *Journal of Higher Education*, 49(5), 450-463.
- Pasque, P. A. & Murphy, R. (2005). The intersections of living-learning programs and social identity as factors of academic achievement and intellectual engagement. *Journal of College Student Development*, 46(4), 429-441.
- Patten, M. L. (2001). *Questionnaire research*. Los Angeles, CA: Pyrczak Publishing.
- Patten, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Pike, G. (1997). *The effects of residential learning communities on students' educational experiences and learning outcomes during the first year of college*. Proceedings of the Association of the Study of Higher Education, Albuquerque, NM.
- Pike, G. (1999). The effects of residential learning communities and traditional residential living arrangements on educational gains during the first year of college. *Journal of College Student Development*, 40(3), 269-84.

- Pike, G. (2002). The differential effects of on- and off-campus living arrangements on students' openness to diversity. *National Association of Student Personnel Administrators Journal*, 39, 283-299.
- Pike, G., & Kuh, G. (2005). First- and second-generation college students: A comparison of their engagement and intellectual development. *The Journal of Higher Education*, 76(3), 276-300.
- Regan, H. B. & Brooks, G. H. (1992). *Out of the women's experience: School leadership for women and men*. Paper presented at the Meeting of the American Educational Research Association's Special Interest Group: Research on Women in Education, University Park, PA.
- Ritchie, S. M. (2006). Ethical considerations for teacher-education researchers of coteaching [11 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 7(4), Art. 21, <http://nbn-resolving.de/urn:nbn:de:0114-fqs0604218>.
- Ritchie, S. M., & Rigano, D. L. (2001). Researcher-participant positioning in classroom research. *International Journal of Qualitative Studies in Education*, 14, 741-756.
- Sandeen, A. (2004). Educating the whole student: The growing academic importance of student affairs. *Change*, 36(3), 28-33.
- Schein, E. H. (2004). *Organizational culture and leadership* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Schroeder, C. C., Minor, F. D., & Tarkow, T. A. (1999). Freshman interest groups: Partnership for promoting student success. *New Directions for Student Services*, 87, 37-49.
- Schussler, D. L., & Fierros, E. G. (2008). Students' perceptions of their academics, relationships, and sense of belonging: Comparisons across residential learning communities. *Journal of the First Year Experience & Students in Transition*, 20(1), 71-96.
- Seymour, E., & Hewitt, N. (1997). *Talking about leaving: Why undergraduates leave the sciences*. Boulder, CO: Westview Press.
- Shugart, H. A. (2001). Isn't it ironic? The intersection of third wave feminism and generation x. *Women's Studies in Communication*, 24(2), 131-168.
- Sidle, M. W., & McReynolds, J. (1999). The freshman year experience: Student retention and student success. *NASPA Journal*, 36(4), 288-300.
- Spreitzer, G. M., Perttula, K. H. & Xin, K. (2005). Traditionality matters: An examination of the effectiveness of transformational leadership in the United States and Taiwan. *Journal of Organizational Behavior*, 26, 205-227.

- Stassen, M. (2003). Student outcomes: The impact of varying living-learning community models. *Research in Higher Education*, 44(5), 581-613.
- Tinto, V. (1993). *Leaving college: Rethinking the causes, and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.
- Tinto, V. (1996). Restructuring the first year of college. *Planning for Higher Education*, 25(1), 1-6.
- Tinto, V., Goodsell-Love, A., & Russo, P. (1993). Building learning communities for new college students. *Liberal Education*, 79, 21-29.
- Wheatley, M. (2006). *Leadership and the new science*. San Francisco, CA: Berrett-Koehler Publishers.
- Wren, T. (1995). *Primal leadership*. New York, NY: The Free Press.
- Wulf, W. A. (1998). Diversity in engineering. *The Bridge*, 24(4), 68-84.
- Youngman, J. A., & Engelhoff, C. J. (2004). Best practices in recruiting and persistence of underrepresented minorities in engineering. *Frontiers in Education*, 33(2), 11-16.
- Zhang, G., Anderson, T., Ohland, M., & Thorndyke, B. (2004). Identifying factors influencing engineering student graduation: A longitudinal and cross-institutional study. *Journal of Engineering Education*, 93(4), 313-320.
- Zhao, C. M., & Kuh, G. D. (2004). Adding value: Learning communities and student engagement. *Research in Higher Education*, 45(2), 115-138.

Appendix A

ELLC Fall 2009 Survey

(September 2009)

Please make a selection from the answers below.

1. Your gender

- male
 female

2. Your major:

- ChE
 CE
 ECE
 ME

3. Your ethnicity (check all that apply):

- African American
 American Indian/Alaskan Native
 Asia
 Central or South American
 Cuban
 Hispanic - other
 Mexican
 Native Hawaiian or Pacific Islander
 Puerto Rican
 White

4. I am in Section [22] of Composition I that meets 4:45pm-6pm Tuesdays and Thursdays.

- no
 yes

5. I am in a Freshman Engineering Clinic I section that had lab on Tuesdays.

- no
 yes

6. White attending [Virginia Smith] University, I live

- [Witzig] Hall 1st Floor
 [Witzig] Hall 4th Floor
 In another residence hall on campus
 Off campus

7. Your mother's highest level of education:

- Elementary school
 Some high school but no diploma
 High school diploma or equivalent
 Some college but no degree
 Associate's degree

- Bachelor's degree
- Master's degree
- Doctoral degree

8. If your mother has a bachelor's, master's, and/or doctoral degree, are any of the degrees in the field of engineering?

- no
- yes
- not applicable (mother does not have a Bachelor's degree or higher)

9. Your father's highest level of education:

- Elementary school
- Some high school but no diploma
- High school diploma or equivalent
- Some college but no degree
- Associate's degree
- Bachelor's degree
- Master's degree
- Doctoral degree

10. If your father has a bachelor's, master's, and/or doctoral degree, are any of the degrees in the field of engineering?

- no
- yes
- not applicable (mother does not have a Bachelor's degree or higher)

11. The highest level of education you hope to complete is

- Associate's degree
- Bachelor's degree
- Master's degree
- Doctoral degree

12. Were you in an academy in high school (i.e., a program of study focused on a major topic such as engineering, biology, or chemistry)?

- no
- yes - engineering
- yes - not engineering

13. Do you plan to work at a job during this academic school year?

- not at all
- 1 to 10 hours per week
- 11 to 20 hours per week
- 21 to 30 hours per week
- 31 or more hours per week

Please read the statements below and select your level of agreement.

14. I need to learn how to manage my time.

- strongly disagree
- disagree
- agree
- strongly agree

15. I need to learn how to study at the college level.

- strongly disagree
- disagree
- agree
- strongly agree

16. The Engineering Living and Learning Community with its scholarships was one of the main reasons I chose to enroll at [Virginia Smith] University.

- strongly disagree
- disagree
- agree
- strongly agree

17. I am aware of who I am as a learner according to the LCI learning patterns.

- strongly disagree
- disagree
- agree
- strongly agree

18. I gave a good idea of the engineering jobs that are a good match for my interests, skills, and abilities.

- strongly disagree
- disagree
- agree
- strongly agree

19. I would like to learn more about my interests, skills, and abilities.

- strongly disagree
- disagree
- agree
- strongly agree

Please select 'yes' or 'no' for the following statements.

20. I would like more information about financial aid and scholarships.

- no
- yes

21. I would like more information about other engineering majors within the college.

- no
- yes

22. I would like more information about engineering clubs and/or organizations within the college.

- no
- yes

23. I would like more information about the types of jobs I could get with my degree.

- no
- yes

24. I am aware of how to arrange for a tutor at [Virginia Smith] University.

no

yes

25. I am aware of how to use the Career and Academic Planning Center on campus.

no

yes

Please check all that apply.

26. If you were to experience a problem as a student, whom might you ask for help? (check all that apply)

one or more of your peers in the Engineering Living and Learning Community

your Engineering Living and Learning Community teacher

your faculty advisor

your Engineering Living and Learning Community faculty mentor

your tutor

Please answer the following open-ended questions.

27. In what way(s) do you think your Engineering Living and Learning Community will be helpful to you as a freshman?

28. What topic(s) would you like to discuss with your Engineering Living and Learning Community leader and peers?

Appendix B

ELLC End-of-Fall-Semester Survey

(January 2010)

Directions: Please indicate your college readiness (i.e. how well prepared you were in these areas) **PRIOR** to starting your first semester at [Virginia Smith] University, Fall 2009, by checking one of the answers below.

1. My ability to handle stress

- Excellent
 Good
 Fair
 Poor

2. My ability to cope with a competitive atmosphere

- Excellent
 Good
 Fair
 Poor

3. Effective study strategies and skills

- Excellent
 Good
 Fair
 Poor

4. Time management skills

- Excellent
 Good
 Fair
 Poor

Directions: Please indicate your college readiness (i.e. how well prepared you were in these areas) **AFTER** to starting your first semester at [Virginia Smith] University, Fall 2009, by checking one of the answers below.

5. My ability to handle stress

- Excellent
 Good
 Fair
 Poor

6. My ability to cope with a competitive atmosphere

- Excellent
 Good
 Fair
 Poor

7. Effective study strategies and skills

- Excellent

- Good
- Fair
- Poor

8. Time management skills

- Excellent
- Good
- Fair
- Poor

Directions: Please indicate your satisfaction with your living and learning community experience by checking one of the selections below.

My involvement in the Engineering Living and Learning Community has improved...

9. my sense of belonging to [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

10. my opportunity to interact with [Virginia Smith] University engineering faculty and staff

- strongly disagree
- disagree
- agree
- strongly agree

11. my sense of social support at [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

12. my interest in continuing my education at [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

13. my adjustment to academic challenges

- strongly disagree
- disagree
- agree
- strongly agree

14. the quality of my overall experiences at [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

15. my connection to the [Virginia Smith] University campus

- strongly disagree

disagree

agree

strongly agree

16. my awareness of resources on-campus

strongly disagree

disagree

agree

strongly agree

17. my ability to get to know other engineering students in the learning community

strongly disagree

disagree

agree

strongly agree

18. my opportunities to become more involved in community activities

strongly disagree

disagree

agree

strongly agree

19. my communication with professors

strongly disagree

disagree

agree

strongly agree

20. my participation in study groups

strongly disagree

disagree

agree

strongly agree

21. my ability to interact well with people from other cultures or ethnic groups

strongly disagree

disagree

agree

strongly agree

22. my understanding of diverse cultures and values

strongly disagree

disagree

agree

strongly agree

23. my knowledge of issues and problems facing the world

strongly disagree

disagree

agree

strongly agree

24. my adjustment to academic challenges

strongly disagree

disagree

- agree
- strongly agree

Directions; Please indicate your level of satisfaction with your learning community experience by checking one of the selections below.

25. Overall satisfaction with your living and learning community experience

- very satisfied
- satisfied
- dissatisfied
- strongly dissatisfied

26. Satisfaction with the social activities in the learning community

- very satisfied
- satisfied
- dissatisfied
- strongly dissatisfied

Directions: Please elaborate on your residential learning community experience by answering the following questions.

27. What was the most satisfying aspect of your experience with the living and learning community?

28. What was the most disappointing aspect of your experience with the living and learning community?

29. Please list any comments or suggestions for improvement of the living and learning community.

30. What are your ideas or suggestions of some activities, events, or workshops that you would like to attend in the spring 2010 semester?

Appendix C

Focus Group

(May 2010)

Focus Group Interview Protocol ELLC Experience

1. (A) Describe your overall satisfaction with the Engineering Living and Learning Community (ELLC) experience.

(B) How could your overall satisfaction with the ELLC be improved?
2. (A) Describe your overall satisfaction with the social activities in the Engineering Living and Learning Community.

(B) How could your overall satisfaction with the social activities be improved?
3. What was the most satisfying aspect of your experience with the ELLC?
4. What was the most disappointing aspect of your experience with the ELLC?

University Experience

5. Describe how your participation in the ELLC improved or *did not improve* your overall sense of belonging to [Virginia Smith] University.
6. Describe how your participation in the ELLC improved or *did not improve* your opportunities to interact with [VS]U Engineering faculty and staff.
7. Describe how your participation in the ELLC improved or *did not improve* your relationships with other ELLC participants.
8. Describe how your participation in the ELLC improved or *did not improve* your connection with **non**-ELLC engineering peers.

Please answer **YES** or **NO** for the following questions:

9. My participation in the ELLC improved my sense of social support at [VS]U. **YES / NO**
10. My participation in the ELLC improved my interest in continuing my education at RU. **YES/ NO**
11. My participation in the ELLC improved the quality of my overall experiences at [VS]U. **YES/NO**
12. My participation in the ELLC improved my connections to other clubs and university activities. **YES/NO**
13. My participation in the ELLC improved my awareness of resources on-campus. **YES/NO**
14. My participation in the ELLC improved my opportunities to become more involved in community activities. **YES/NO**

Appendix D

ELLC End-of-Spring-Semester Survey

(May 2010)

Directions: Please rate your level of satisfaction with each of the following programs.

1. Beginning of semester get together (September 2009)

- completely satisfied
- satisfied
- somewhat satisfied
- dissatisfied
- completely dissatisfied
- did not attend

2. Study guide session (October 2009)

- completely satisfied
- satisfied
- somewhat satisfied
- dissatisfied
- completely dissatisfied
- did not attend

3. Clinic Tour (November 2009)

- completely satisfied
- satisfied
- somewhat satisfied
- dissatisfied
- completely dissatisfied
- did not attend

4. Graphing calculator presentation (February 2010)

- completely satisfied
- satisfied
- somewhat satisfied
- dissatisfied
- completely dissatisfied
- did not attend

5. Campus Culture Presentation (March 2010)

- completely satisfied
- satisfied
- somewhat satisfied
- dissatisfied
- completely dissatisfied
- did not attend

6. Alumni Talk (April 2010)

- completely satisfied
- satisfied
- somewhat satisfied
- dissatisfied
- completely dissatisfied
- did not attend

Directions: Please indicate whether or not you would recommend the following programs for next year's ELLC cohort.

7. Beginning of semester get together (September 2009)

- yes - recommend
- no - do not recommend
- N/A - did not attend

Reason for or against recommendation:

8. Study guide session (October 2009)

- yes - recommend
- no - do not recommend
- N/A - did not attend

Reason for or against recommendation:

9. Clinic Tour (November 2009)

- yes - recommend
- no - do not recommend
- N/A - did not attend

Reason for or against recommendation:

10. Graphing calculator presentation (February 2010)

- yes - recommend
- no - do not recommend
- N/A - did not attend

Reason for or against recommendation:

11. Campus Culture Presentation (March 2010)

- yes - recommend

- no - do not recommend
 N/A - did not attend

Reason for or against recommendation:

12. Alumni Talk (April 2010)

- yes - recommend
 no - do not recommend
 N/A - did not attend

Reason for or against recommendation:

Please answer the following open-ended questions.

13. Please list any [Virginia Smith] University service provided to you that was particularly helpful.

14. Please list any [Virginia Smith] University service that would have been useful to you, but was not provided.

15. What was the most satisfying aspect of your experience with the Engineering Living and Learning Community?

16. What was the most disappointing aspect of your experience with the Engineering Living and Learning Community?

Directions: Please circle one.

- 17. Your major:** ChE CE ECE ME
18. Your gender: male female

Appendix E

ELLC R.A. Interview

(December 2010)

R.A. Interview

1. What do you understand the Engineering Living and Learning Community philosophy to be and how do you feel about that philosophy?
2. Would you briefly tell me about your education and experience at [VSU] and specifically how those experiences relate to the ELLC R.A. position?
3. Could you tell me about your experience as an RA for this residential learning community?
4. What activities and/or events did you host with the ELLC participants?
5. Please describe your leadership style. Please give me an example from your experiences with the ELLC students that demonstrate this style.
6. In your opinion what do you think the ELLC participants gained from taking part in the ELLC program?
7. What did you find most challenging about being an RA in the ELLC program? How did you handle these challenges?
8. What is the most interesting part about your experience working with the ELLC students this past semester?
9. How do you think we can improve the ELLC in the spring 2011 semester and what would be your role in making these improvements?
10. Living and learning communities are unique learning environments. What assistance did you offer to the participants that supported their in-class and out-of-class experiences?

11. What values or qualities did you bring to the ELLC students that you feel made an impact to their connection to campus? Can you give an example?
12. Some of the courses offered to the ELLC students are linked courses do you see as a positive and/or negative since the students live on the same wing of the residence hall?
13. Would you share your best experience working with the ELLC population and provide me with any specific examples of how your personal knowledge, influence, or expertise has helped the participants of this community?
14. The participants of the ELLC are from a wide range of backgrounds what were some strategies you used to enhance the living and learning opportunities for all of them?
15. In your opinion did these students get along with each other?
16. In your opinion do you think these students enjoyed being a part of the ELLC program – why or why not?
17. What was the most difficult student problem you had to deal with? How did you resolve the problem?
18. What did you do this semester to encourage peer-to-peer relationships? Did you think it worked? Why or Why not?
19. Can you me a specific example(s) of how you have helped students who may have felt underprepared academically or transitionally for college?
20. What was the hardest part of working with the ELLC students?
21. What was the most rewarding part of working with the ELLC students?
22. Based on your experiences this semester what are you going to do differently in the spring 2011 semester to improve the ELLC program?

Appendix F

Focus Group

(December 2010)

Focus Group Interview Protocol ELLC Experience

1. (A) Describe your overall satisfaction with the Engineering Living and Learning Community (ELLC) experience.

(B) How could your overall satisfaction with the ELLC be improved?
2. (A) Describe your overall satisfaction with the social activities in the Engineering Living and Learning Community.

(B) How could your overall satisfaction with the social activities be improved?
3. What was the most satisfying aspect of your experience with the ELLC?
4. What was the most disappointing aspect of your experience with the ELLC?

University Experience

5. Describe how your participation in the ELLC improved or *did not improve* your overall sense of belonging to [Virginia Smith] University.
6. Describe how your participation in the ELLC improved or *did not improve* your opportunities to interact with [VS]U Engineering faculty and staff.
7. Describe how your participation in the ELLC improved or *did not improve* your relationships with other ELLC participants.
8. Describe how your participation in the ELLC improved or *did not improve* your connection with **non-ELLC** engineering peers.

Please answer **YES** or **NO** for the following questions:

9. My participation in the ELLC improved my sense of social support at [VS]U. **YES / NO**
10. My participation in the ELLC improved my interest in continuing my education at RU. **YES/ NO**
11. My participation in the ELLC improved the quality of my overall experiences at [VS]U. **YES/NO**
12. My participation in the ELLC improved my connections to other clubs and university activities. **YES/NO**
13. My participation in the ELLC improved my awareness of resources on-campus. **YES/NO**
14. My participation in the ELLC improved my opportunities to become more involved in community activities. **YES/NO**

Appendix G

ELLC End-of-Fall-Semester Survey

(January 2011)

Directions: Please indicate your college readiness (i.e. how well prepared you were in these areas) **PRIOR** to starting your first semester at [Virginia Smith] University, Fall 2010, by checking one of the answers below.

1. My ability to handle stress

- Excellent
 Good
 Fair
 Poor

2. My ability to cope with a competitive atmosphere

- Excellent
 Good
 Fair
 Poor

3. Effective study strategies and skills

- Excellent
 Good
 Fair
 Poor

4. Time management skills

- Excellent
 Good
 Fair
 Poor

Directions: Please indicate your college readiness (i.e. how well prepared you were in these areas) **AFTER** to starting your first semester at [Virginia Smith] University, Fall 2010, by checking one of the answers below.

5. My ability to handle stress

- Excellent
 Good
 Fair
 Poor

6. My ability to cope with a competitive atmosphere

- Excellent
 Good
 Fair
 Poor

7. Effective study strategies and skills

- Excellent
- Good
- Fair
- Poor

8. Time management skills

- Excellent
- Good
- Fair
- Poor

Directions: Please indicate your satisfaction with your living and learning community experience by checking one of the selections below.

My involvement in the Engineering Living and Learning Community has helped me to...

9. see connections among my classes (i.e., learning in one class supported or expanded on what I learned in another class)

- strongly disagree
- disagree
- agree
- strongly agree

10. see connections between my personal experiences and class learning

- strongly disagree
- disagree
- agree
- strongly agree

11. smooth the transition from high school to college

- strongly disagree
- disagree
- agree
- strongly agree

12. build strong relationships with the other ELLC participants

- strongly disagree
- disagree
- agree
- strongly agree

13. expand my network of peer support

- strongly disagree
- disagree
- agree
- strongly agree

14. build stronger relationships with the ELLC professors

- strongly disagree
- disagree
- agree
- strongly agree

My involvement in the Engineering Living and Learning Community has improved...

15. my sense of belonging to [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

16. my opportunity to interact with [Virginia Smith] University engineering faculty and staff

- strongly disagree
- disagree
- agree
- strongly agree

17. my sense of social support at [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

18. my interest in continuing my education at [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

19. my adjustment to college from high school

- strongly disagree
- disagree
- agree
- strongly agree

20. the quality of my overall experiences at [Virginia Smith] University

- strongly disagree
- disagree
- agree
- strongly agree

21. my connection to the [Virginia Smith] University campus

- strongly disagree
- disagree
- agree
- strongly agree

22. my awareness of resources on-campus

- strongly disagree
- disagree
- agree
- strongly agree

23. my ability to get to know other engineering students in the learning community

strongly disagree

disagree

agree

strongly agree

24. my opportunities to become more involved in community activities

strongly disagree

disagree

agree

strongly agree

25. my communication with professors

strongly disagree

disagree

agree

strongly agree

26. my peer relationships

strongly disagree

disagree

agree

strongly agree

27. my ability to interact well with people from other cultures or ethnic groups

strongly disagree

disagree

agree

strongly agree

28. my ability to network with friends at [Virginia Smith] University

strongly disagree

disagree

agree

strongly agree

29. my desire to get involved on campus

strongly disagree

disagree

agree

strongly agree

30. my adjustment to academic challenges

strongly disagree

disagree

agree

strongly agree

Directions; Please indicate your level of satisfaction with your learning community experience by checking one of the selections below.

31. Overall satisfaction with your living and learning community experience

- very satisfied
- satisfied
- dissatisfied
- strongly dissatisfied

32. Satisfaction with the social activities in the learning community

- very satisfied
- satisfied
- dissatisfied
- strongly dissatisfied

Directions: Please elaborate on your residential learning community experience by answering the following questions.

33. What was the most satisfying aspect of your experience with the living and learning community?

34. What was the most disappointing aspect of your experience with the living and learning community?

35. Please list any comments or suggestions for improvement of the living and learning community.

36. In what ways did your involvement with the ELLC program effect your transition from high school to college?

37. Did your involvement with the ELLC program effect your ability to get involved on campus (i.e., events, clubs, organizations, school spirit)? If yes, why?

38. In what ways did your involvement with the ELLC program affect your relationships with other ELLC members?

39. In what ways did your involvement with the ELLC program affect your relationships with your ELLC professors?

Directions: Please elaborate on Trisha Zobel's role in the ELLC by answering the following questions.

40. What qualities or characteristics did Trisha Zobel have that were helpful to you throughout your first semester with the ELLC?

41. What could Trisha Zobel have done differently to help make your first semester with the ELLC better?

42. In what ways did Trisha Zobel's involvement with the ELLC program affect your overall cohort experience?

43. How would you describe Trisha Zobel's leadership qualities or characteristics?

Appendix H
Leadership Questionnaire/Evaluation
(January 2011)

1. Describe Trisha Zobel's leadership style.

2. What qualities or characteristics did Trisha Zobel have that were helpful to the effectiveness ELLC community?

3. What could Trisha Zobel have done differently to help make the ELLC better?

4. In what ways did Trisha Zobel's involvement with the ELLC program effect the program?

5. How would you describe Trisha Zobel's leadership qualities or characteristics?

6. In what ways did Trisha Zobel change over throughout the research?

7. Describe how Trisha Zobel's leadership impacted the ELLC community.

Appendix I
ELLC Program Interest Survey
(Summer 2010)

Name: _____

Check one of the selections below:

- I was a member of the 2009-2010 ELLC cohort
 I will be a member of the 2010-2011 ELLC cohort

Your gender:

- female
 male

Your major:

- ChE
 CE
 ECE
 ME

Directions: Please indicate with an 'x' in each column your interest in attending the following events/activities.

Event/Activity	Yes	No
Welcome Party		
Volleyball Game		
Bowling		
Board Game Night		
Wiffle Ball Game		
Ultimate Frisbee		
Ice Cream Party		
Book Club		
Bar-B-Que		
Campus Scavenger Hunt		

Appendix J

Recruitment Letter



Dear XX:

Congratulations! You are eligible for an NSF S-STEM scholarship of up to \$3,000 per year for 4 years to help pay for your education at the College of Engineering at [Virginia Smith] University. This scholarship, provided by the US National Science Foundation and managed by the College of Engineering, could total up to \$12,000!

The S-STEM scholarship is awarded separately from other financial aid. The NSF S-STEM scholarship will not appear in your [Virginia Smith] financial aid package until you agree to the terms of the scholarship (see below). It will replace up to \$3,000 in financial aid loans each year. If your financial aid loan amount is below \$3,000 in any year, your NSF S-STEM scholarship will drop to the loan amount.

NSF S-STEM recipients must maintain a 2.5 GPA or higher and join the Engineering Living and Learning Community (ELLC) at [Virginia Smith] University. The ELC is a freshman year experience open only to NSF S-STEM recipients. ELC students live in a common dorm (unless they commute), enroll in the same sections of Composition I and Freshman Engineering Clinic I (Fall) and Calculus II and Freshman Engineering Clinic I (Spring), and participate together in at least 3 extracurricular activities each semester (organized by the College of Engineering). Additional tutoring opportunities are also available to students in the ELC. You do not need to room with someone in the ELC, so you can pick your own roommate if you wish.

Please send me an email by (MONTH DAY, YEAR) indicating Yes or No: “Yes” you will join the ELLC, or “No” if you do not want to join the ELLC. Please put “NSF S-STEM” in the subject heading. If you do not respond by (MONTH DAY, YEAR), or you respond with a “No”, we will rescind the scholarship offer. This will allow us to extend a timely award to another deserving student. Once you indicate your willingness to join the ELLC, we will submit your name to the housing office (for the ELLC Residence Hall) and the financial aid office (to get you the scholarship).

If you have any questions, please email me or call (856) 256 5326. Again, congratulations!

WELCOME TO THE 2010-2011 S-STEM ENGINEERING

LIVING AND LEARNING COMMUNITY

This E-Newsletter is a pre-semester update on the S-STEM Scholarships and the Engineering Living and Learning Community (ELLC).

Please confirm via e-mail that you received this newsletter. If you have received this newsletter in error, let me know ASAP. Thanks!

Hello S-STEM Scholarship Recipients!

Here are some answers to Frequently Asked Questions:

Q: Where are my scholarship funds?

A: If your scholarship has not shown up on your financial aid record contact Professor [Howard] as soon as possible at (xxx) xxx-xxxx.

Q: Where will I be housed on-campus?

A: Unless you are a commuter or housed with the Honors program, you should be housed in the “ELLC Residence Hall”. While students who are not in the ELLC will also live in the hall and on your wing (and may even be your roommate), you will live near other ELLC members.

Q: What courses will I be enrolled in?

A: All members of the ELLC are enrolled in the same sections of Freshman Engineering Clinic I and Composition I. These are classes all engineering first year students take, but you will get to take them with other members of the ELLC!

Q: What activities or events will I be involved in as a member of the S-STEM ELLC?

A: We will have a meeting early in the semester to help get to know each other and talk about the planned activities. Don't worry, there are not too many meetings! Professor [Howard] will let you know when and where soon.

Appendix L

Move-In Letter

Campus Move-In Weekend!

We hope your move to campus goes well this weekend! One of the purposes of a learning community is to help students make the transition to college easier. The ELLC will help you find useful information about [Virginia Smith] University and Engineering. Your fellow ELLC students (and faculty) will become resources. As engineers, it is especially important to work together on assignments (but not copy!) and to collaborate when studying for tests. One of the objectives of the ELLC is to form study groups. The ELLC encourages these interactions by, as much as possible, housing students in the same residence hall, enrolling ELLC members in the same sections of two courses, and having fun together at extracurricular activities each semester.

Most members of our community are housed in the Engineering Living and Learning Community (ELLC) in [Witzig] Hall, except for a few who are living in the Honors Hall. Most of you are enrolled in section 3 of Freshman Engineering Clinic I and Composition I. If you are in a different section, it is probably because of some other commitment you have, or a scheduling conflict. If you are not in those sections, do not worry! The community is designed so that each member can interact with fellow ELLC students in the residence hall or through the extracurricular activities we will host each semester.



Our first mandatory Engineering Living and Learning Community meeting will take place on September 2nd @ 6:30pm in the Engineering Conference Room 3rd Floor.

Come hungry because we will be having pizza at the meeting.

Please respond to this email before August 25th if you will not be able to attend this initial meeting.

Appendix M

ELLC Fall 2010 Survey

(September 2010)

Please make a selection from the answers below.

1. Your gender

- male
 female

2. Your major:

- ChE
 CE
 ECE
 ME

3. Your ethnicity (check all that apply):

- African American
 American Indian/Alaskan Native
 Asia
 Central or South American
 Cuban
 Hispanic - other
 Mexican
 Native Hawaiian or Pacific Islander
 Puerto Rican
 White

4. Are you in the Honors Program?

- no
 yes

5. Your mother's highest level of education:

- Elementary school
 Some high school but no diploma
 High school diploma or equivalent
 Some college but no degree
 Associate's degree
 Bachelor's degree
 Master's degree
 Doctoral degree

6. If your mother has a bachelor's, master's, and/or doctoral degree, are any of the degrees in the field of engineering?

- no
 yes
 not applicable (mother does not have a Bachelor's degree or higher)

7. Your father's highest level of education:

- Elementary school
- Some high school but no diploma
- High school diploma or equivalent
- Some college but no degree
- Associate's degree
- Bachelor's degree
- Master's degree
- Doctoral degree

8. If your father has a bachelor's, master's, and/or doctoral degree, are any of the degrees in the field of engineering?

- no
- yes
- not applicable (mother does not have a Bachelor's degree or higher)

9. The highest level of education you hope to complete is

- Associate's degree
- Bachelor's degree
- Master's degree
- Doctoral degree

10. Were you in an academy in high school (i.e., a program of study focused on a major topic such as engineering, biology, or chemistry)?

- no
- yes - engineering
- yes - not engineering

11. Do you plan to work at a job during this academic school year?

- not at all
- 1 to 10 hours per week
- 11 to 20 hours per week
- 21 to 30 hours per week
- 31 or more hours per week

Please read the statements below and select your level of agreement.

12. I need to learn how to manage my time.

- strongly disagree
- disagree
- agree
- strongly agree

12. I need to learn how to study at the college level.

- strongly disagree
- disagree
- agree
- strongly agree

13. I am well-prepared to cope with a competitive atmosphere.

- strongly disagree
- disagree

agree

strongly agree

14. I am well-prepared to handle stress.

strongly disagree

disagree

agree

strongly agree

15. The Engineering Living and Learning Community with its scholarships was one of the main reasons I chose to enroll at [Virginia Smith] University.

strongly disagree

disagree

agree

strongly agree

16. I am aware of who I am as a learner according to the LCI learning patterns.

strongly disagree

disagree

agree

strongly agree

17. I have a good idea of the engineering jobs that are a good match for my interests, skills, and abilities.

strongly disagree

disagree

agree

strongly agree

18. I would like to learn more about my interests, skills, and abilities.

strongly disagree

disagree

agree

strongly agree

Please select 'yes' or 'no' for the following statements.

19. I would like more information about financial aid and scholarships.

no

yes

20. I would like more information about other engineering majors within the college.

no

yes

21. I would like more information about the types of jobs I could get with my degree.

no

yes

22. I am aware of how to arrange for a tutor at [Virginia Smith] University.

no

yes

22. I am aware of how to use the Career and Academic Planning Center on campus.

no

___ yes

Please check all that apply.

26. If you were to experience a problem as a student, whom might you ask for help? (check all that apply)

- ___ one or more of your peers in the Engineering Living and Learning Community
- ___ your Engineering Living and Learning Community teacher
- ___ your faculty advisor
- ___ your Engineering Living and Learning Community faculty mentor
- ___ your tutor

Please answer the following open-ended questions.

27. In what way(s) do you think your Engineering Living and Learning Community will be helpful to you as a freshman?

28. What topic(s) would you like to discuss with your Engineering Living and Learning Community leader and peers?

Appendix N

ELLC vs. Non-ELLC Experiences Survey

(January 2011)

Please make a selection from the answers below.

1. Your gender

- male
 female

2. I am currently in my

- freshman year
 sophomore year

3. Your major:

- ChE
 CE
 ECE
 ME

4. Were you ever a participant in the Engineering Living and Learning Community (ELLC)?

- yes
 no

Directions: Please indicate your level of agreement with your experiences at [Virginia Smith] University by answering the questions below.

5. I feel connected to the [Virginia Smith] University campus

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

6. I experienced a smooth transition from high school to college

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

7. I have built strong relationships with other students in the College of Engineering

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

8. I have a network of supportive peers in my major

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

9. I have strong relationships with the engineering professors and/or faculty.

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

10. I feel connected to the [Virginia Smith] University campus

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

Directions: Please indicate your level of agreement with your experiences at [Virginia Smith] University by answering the questions below.

My involvement in my major at [Virginia Smith] University has improved...

11. my sense of belonging to the university

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

11. my opportunities to interact with [Virginia Smith] University faculty and staff

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

12. my sense of social support at [Virginia Smith] University

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

13. my interest in continuing my education at [Virginia Smith] University

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

14. my adjustment to college from high school

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

15. the quality of my overall experiences at [Virginia Smith] University

- Strongly Agree
 Agree
 Disagree
 Strongly Disagree

16. my connection to the [Virginia Smith] University campus

Strongly Agree

Agree

Disagree

Strongly Disagree

17. my ability to get to know other engineering students

Strongly Agree

Agree

Disagree

Strongly Disagree

18. my opportunities to get more involved in on-campus activities

Strongly Agree

Agree

Disagree

Strongly Disagree

19. my communication with professors

Strongly Agree

Agree

Disagree

Strongly Disagree

20. my peer relationships

Strongly Agree

Agree

Disagree

Strongly Disagree

21. my ability to network with friends at [Virginia Smith] University

Strongly Agree

Agree

Disagree

Strongly Disagree

22. my desire to get involved on campus

Strongly Agree

Agree

Disagree

Strongly Disagree

Directions: Please elaborate on your College of Engineering experiences by answering the following questions.

23. What has been the most satisfying aspect of your College of Engineering experience at [Virginia Smith] University?

24. What has been the most disappointing aspect of your College of Engineering experience at [Virginia Smith] University?

25. Describe your transition from high school to college in terms of your overall readiness, level of difficulty, comfort in your major, peer relationships etc.?

26. Are you involved on-campus (i.e., events, clubs, organizations, school spirit)?

yes

no

If yes, what were the reasons you decided to get involved on-campus?

27. Do you feel like you have support from peers in your major?

yes

no

Describe your peer-to-peer relationships within the major.

28. In what ways did your involvement within your major affect your relationships with your professors?
