Visualizing the Future: Work-Integrated Learning and the Psychosocial and Professional Development of Undergraduates

Scott Weldon Kilpatrick
University of Mississippi

Follow this and additional works at: https://egrove.olemiss.edu/etd

Part of the Higher Education Commons

Recommended Citation

This Dissertation is brought to you for free and open access by the Graduate School at eGrove. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of eGrove. For more information, please contact egrove@olemiss.edu.
VISUALIZING THE FUTURE: WORK-INTEGRATED LEARNING AND THE
PSYCHOSOCIAL AND PROFESSIONAL DEVELOPMENT OF UNDERGRADUATES

A Dissertation
Presented in partial fulfillment of requirements
for the degree of Doctor of Philosophy
in the Department of Higher Education
The University of Mississippi

By
SCOTT W. KILPATRICK

May 2019
ABSTRACT

The outcomes associated with higher education can have a pivotal impact on students individually and also on communities economically (Wilton, 2012). Scholars like Labaree (1997) and Aram and Roksa (2011, 2014) touched upon the competing interests from the stakeholders involved with higher education. Colleges and universities are expected to provide students with a valuable education and also to produce graduates prepared to make a positive impact on society. Work-Integrated Learning (WIL) programs can provide students with an ideal space to begin integration of their personal and professional identities.

This study examined the following central research question: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs? Specifically, this study also explored the following sub-questions: (a) how does participation in work-integrated learning support the development of personal and/or professional identity, and (b) how do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences?

A qualitative phenomenological research design was employed in order to investigate the lived experiences of the study subjects. The participants were undergraduate student members of an interdisciplinary manufacturing program (IMP) at a public university in the southeastern United States. All respondents had completed at least one work term in the WIL program. Data was collected from students through semi-structured interviews (38) and co-op student reports (33). Through the data analysis process, the findings yielded five emergent themes including:
(a) Assimilation and Integration, (b) Experience and Understanding, (c) Interpersonal Perspective, (d) Personal Identity, and (e) Pre-professional Identity.

The results indicated that WIL participation did enhance the psychosocial and professional development of the study participants. Psychosocial and professional development was found to occur across six of Chickering and Reisser’s (1993) developmental vectors. The results offered limited ties between WIL participation and Chickering and Reisser’s seventh vector of developing integrity. The research themes revealed many connections with the elements of Jackson’s (2017) Pre-professional Identity framework. From the findings, recommendations were offered for future higher education practice and policy administration. Suggestions for future research were also outlined.
### LIST OF ABBREVIATIONS AND SYMBOLS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMP</td>
<td>Interdisciplinary Manufacturing Program</td>
</tr>
<tr>
<td>PPI</td>
<td>Pre-professional Identity</td>
</tr>
<tr>
<td>SPU</td>
<td>Southeastern Public University</td>
</tr>
<tr>
<td>WIL</td>
<td>Work-integrated Learning</td>
</tr>
</tbody>
</table>
ACKNOWLEDGEMENTS

The information presented in the following pages is the net result of enormous support provided by numerous individuals. First, I would like to offer my thanks to my dissertation committee for their support and advice: Dr. Amy Wells-Dolan, Dr. John Holleman, Dr. Cristiane Surbeck, and Dr. Whitney Webb. Dr.’s Holleman, Surbeck, and Webb, I am completely humbled by your willingness to dedicate your time and insight to this project. I also consider myself very fortunate to have had Dr. Wells-Dolan as my Dissertation Chair and advisor. I initially met her through enrollment in her courses, and I found her to be highly engaging and passionate about her work. I was very thankful to have her agree to chair the committee. Her wisdom and encouragement throughout this process has been invaluable.

I am eternally indebted to the wonderful student participants in this study. I must admit that I was overwhelmed by the response when I sent out the request for interviews. I initially worried about obtaining enough volunteers. That was quickly dissipated as the students in the IMP program responded overwhelmingly with an interest in participating. It was apparent that many of these young men and women had undertaken this to also support me in my efforts to complete my degree. Quite honestly, that feeling of support gave me the boost that I needed to keep moving throughout the data collection process. The honesty and genuineness that they brought to the interviews was amazing. I continue to be inspired by, and I am so proud of these students. Thank you so much!
Without a doubt, I must offer my gratitude to my colleagues in the IMP program who filled in when I was away from work due to this study. They have been supportive throughout the process. Specifically, the Directors of the IMP which I have had the pleasure to serve under were so crucial in encouraging me. Dr. James Vaughan, William (Billy) Gottshall, and Dr. Matt O’Keefe are all gentlemen for which I have great respect and consider mentors. I thank you for allowing me the time away from my duties to attend classes or to conduct research and write. Without you this would not have been possible.

Much of this study is about the concept of identity. Throughout this process, I was also going through my own journey and examinations of my own identity. Fortunately, I eventually found my identity grounded in Jesus Christ. I fully believe that this was the ultimate reason that I was able to make it through this process. Christ used many relationships to sustain and strengthen me when I needed it most. I am so very grateful for my church family at College Hill Presbyterian Church for all of the prayers and support over the past few years. In particular, I would like to thank my dear friend Ryan Miller. Ryan and I work together, but he also introduced me to the little church at College Hill. He has been a very gracious sounding board for me over the years. Ryan, I am very thankful to you and your family for all of the support you have provided. Now, we can get around to all of our “million dollar” ideas. Stay tuned for our podcast.

To my family members, I must apologize for many missed events over the last few years. I appreciate your understanding whenever we had to decline an invitation. To my wonderful sisters (Tonya and Sonya), I thank you as well for your love and encouragement. I am so proud.
of you and your beautiful families and hopefully we will actually get to spend some
time together now. Also to my wife’s family, I thank you as well. You have taken me in as your
own, and I am grateful for your support and prayers as well.

How does one offer thanks for immeasurable and unconditional love? How do you show
gratitude for your entire existence and who you are? I am still trying to figure that out. I think
that is the uniqueness of the parent-child relationship. That is something that I will never fully
be able to return, but I suppose I can simply try to pay it forward to my children. To my parents,
you have given me unending love, support, and forgiveness. Your patience with my failings and
missteps have been boundless. Anything that I am or have accomplished I owe to you, and I am
so thankful to you. I know that you are paying forward from your parents and I forever keep
them in my memory as well. I hope that if nothing else, you do understand how much I love and
appreciate you. Hey, good news…I’m finally done with school at the age of 45!

To my sweet little family, of the several hundred pages these next lines might be the
hardest to write. My babies (Anna Grace, McCala, and Wesley), I love you so very, very much.
You are a walking embodiment of mine and your mother’s hearts. I am so proud of the young
people that you are growing into, and please know that that will always be the case. My
affection for you has no end. While I was writing about identity in this study, I also began
praying daily that you will find your identity in Christ alone, and I will continue to offer up that
prayer daily. Please always remember the importance of that focus, and all other things in your
life with follow. Many times, I worried if the pursuit of this degree was wrong and selfish of me.
Often times, I was away from you when I would have preferred to have been with you offering
love and support. Please know that my intent was to better myself and hopefully our family. Part of my sincere hope was that you would see how hard I was working toward this goal, and that you would value determination and education also. I pray that this lesson does come through and might outweigh any ill effects from my absence. I thank you for all of your love and support and please know that I will always be there for you if you ever need anything. I love you.

Last but most definitely not least, I want to thank my wonderful wife, April. You are truly my better half, and certainly had to perform the most difficult share of this endeavor. Without a doubt, you were a partner in this effort and deserve the majority of the credit. You are probably the strongest person that I know. You have worked a job while also keeping our family organized and cared for while keeping me from falling apart. Truthfully, this has been one of the most trying times of our lives, and this would not have been possible without your support and patience. Unfortunately, there were many times when I had to work on my research and be away from you and the children, and you were always supportive and understanding. Whenever I was at a breaking point you were there to encourage me and help lift my spirits. I am nothing without you, and I do not feel whole when we are apart. I adore you and thank God that you are my best friend, my beautiful wife, and the love of my life. I look forward to now being able to spend more time together. I hope you are prepared for that.

In the end, if I forgot to thank anyone, please forgive me. I am pleased to move on to the next phase in life and hopefully that will include an abundance of fishing. Finally, I leave you with lyrics from the Avett Brothers with slight modifications:
Make sure my friends, they know I loved them

Make sure my family knows the same

Always remember, there was nothing worth sharing

Like the love that let us share our name.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>iv</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>xx</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xxi</td>
</tr>
</tbody>
</table>

## I. INTRODUCTION

- Overview of the Study | 1 |
- Purpose of the Study | 4 |
- Research Questions | 4 |
- Significance of the Study | 5 |
- Conceptual Framework | 6 |
- Overview of Methodology | 6 |
- Basic Assumptions | 8 |
- Delimitations | 9 |
- Limitations | 10 |
- Definitions of Terms | 11 |
- Organization of the Study | 14 |
II. LITERATURE REVIEW ........................................................................................................... 16

Purpose and Methods .................................................................................................................. 17

Introduction to Chickering’s Theory ......................................................................................... 18

WIL Research by Vector ............................................................................................................ 21

Vector 1: Developing Competence ............................................................................................. 21

   Intellectual Competence .......................................................................................................... 22

   Interpersonal Competence ...................................................................................................... 24

Vector 2: Managing Emotions .................................................................................................... 28

Vector 3: Moving Through Autonomy Toward Interdependence .............................................. 33

Vector 4: Developing Mature Interpersonal Relationships ....................................................... 41

Vector 5: Establishing Identity ................................................................................................... 46

Vector 6: Developing Purpose ................................................................................................... 55

Vector 7: Developing Integrity ................................................................................................... 59

Shortcomings of Previous Research .......................................................................................... 64

III. METHODS ............................................................................................................................ 66

Research Questions .................................................................................................................... 66

The Role of the Researcher ......................................................................................................... 68

Site Selection ............................................................................................................................... 72

Population, Sample, & Participants ......................................................................................... 74

Data Collection Procedures ...................................................................................................... 77
McKenzie R ........................................... 125
Nadia C ........................................... 127
Nick A ........................................... 128
Nicole A ........................................... 129
Penn G ........................................... 130
Prime C ........................................... 131
Rico S ........................................... 132
Robert J ........................................... 133
Sidney A ........................................... 134
Tony S ........................................... 135
Verne L ........................................... 136
Analytic Themes ..................................... 137

Theme I: Assimilation and Integration ......................... 142

Adjustment ........................................... 143

Varying Adjustment Experiences ......................... 143
Emotions ........................................... 144
Intimidation ........................................... 145
Understanding New Environment ......................... 146
Asking Questions ......................................... 147
Expectations ........................................... 148
Varied Expectations ......................................... 148
Learn & Gain Knowledge ..............................................................149

Reintegration ....................................................................................150

Schedules .........................................................................................151

Appreciation ......................................................................................151

Approach to Academia ......................................................................152

Application of Coursework to Careers ..............................................153

Summary ..........................................................................................155

Theme II: Experience and Understanding ...........................................155

Competencies and Skills .....................................................................156

Technical Skills ................................................................................157

Understanding Processes ....................................................................158

Problem Solving ...............................................................................159

Soft Skills .........................................................................................161

Value of Competencies ......................................................................162

Communication ................................................................................163

Gaining Understanding .....................................................................163

Conflict Resolution ...........................................................................165

Presentation Skills ............................................................................166

Persuasiveness .................................................................................168

Responsibility ....................................................................................170

Promoting Learning & Growth .........................................................170

xv
Maturity..............................................................................................................198

“Adulting”........................................................................................................200

Self-Motivation................................................................................................203

Self-Awareness ...............................................................................................206

Priorities............................................................................................................206

Strengths & Weaknesses...............................................................................208

Self-Confidence ...............................................................................................210

“Measuring Up”..............................................................................................211

Sense of Accomplishment & Capabilities ..................................................213

Sense of Direction...........................................................................................214

Summary ...........................................................................................................216

Theme V: Pre-professional Identity ...............................................................217

Navigating the Professional World ...............................................................217

Company Culture ..........................................................................................218

Appropriate Behavior ....................................................................................221

Making an Impact ...........................................................................................225

Gender Issues ..................................................................................................227

Bias & Respect ..................................................................................................228

Coping ..............................................................................................................232

Confidence .......................................................................................................234

Female Role Models .......................................................................................237
Developing Purpose ...........................................................................................................285
Developing Integrity .........................................................................................................287
Summary ............................................................................................................................289
Implications for Higher Education ..................................................................................290
  WIL Administrators & Career Services Staff ...............................................................290
  Faculty ............................................................................................................................296
  Higher Education Policy and Administration ...............................................................299
  Higher Education Research .........................................................................................303
Summary ............................................................................................................................307

LIST OF REFERENCES .......................................................................................................309

APPENDICES ....................................................................................................................327
Appendix A: Sample Recruitment Email .......................................................................328
Appendix B: Consent Form .............................................................................................330
Appendix C: Release Form ..............................................................................................334
Appendix D: Interview Protocol .....................................................................................336

VITA .....................................................................................................................................340
LIST OF TABLES

1. The Seven Vectors: General Developmental Directions ...................................................... 19
2. Interview Participant Demographics ...................................................................................... 94
3. Document Analysis Participant Demographics ................................................................ 95
4. Document Analysis Participant Details .............................................................................. 96
5. WIL Expectations: Gaining Knowledge ........................................................................... 149
6. Competencies & Skills: Soft Skills .................................................................................. 161
7. Communication: Presentation Skills ................................................................................ 166
8. Relationships: Job References ...................................................................................... 182
9. Mentors & Role Models: Guidance & Feedback ............................................................ 190
10. Mentors & Role Models: Poor Examples ................................................................. 195
11. Independence: “Adulting” .......................................................................................... 200
12. Self-Awareness: Strengths & Weaknesses ................................................................ 208
14. Professionalism: Professional Attributes ...................................................................... 240
15. Visualizing Future Careers: Exposure to Career Options ........................................ 254
LIST OF FIGURES

1. WIL Experience as a Bridge between the Academic & Professional Worlds ...........139

2. WIL Experience Model: Psychosocial & Professional Development ......................140

3. WIL Experience Word Cloud .............................................................................142
CHAPTER 1

Introduction

Overview of the Study

Student development has long been a primary focus of education. While student development programs are generally supported in higher education, there is wide variability concerning the outcomes of the developmental process. Programs that offer career development guidance or experiential opportunities for personal growth can have a lasting impact on participants. Specifically, these activities can consist of experiential offerings like internships, cooperative education (co-op) work, study abroad, research studies, and service learning projects. To what end should these types of student development programs be guiding students?

Robert F. Rodgers (1990, p. 27) summarized the goal of these efforts as the “concern for the development of the whole person.” Historically, renowned scholars such as John Dewey (1897) have supported such a holistic approach to education which incorporates the social and psychological influences on students throughout the growth and learning process. However, as society has advanced through the impact of economic growth and industrialization, the resultant changes have fundamentally impacted the nature of higher education. For many constituents, higher education is now primarily seen as a means to provide graduates with the necessary employability skills that are required for professional success after college (Cai, 2013; Daniels & Brooker, 2014; Leong & Kavanagh, 2013; Wingrove & Turner, 2015). These changes have created a tension between the holistic development of students and the skills preparation of graduates with numerous stakeholders weighing in on the debate.
Scholars like Labaree (1997) and Aram and Roksa (2011, 2014) touched upon the competing interests involved in the outcomes of higher education. Those outcomes are clearly tied to individual or private interests and the public good as well. Consequently, various stakeholders can rightfully claim a vested interest in the results of higher education. Students invest significant time and resources in order to obtain a college degree. In many instances, students pursue a college degree in hopes of securing lucrative and/or fulfilling professional careers. Employers are often invested in the higher education process as well. They partner with colleges as a means to hire young, talented professionals into their organizations. Governmental officials and other policymakers also play a pivotal role in the funding, research, and operations of colleges and universities. The outcomes associated with higher education have a pivotal impact on the economy of countries and regions around the world (Wilton, 2012). The relationship with these stakeholders is central to the continued success of higher education. Therefore it is vital that leaders in colleges and universities investigate ways to more effectively integrate student growth and development with professional preparation for the future.

An understanding of seminal student development theories and frameworks enables student affairs professionals and faculty to design programs and create environments that encourage positive intellectual growth and behavioral changes (Evans, Forney, Guido, Patton, & Renn, 2010, p. 7). Psychosocial development theory provides an excellent lens for understanding the development of the individual throughout their lifespan. In 1969, Arthur Chickering’s book, *Education and Identity*, focused that lens on the developmental process for college students. Chickering partnered with Linda Reisser (1993) to revise the book in order to incorporate more current theories and also to be more inclusive of various student populations (Evans et al., 2010, p. 66).
Chickering and Reisser (1993) saw the process of establishing identity as one of the central issues that students struggled with during their college enrollment. The authors proposed that there were seven vectors related to the developmental journey of students. Those vectors consisted of: (a) developing competence, (b) managing emotions, (c) moving through autonomy toward interdependence, (d) developing mature interpersonal relationships, (e) establishing identity, (f) developing purpose, and (g) developing integrity. These vectors do not occur in stages but are instead very complex. Individuals can go through more than one vector at a time, so these vectors can interact and build on each other. Chickering and Reisser’s work illuminates the mosaic that is the student development process which should result in an individual gaining a clearer vision of their own identity as they transition into their post-collegiate life.

Yet again, some stakeholders look to the “college experience” not only for personal growth but for professional preparation. Scholars contend that employers have useful insights into the attributes that graduates need to learn in order to be effectively prepared for their professional careers (Cai, 2013; Daniels & Brooker, 2014; Jackson, 2013; Leong & Kavanagh, 2013; Wingrove & Turner, 2015). Through these studies, researchers have identified employability traits and skills such as communication, problem-solving, organizational skills, critical thinking, self-confidence, and team-work skills. While colleges and universities must provide essential learning outcomes specific to each discipline, it is crucial that higher education not forget the importance of identity development (Hanson, 2014). Teaching students fundamental, technical knowledge and skills as it relates to a professional field should remain a learning priority for students. However, too much focus on a skills-based approach can be too narrow and will not fully prepare graduates for the complexity of the professional workplace (Jackson, 2016). Students need opportunities to experience a professional environment
including the expectations, challenges, and relationships that are associated with such an event. These types of experiences could allow students to develop a sense of their own fledgling professional identity and to perhaps integrate that with their own personal identity (Daniels & Brooker, 2014; Jackson, 2013; Jackson, 2016; Trede, 2012; Trede, Macklin, & Bridges, 2012).

Work-Integrated Learning (WIL) programs could provide students with an ideal space to initiate the integration of their personal and professional identities. WIL experiences are certainly viewed as an effective way to facilitate student development of employability skills from a practical approach (Ferns & Moore, 2012; Peach, Ruinard, & Webb, 2014; Richardson, Jackling, Henschke, & Tempone, 2013; Wilton, 2012; Wingrove & Turner, 2015). WIL programs accomplish this development in several ways. First, it helps the student to develop a stronger sense of self-confidence. A WIL experience can also give the participants a greater appreciation for the employability skills that the student acquires during the work term. Finally, a WIL program can provide students with a deeper understanding of workplace culture and professionalism (Jackson, 2013). Further exploration of student participation in WIL programs could clarify how these experiences shape the personal and professional development of students in higher education.

**Purpose of the Study**

Considering the need for a better understanding of how WIL programs affect students’ personal and career development, the purpose of this study is to explore the psychosocial and professional development of undergraduate student members of an interdisciplinary manufacturing program who participate in work-integrated learning experiences at a public university in the southeastern United States.

**Research Questions**
This project examined the following central research question: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs? Specifically, this study will also explore the following sub-questions:

1. How does participation in work-integrated learning support the development of personal and/or professional identity?
2. How do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences?

**Significance of the Study**

This research study will be significant for several reasons. As indicated previously, there are various stakeholders with interest in the educational process and personal and professional outcomes for college graduates. Students want to be assured of personal growth and also preparation for a successful professional career. Employers and policymakers also want graduates that are primed to make a positive impact for companies and also for the economy as a whole. WIL programs have shown the ability to provide students with the sought after personal and professional attributes (Ferns & Moore, 2012; Peach, Ruinard, & Webb, 2014; Richardson, Jackling, Henschke, & Tempone, 2013; Wilton, 2012; Wingrove & Turner, 2015). However, WIL programs do not automatically provide students with the desired outcomes, but instead these experiences must be intentionally designed to achieve the intended purposes. Scholars have pointed out the “disparate range” of theoretical frameworks concerning professional identity, which indicates an underdeveloped area of study (Trede, 2012, p. 375). There is also a persistent disconnect in research between graduate capabilities and professional development (Daniels & Brooker, 2014; Jackson, 2016). The need still exists to further explore the
phenomena of professional identity development and its influencing factors for undergraduate students (Jackson, 2017; Molinero & Pereira, 2013). More specifically, scholarly work is needed to understand how to structure WIL programs so that learning and growth of professional identities can be more explicit (Zegwaard, 2015, p. 94).

Conceptual Framework

The central question of this study focuses on the psychosocial and professional development of WIL students. Daniels and Brooker (2014) illustrated the potential for using Chickering and Reisser’s (1993) vectors as a measure to not only observe student development, but to also integrate career development growth for undergraduates as well. Chapman’s (2011) research demonstrated the value in using these vectors as a framework for observing psychosocial and career development for undergraduates in study abroad programs. Similarly, Chickering and Reisser’s vectors provided a framework for exploring student experiences and growth during their WIL participation as undergraduates. In addition to psychosocial development principles, the participants’ WIL experiences were also viewed through the framework of pre-professional identity as developed by Jackson (2017, p. 842). This framework highlights six aspects of pre-professional identity: (a) understanding of responsibilities, (b) understanding of expectations, (c) self-evaluation and reflection, (d) self-directed learning, (e) confidence, and (f) understanding of attitudes, beliefs, ethical values, and culture. These six attributes will be further discussed in subsequent sections.

Overview of Methodology

This research project uses a qualitative methodology and incorporates a phenomenological approach. “Phenomenology as a philosophical tradition was first used in the development of a rigorous science by the German philosopher Edmund Husserl (1859-1938)”
(Patton, 2002, p. 105). As a result of his groundbreaking work, Husserl became known as the father of phenomenology. Martin Heidegger was a student of Husserl’s work. Heidegger’s writings serve as the foundation for what is now known as hermeneutic phenomenology. The hermeneutic branch of phenomenology is focused on the subjective experience of individuals and groups in an attempt to unveil the world as experienced by the subjects through their life stories (Kafle, 2011, p. 186).

A researcher who employs a phenomenological approach is typically focused on the lived experience of the individuals that are involved in the topic which is being studied (Greene, 1997; Groenewald, 2004; Holloway, 1997; Kruger, 1988; Kvale, 1996; Robinson & Reed, 1998). Because the purpose of this study is to explore the psychosocial and professional development of undergraduate students who participate in WIL programs, a phenomenological technique is the most effective methodology for this project.

More specifically, this study employed the phenomenological research model developed by Clark Moustakas (1994). This method consists of several stages: (a) epoche, (b) phenomenological reduction, (c) imaginative variation, and (d) synthesis of texture and structure. The details of this approach will be highlighted in subsequent sections, but the process allowed for a thorough analysis of descriptions and possible meanings from a variety of perspectives. The various stages of this method provided the researcher with a more layered understanding of the experience which was being explored.

Data for this study came from two primary sources. First, semi-structured interviews were conducted with undergraduate students who participated in WIL learning programs during their university enrollment. The interview format consisted of a list of open-ended questions, which explored the experience of these students as it related to their personal and professional
development. Time and space was also reserved in the interview process for additional follow-up questions to be asked, as the opportunity arose. Second, course documents from cooperative education (co-op) classes were analyzed for the purposes of this project. These courses were available to co-op students for enrollment during their work term. During the co-op course, students are typically asked to complete a final report regarding their work at the end of the semester. Merriam (1998) highlighted the usefulness of personal documents in research as a “reliable source of data concerning a person’s attitudes, beliefs, and view of the world” (p. 116). The use of multiple data sources from interviews and course documents provides for a greater level of validity for the findings of this study.

Analysis of the available data followed the modified Stevick-Colaizzi-Keen method which was also proposed by Moustakas (1994, p. 121). This method involved phenomenological reduction (including bracketing), horizontalizing, organizing invariant meanings and themes, and constructing textural descriptions. This process was followed for the researchers own experience with the phenomenon, and for each research participant as well. This allowed the researcher to develop a composite description of the phenomenon which illuminated the essence of the lived experiences (Creswell, 1998, p. 150).

**Basic Assumptions**

According to Van Manen (1997, p. 184) as cited by Kafle (2011, p. 189), “the challenge of phenomenology is to describe what is given to us in immediate experience without being ‘obstructed by pre-conceptions and theoretical notions’.” Therefore, in order to avoid tainting this research study with my own personal pre-conceptions, it was important to identify my own assumptions at the outset. My first assumption was that I believe that students participating in WIL programs have most likely experienced positive personal and professional growth during
their work-term. My second assumption was that WIL students have developed a clear understanding of professional identity, how it relates to themselves, and who they want to be as professionals. My third assumption, was that all WIL students have reflected on their participation, grown and matured from the experience, and view their involvement as a positive event. Having reflected on these biases, I remained aware of these potential issues in order to prevent my own pre-conceptions from erroneously influencing the research. Phenomenological analysis techniques such as “epoche” and “bracketing” will provide a means to limit personal judgments of the material and employ a new lens for viewing the data (Creswell, 1998; Moustakas, 1994; Patton, 2002).

**Delimitations**

This research focused on the psychosocial and professional development of undergraduate student members of an interdisciplinary manufacturing program who participated in work-integrated learning experiences at a public university in the southeastern United States, which will be referred to as SPU. Therefore, this project was bounded by institutional and program type. This project did not seek generalizability for all college students at any type of institution. Instead, this phenomenological research aimed to better understand the lived experience of these specific subjects during their WIL participation in this particular manufacturing program at SPU.

Additionally, students in this study strictly participated in a WIL program with a company or organization that operates in the private sector. All participants were majors in the areas of accountancy, business, or engineering. Therefore, no participants were included strictly based on their experiences in community service, practicum, or study abroad due to the focus of this study on WIL programs as related to these professional areas. The nature of participating
WIL program employers offered some boundaries for the study. Students that were interviewed for this project primarily worked in organizations and firms that operate in the private sector. The findings were not related to organizations that operate in the public sector such as non-profits, schools, government agencies, or other related institutions.

Finally, phenomenological methodology was used in order to explore and better understand the psychosocial growth and professional development experienced during participation in a WIL program. Due to the aim for better understanding the psychosocial development of participants, cognitive-structural theories were excluded from this research. In addition, this study examined the professional development of the subjects. More precisely, in this investigation the specific component of career development that was probed is that of professional identity growth especially that which was perceived to occur during the undergraduate years. As a result, career development theories that focus on trait factors or personality types were omitted. Research that relates to career choice and occupational satisfaction were also not incorporated into this project.

Limitations

The design of this research study presented possible limitations in the analysis, and interpretation of the data. First, the nature of the sample was not limited to participants of one undergraduate classification (i.e., sophomores, juniors, and seniors) or age. Depending on the subject’s classification or age, the individual could have been at a different stage of development or maturity. This could have possibly resulted in the student interpreting their experience differently from a more advanced or mature student.

The sample also included students that participated in a variety of WIL experiences. Some individuals completed multiple co-op or internships while others had only taken part in
one experience. The inconsistency in the frequency and duration of the work-terms among participants could have allowed for students completing multiple work placements to have a greater sense of development as opposed to a student that had only completed one brief work experience. This factor could have also presented potential for misinterpretation of information gathered during the interviews.

In addition, some individuals might have been more reflective than others. With varying personality types, comes differing views on experiences. Some respondents might not have displayed evidence of growth or development during the interview, when in actuality growth did occur. Perhaps the respondent was unaware of their development or was hindered somehow in communicating this, which resulted in misinterpretation by the researcher. All of these issues are factors to be considered in reviewing this research and looking toward future studies as well.

**Definition of Terms**

*Career Development (Professional Development):* A continuous lifelong process of development experiences that focuses on seeking, obtaining, and processing information about self, occupational and educational alternatives, lifestyles and role options (Hansen, 1976).

*Employability attributes:* Capabilities in communication, interpersonal skills, self-confidence, problem solving, critical thinking, and team work skills (Daniels & Brooker, 2014; Fleming, Martin, Hughes, & Zinn, 2009; Jackson, 2013; Leong & Kavanagh, 2013). Employability attributes are also often referred to by the terms *graduate capabilities* or *graduate attributes* as well. These skills and behaviors are directly related to qualities that employers desire when hiring college graduates.

*Identity Development:* “Is a fluid and ongoing process and is continually negotiated throughout the life of the student, graduate and established professional” (Jackson, 2017, p. 837).
Phenomenological Analysis (Research): “Seeks to grasp and elucidate the meaning, structure, and essence of the lived experience of a phenomenon for a person or group of people” (Patton, 2002, p. 482).

Pre-Professional Identity: “Is a complex phenomenon spanning awareness of and connection with the skills, qualities, behaviors, values, and standards of a student’s chosen profession, as well as one’s understanding of professional self in relation to the broader general self” (Jackson, 2017, p. 833).

Professional Identity: At its simplest understanding, is the identity, and constructs of self, inhabited by an individual in the social and cultural contexts of the workplace…professional identity is defined not solely by the construct of self in the context of work, but also how such a construct is shaped by, and shapes, ethical conduct and workplace practices; that is, there is a centrality of critical moral agency” (Zegwaard, Campbell, & Pretti, 2017, p. 148).


Professionalism: “Is a fluid concept, highly dependent on context…seen as a responsibility to make judgments and decisions in the context of practice” (Trede, 2012, p. 163).

Psychosocial Development: This development concept was first identified by Erik Erikson (1950). Erikson identified eight stages of development that each individual typically experiences in the time spanning from infancy to adulthood. During each of these stages, individuals must face new challenges and ideally, they would overcome those challenges as they move on to the next stage. These stages are sequential. As the person successfully completes one stage they would then move on to the next.
Reflection: A cognitive process in which the person attempts to increase his or her awareness of personal experiences and therefore his or her ability to learn from them. This involves integrating new concepts into personal knowledge structures and experiences (Anseel, Lievens, & Schollaert, 2009; Hullfish & Smith, 1961; Gray, 2007).

Self-Authorship: “Can coordinate, integrate, act upon, or invent values, beliefs, convictions, generalizations, ideals, abstractions, interpersonal loyalties, and intrapersonal states. It is no longer authored by them, it authors them and thereby achieves a personal authority” (Kegan, 1994, p. 185).

Self-Identity (Identity): “The ‘identity’ of the self, in contrast to the self as a generic phenomenon, presumes reflexive awareness. It is what the individual is conscious ‘of’ in the term ‘self-consciousness.’ Self-identity in other words, is not something that is just given, as a result of the continuities of the individual’s action system, but something that has to be routinely created and sustained in the reflexive activities of the individual…Self-identity is not a distinctive trait, or even a collection of traits, possessed by the individual. It is the self as reflexively understood by the person in terms of her or his biography” (Giddens, 1991, p. 52).

Socialization: “A negotiated adaptation by which people strive to improve the fit between themselves and their work environment” (Ibarra, 1999, p. 765). For purposes of this study socialization will more specifically refer to the transition of recent graduates to the workplace.

Work-integrated learning (WIL): A relatively new term that has garnered a wide variety of definitions. Denise Jackson (2013, p. 1) defines WIL as:

On-campus and workplace learning activities and experiences which integrate theory with practice in academic learning programs. This includes work placements, internships
and practicum; project-based learning; and service learning. It represents a collaborative effort by industry and higher education to enhance student learning through facilitating the application of theory into real-life practice and is becoming increasingly apparent and important.

Specifically in terms of this study, WIL will be more closely related with paid internships and cooperative education work placements. A fundamental component of these placements incorporates, “learning by doing and is designed to help students to develop a better understanding of their future career path, personal and professional direction, extend their knowledge of the world of work and range of employment opportunities” (Leong & Kavanagh, 2013, p. 3).

**Organization of the Study**

The first chapter has provided an overview of the research study, the purpose of the study, the research questions, the significance of the research, a conceptual framework, a brief discussion of the methodology, basic assumptions, delimitations and possible limitations of the project, and finally definitions of specific terms.

The second chapter provides a literature review of relevant scholarly research as related to three major topics associated with this study: (a) psychosocial development in terms of identity development of college students as related to the framework proposed by Chickering and Reisser (1993), (b) professional or pre-professional identity development of college students, and (c) work-integrated learning (WIL) as it relates to career development of college students.

The third chapter of the study provides details on the methodology employed for the investigation. This section will cover concepts such as: research design, participants, sample,
data collection, data analysis, validation strategies, ethical considerations, and the role of the researcher.

The fourth chapter will present results of the study and identifies major and minor themes that emerged from the research.

The fifth chapter will consider the findings of the investigation and incorporates that information into a discussion of the results in terms of the current scholarly work on the topic as well as implications for practice and future research.
CHAPTER II

Literature Review

Education utilizes curricular and co-curricular experiences to provide learning and developmental opportunities for students. John Dewey (2012) asserted that experience is a key part of an effective learning and developmental process. His example of a child sticking her finger in a fire illustrated his point. Dewey pointed out that without reflection upon the experience then the action becomes meaningless. Unless the child connects the act with the consequences there is no growth in the individual. The reflection upon one’s experiences and the resulting outcomes creates a cycle of “cumulative growth” that expands one’s breadth and depth of knowledge. The accumulation of experiences affects the formation of one’s identity throughout the lifespan. Chickering and Reisser (1993, p. 265), argued for, “human development, in all its complexity and orneriness, as the unifying purpose for higher education.”

In many ways, higher education is seen as an outlet for development in the transitional time between adolescence and adulthood. During that period, student affairs professionals and faculty work with students on their continued psychosocial development encompassing individual identity. In addition, the association between college education and career preparation has become increasingly intertwined. Many employers and economic leaders now call for graduates that are better prepared to take up important roles in the workplace. One potential outlet to better link student psychosocial development to career readiness is by the implementation of more effective experiential learning programs such as work integrated learning (WIL).
Purpose and Methods

The purpose of this literature review is to highlight scholarly research related to three general topic areas. These topic areas consist of psychosocial development, work integrated learning (WIL), and professional identity development. The goal is not simply to highlight relevant research, but to also identify common themes or connections with how WIL programs impact the psychosocial and professional identity development of college students.

Sources for this review were selected from multiple outlets. Primary sources were the predominant authorities used in this study, but some secondary sources were used as well. The initial target for sources were scholarly articles from academic journals which were published approximately within the past five years. In particular, the search parameters specifically targeted articles that discussed psychosocial development connections with experiential learning or work-integrated learning. For purposes of this study, psychosocial development concepts were limited to Chickering and Reisser’s (1993) updated work and writings in *Education and Identity*. During this process, it became apparent that there was limited research that specifically tied Chickering and Reisser’s writing on the seven vectors to WIL experiences. So, the examination of sources was expanded to include research that linked the concepts outlined by the seven vectors, which are: (a) developing competence, (b) managing emotions, (c) moving through autonomy toward interdependence, (d) developing mature relationships, (e) establishing identity, (f) developing purpose, and (g) developing integrity.

Additionally, existing literature was surveyed for works linking WIL programs and professional identity development. It was quickly realized that research in the specific area was limited as well, so the researcher was forced to look for more nuanced connections in the available research. This approach included the consideration of various components of
professional identity such as desirable graduate attributes and professional skills, traits, or behaviors.

Article searches were conducted through search tools such as Google Scholar, The Southern Public University (SPU) online library database, and topic specific journals (*Journal of College Student Development, The Journal of Cooperative Education and Internships, Asia-Pacific Journal of Cooperative Education*, etc.). Of course, many articles led back to seminal research found in books and book chapters as well. The following review reveals the tapestry of concepts that relate to areas of student psychosocial development, WIL, and professional identity development.

**Introduction to Chickering’s Theory**

Arthur Chickering’s research has provided one of the more influential frameworks in psychosocial development theory. His study and writings built upon Erikson’s (1959, 1963, 1964, & 1968) previous work, but it also focused specifically on the development of students during their enrollment in college. Chickering’s work would ultimately inspire future scholarly work and the creation of practical applications for student affairs professionals in higher education.

The seeds for Chickering’s concept of the seven vectors were sown during his time as a faculty member at Goddard College. During his tenure there, he embarked on studies that explored the impact of college curriculum on students (Evans et al., 2010). Chickering held a particular interest in exploring the development of identity during a student’s time on campus. He developed instruments and tests for his research and administered those to students at Goddard College. Additionally, Chickering also conducted interviews and examined reflective writings of the participants as well. These various data sources provided Chickering with the
foundation of his original psychosocial development framework which was published as *Education and Identity* in 1969.

There were certainly concerns regarding the lack of diversity in the sample of students participating in Chickering’s original research. Despite those limitations, the seven vectors did have quite an impact on the scholarship of student development. In 1993, Arthur Chickering and Linda Reisser revised and update *Education and Identity*. The resultant work encompassed a broader view of student demographics, and also resulted in updates to the seven vectors of development. These vectors charted the developmental growth for college students. This growth was not typically in a straight line, but more of what Chickering and Reisser (1993) would describe as spirals or steps. The following table (Table 1) depicts the developmental growth that is associated with each vector.

Table 1
The Seven Vectors: General Developmental Directions

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Developing Competence</strong></td>
<td></td>
</tr>
<tr>
<td>Low level of competence (intellectual, physical, interpersonal)</td>
<td>High level of competence in each area</td>
</tr>
<tr>
<td>Lack of confidence in one's abilities</td>
<td>Strong sense of competence</td>
</tr>
</tbody>
</table>

| **Managing Emotions** | |
| Little control over disruptive emotions (fear and anxiety, anger leading to aggression, depression, guilt, and shame, and dysfunctional sexual or romantic attraction) | Flexible control and appropriate expression |
| Little awareness of feelings | Increased awareness and acceptance of emotions |
| Inability to integrate feelings with actions | Ability to integrate feelings with responsible action |

| **Moving Through Autonomy Toward Interdependence** | |
| Emotional dependence | Freedom from continual and pressing needs for reassurance |
| Poor self-direction or ability to solve problems; little freedom or confidence to be mobile | Instrumental independence (inner direction, persistence, and mobility) |
| Independence | Recognition and acceptance of the importance of interdependence |

**Developing Mature Interpersonal Relationships**

| Lack of awareness of differences; intolerance of differences | Tolerance and appreciation of differences |
| Nonexistent, short-term, or unhealthy intimate relationships | Capacity for intimacy which is enduring and nurturing |

**Establishing Identity**

| Discomfort with body and appearance | Comfort with body and appearance |
| Discomfort with gender and sexual orientation | Comfort with gender and sexual orientation |
| Lack of clarity about heritage and social/cultural roots of identity | Sense of self in a social, historical, and cultural context |
| Confusion about "who I am" and experimentation with roles and lifestyles | Clarification of self-concept through roles and lifestyle |
| Lack of clarity about others' evaluation | Sense of self in response to feedback from valued others |
| Dissatisfaction with self | Self-acceptance and self-esteem |
| Unstable, fragmented personality | Personal stability and integration |

**Developing Purpose**

| Unclear vocational goals | Clear vocational goals |
| Shallow, scattered personal interests | More sustained, focused, rewarding activities |
| Few meaningful interpersonal commitments | Strong interpersonal and family commitments |

**Developing Integrity**

| Dualistic thinking and rigid beliefs | Humanizing values |
| Unclear or untested personal values and beliefs | Personalizing (clarifying and affirming) values while respecting others' beliefs |
| Self-interest | Social responsibility |
| Discrepancies between values and actions | Congruence and authenticity |

*Note:* From Chickering and Reisser (p.38, 1993).

Chickering and Reisser’s (1993) updated work was developed with the intent of providing useful tools in assisting college students in the development of their identity and also in their journey to become well-rounded individuals. These seven vectors provide a roadmap to understanding the journey that college students face as they develop their identity. However as
Chickering and Reisser point out, that pathway is not always linear. Students can experience vectors in a progression at varying rates depending on the uniqueness of each individual. Although these vectors do tend to build on one another, they can also be experienced simultaneously as well. Due to the nature of the vectors, these areas interact with one another. At times throughout the development process, students can return to and re-examine certain vectors as they continually build towards a sense of identity which eventually provides for a great level of integration for the individual. The following section explores research specific to the concepts found in each vector, particularly as those principles relate to the area of work integrated learning (WIL).

**WIL Research by Vector**

**Vector 1: Developing Competence**

Chickering and Reisser (1993) portrayed the seven vectors as a map. This analogy depicts the vectors as guides to determining where students are developmentally and where they are heading as well. In one sense, developing competence is the first chart point on that journey. Chickering and Reisser describe this vector using another visual method. In this example, developing competence is featured as a “three-tined pitchfork” (p. 53). The tines of the pitchfork represent: intellectual competence, physical and manual skills, and interpersonal competence. The handle of the pitchfork would be a larger sense of one’s own competence which is derived from an underlying feeling of self-confidence. In this model for understanding competence, Chickering and Reisser illustrate that all of the parts are interrelated, and this affects how an individual comprehends and esteems their own skills and abilities. In terms of research related to WIL programs involving bachelor’s degree programs and beyond, intellectual and interpersonal competence have been examined by several studies. However, physical skill development
through WIL experiences has not been widely examined by scholars. Presumably, this deficiency is due to WIL programs’ predominant focus on developing intellectual and interpersonal skills as opposed to manual dexterity. For this reason, the following sections focus on research examining intellectual and interpersonal competence specifically.

**Intellectual Competence**

As Chickering and Reisser (1993) assert, intellectual competence is a central focus of higher education, but what exactly does that look like? From their research, they have identified three overarching outcomes that signify growth in intellectual competence:

1. acquisition of subject matter knowledge and academic (usually verbal and quantitative) skills tied directly to specific academic programs, and
2. gains in cultural, aesthetic, and intellectual sophistication, and expanding interests and activities in humanities and performing arts, philosophy, and history, and
3. the development of general intellectual or cognitive skills, which can be applied regardless of content areas.

(Chickering & Reisser, 1993, p. 55)

In light of Chickering and Reisser’s (1993) proposed markers for achieving intellectual competence, WIL programs seem to offer an effective outlet for facilitating growth and learning in these three areas. On the first point, the researchers specifically underscore the need for advancement in students’ academic and subject matter knowledge. Cooper, Orrell, and Bowden (2010) describe the learning environment of cooperative education (co-op) experiences as alternating between the classroom and the workplace. This type of approach has been shown to provide an integration of theory and practice which affords a deeper level of understanding for the student (Cooper, et. al., 2010). The WIL, or specifically the co-op, model of learning facilitates the furtherance of academic understanding through a functional application of those
theories and principles. Cooper, et al. (2010) illustrate this process of understanding as “spiral learning,” which they essentially equate to the concept of the experiential learning cycle as demonstrated in Kolb’s (1984) research. Cates and LeMaster (2004) were able to document targeted student learning that took place for co-op students participating in the University of Cincinnati’s Professional Practice program. Their work showed the value in carefully designing instruction, project work, and assessment for work integrated learning programs. This study affirmed that the employment of a targeted co-op program can enhance classroom learning through practical application.

The second indicator of intellectual competence as illustrated by Chickering and Reisser (1993), concerned gains in cultural and intellectual sophistication and an expansion in interests and activities. The authors related this to a desire for lifelong learning. Cooper, et al. (2010) proposed that lifelong learning can be an outcome of student participation in WIL experiences. Jackson’s (2013) study of employability and outcomes for WIL participants confirmed some growth for students in the area of self-awareness, including lifelong learning. Her study also indicated a measure of growth in WIL participants’ awareness of social responsibility and accountability. However, Jackson (2013) was quick to point out the limited nature of the findings on the increases in these areas and the need for additional studies in order to better understand the effect of WIL programs on the interest of lifelong learning for participants.

The third indicator of intellectual competence was highlighted as the development of general intellectual or cognitive skills (Chickering & Reisser, 1993). Chickering and Reisser demonstrated that growth in this area was related to development of communication skills, reasoning ability, and critical thinking. Students moving through this vector would gain greater intellectual flexibility through reflection. The results of progress through this intellectual
flexibility would allow for better understanding of complex issues. Chickering and Reisser illustrated this growth as students acquiring the ability to identify a problem, integrate information, and create hypotheses and/or answers to those problems.

Many of these cognitive skills can be difficult to measure or assess. Higgs (2014) addressed the opportunity provided by WIL experience to provide growth in many of these “intangible” measures of professional practice related to cognitive ability. She also acknowledged the difficulty in measuring growth in this type of intellectual competency. Some scholars (Little & Harvey, 2006; Lucas & Tan, 2014) have conducted studies in which the findings call into question the assumption that WIL experiences provide students with intellectual and cognitive growth. For example, Lucas and Tan’s work examined how students’ ways of knowing (cognitive, intrapersonal and interpersonal aspects) were developed during a WIL experience. The researchers conducted interviews with seventeen business and accounting students from a university in the United Kingdom. The study participants showed indications of interpersonal development through their relationships and interactions with others during their WIL placement. The students also experienced intrapersonal gains through a changed sense of self. Little and Tan’s findings did not indicate advances in cognitive growth for the study participants. The researchers speculated that this lack of cognitive growth might be due to several factors, but particularly highlighted the observation that the students appeared to focus more on the nature of professional participation as opposed to the nature of professional practice. Notably, this study has some limited application, but it does offer evidence for questioning assumptions about WIL experiences. These contradicting views of WIL programs as a means of nurturing cognitive development seems to highlight an area in need of further exploration.

*Interpersonal Competence*
Chickering and Reisser (1993) identified interpersonal competence as one of the crucial elements of the first vector. In fact, they underscore the essential role that interpersonal skills play in personal and professional success (p.77). This set of “discrete” skills includes concepts like: persuasion, negotiation, communication, expression, empathy, and behavior analysis (self and others). Chickering and Reisser noted that this set of abilities is transferrable between public, private, or professional settings. They cited the research of G. O. Klemp (1977) in exhibiting the importance of interpersonal competencies on job success. Klemp’s research observed individuals that had been successful in their career and the findings indicated that communication and accurate empathy were key commonalities among the study participants. Chickering and Reisser asserted that these skills are crucial in order for individuals to establish healthy interpersonal relationships.

Walther, Kellam, Sochacka, and Radcliffe (2011) investigated the effects of WIL experiences for engineering students, and their results showed significant findings related to interpersonal competencies. Walther et al. conducted focus groups with sixty-seven engineering students from four different countries. Each participant had taken part in some form of WIL experience (co-op, internship, service learning, etc.) during their enrollment in college while pursuing an engineering degree. For triangulation purposes, the researchers analyzed reflection journals submitted by engineering students during their WIL work term. Walther et al.’s analysis of the data revealed compelling similarities to the specific set of interpersonal competencies identified by Chickering and Reisser (1993). For example, communication was cited by participants of Walther et al.’s study as a benefit of the WIL experience. Empathy was one of the themes which the engineering students identified as an important factor which they had developed. The participants felt that this enhanced their ability to listen and communicate. This
theme once again aligned with Chickering and Reisser’s work. Additionally, Walther et al.’s findings revealed that the engineering students identified and appreciated their enhanced ability to work under pressure as a result of their WIL experience. This theme also paralleled a specific interpersonal competency that was described in Chickering and Reisser’s research as well.

Raelin, Bailey, Hamann, Pendleton, Raelin, Reisberg, and Whitman (2011) also conducted a study which examined student development through participation in WIL programs. In particular, Raelin et al. investigated perceived changes in student self-efficacy as part of their completion of a co-op work experience. The researchers examined the effects of the co-op experience in relation to three areas of self-efficacy: work, career, and academic. The authors posited that growth in this context would signify the confidence that the participants have in their own success in the workplace, in their career, and in the classroom as well. Engineering students from four universities were asked to participate in the research project. Participants were administered a “pre” and “post” survey. The pre-survey (1637 participants) was gathered prior to the students’ co-op experience, and the post-survey (886 participants) was completed a year later. Review of this study revealed some concerns due to the lack of inclusion of non-WIL students as a comparison group. However, the findings provided some considerable support for the position that co-op experiences promote change in self-efficacy. In particular, Raelin et al.’s results seemed to offer evidence of notable change in work self-efficacy for students during their co-op work term. According to the researchers, growth in work self-efficacy included traits such as expressing sensitivity, handling pressure, and an overall demonstration of effective social behaviors in the workplace. Once again, these themes reflected characteristics which are also discussed by Chickering and Reisser (1993).
Reddan (2016) also conducted research related to the effects of WIL on students’ perceived changes in work self-efficacy. Reddan used a similar methodology as that employed by Raelin et al. (2011). However, Reddan’s study focused specifically on the change in work self-efficacy for exercise science students that completed a WIL experience. This investigation also incorporated “pre” and “post” tests related to work self-efficacy. Sixteen participants took part in the study. While Reddan’s work was narrowly focused on students from only one academic program, the results seemed to support the previous findings of Raelin et al. This, once again, indicated that WIL experiences appear to provide growth in attributes related to work self-efficacy and interpersonal competencies.

Bowen’s (2016b) study examined WIL students’ narratives on their journey to become professionals. The lens of social identity theory was employed by Bowen in this project in order to frame how students navigate the professional socialization process. According to this theory, individuals will adopt particular attitudes, beliefs, or values in order to be seen as a member of a particular social group. In this case, the social group would encompass roles in the professional sphere. Participants in this study consisted of twelve students from a communications degree program, five students from a wellness marketing program, and one engineering student. The communications students were from Canada and the remaining students were from Sweden. Each subject had completed an internship in their respective disciplines. Participants took part in an interview and they were also asked to draw a rich picture of all of the resources that they used to learn about professionalism. The rich picture aspect of the methodology was incorporated in order to perhaps relay part of the student’s experience that they could not communicate effectively in verbal form. Though the sample size is a bit limited for wider transferability, the study does offer some interesting insights. Bowen noted that several students had trouble
defining professionalism. It caused several participants to stop and take note of their experiences. It seemed that those students used their observations and analysis of other professionals as a guide for acceptable social norms in the workplace. Once again, the ability to not only analyze one’s own behavior and that of others, but to also demonstrate effective social behaviors connected with important aspects of interpersonal competence as highlighted by Chickering and Reisser (1993). Bowen’s work supported the assertion that WIL experiences allow students to observe the social norms and behaviors of the professional environment. These work placements provided students with the opportunity to experiment with learned behaviors as emerging professionals prior to graduation from college.

Examination of the research on WIL programs outcomes as related to Chickering and Reisser’s (1993) first vector of Developing Competence, indicated significant evidence for gains in competence. Aspects of intellectual and interpersonal competence appeared to be enhanced by participation in WIL experiences. However, there are some instances of contradiction in the literature related to WIL outcomes and intellectual competence, which would imply the need for further study on this subject. The following section examines the relevant literature regarding WIL developmental outcomes pertaining to the second vector of Managing Emotions.

**Vector 2: Managing Emotions**

The second vector in Chickering and Reisser’s (1993) student development model concerns Managing Emotions. As the authors pointed out, the examination of emotions can be more challenging to comprehend than that of competence. Whereas for example, physical or intellectual competencies can be something that one can gradually build up through practice and learning, emotion can be more unpredictable. They can crop up unexpectedly without warning.
This can cause unpredictable emotional reactions. Therefore, the nature of this second vector is a bit more complex to identify.

Chickering and Reisser (1993) pointed to the work of Arthur Koestler (1967) in providing a way to conceptualize emotional development. Using this conceptualization, Chickering and Reisser (p.88) posited that growth in this vector included becoming more aware of one’s feelings. Each person must also strive to learn flexible control and the appropriate means of expression and integration. Additionally, individuals will be challenged with developing ways to balance negative and positive emotions and also integrate those feeling with thought and action.

The challenge of gaining an awareness of one’s emotions is illustrated by Chickering and Reisser (1993). The authors used Koestler’s (1967) metaphor to frame a portion of this concept, and then appended the explanation with their own observations. In this vector, awareness of emotions would specifically entail: becoming more aware of the full range of feelings and gaining skill at differentiating between the various emotions, becoming more adept at gauging the intensity of the feeling (pressure tap), and understanding whether the feelings are toxic or nurturing, self-protective or self-transcending (Chickering & Reisser, 1993, p. 88). The authors added to these first three points that emotional awareness also involves an awareness of the cause or source of the feelings, an acceptance of feelings as valid sources of information, and a need to learn the consequences of acting impulsively.

Growth in emotional awareness also challenges the individual to develop balance, control and appropriate emotional expression. This involves, “practicing new skills, learning coping techniques, directing feelings toward constructive action, becoming more flexible and spontaneous, and seeking out rewarding and meaningful experiences” (Chickering & Reisser,
1993, p. 88). Unfortunately, toxic feelings can interfere with the daily existence of student’s and impede academic success. Chickering and Reisser offered several examples of toxic emotions such as: fear and anxiety, anger leading to aggression, depression, guilt, and shame, and dysfunctional sexual and romantic attraction.

At the time of their research, Chickering and Reisser (1993) found little research on students’ emotional adjustment. They did focus on five specific categories of emotions based upon research involving the Iowa Student Development Inventories (Hood & Jackson, 1986). This inventory was used to measure student awareness and integration of emotions. Five categories of emotion were used in the inventory. These emotions were identified by Chickering and Reisser as happiness, attraction, anger, depression, and frustration. The authors explained that studies using the Iowa inventory and other similar methods generally tend to report increases in students’ understanding, control, and integration of emotions during their matriculation through college.

The emotional growth and development process does entail an increased awareness of personal feelings (Chickering & Reisser, 1993). Students must learn to identity and concede that their feelings are a normal and acceptable part of their experience as an individual. Analyzing and seeking to understand can be helpful in the developmental cycle. This expanded awareness will involve observing and identifying feelings as they arise. Students should own those feelings and examine them in order to gain awareness. Individuals that can accept the validity of one’s own feelings are apt to take positive steps along the path to developing a sense of identity.

According to Chickering and Reisser (1993), integration is also crucial in developing the ability to manage emotions. Increased integration is experienced gradually once feelings are no longer able to unexpectedly take charge of individual behavior. The student gains an ability to
exercise flexible control over his or her own emotions. Learning skills for academic success can enhance this type of integration. Admittedly, some students do have more difficulty dealing with anxiety or anger, and this can be difficult to manage and integrate. Once again, the key to addressing these issues lies in understanding feelings and accepting responsibility for anger or outburst of emotions. Chickering and Reisser pointed out that channeling those feeling toward constructive activities can assist individuals with integration of challenging emotions in order to prevent being overwhelmed. The authors also asserted that an influx of positive emotions can be helpful in the integration process as well. When one is feeling sad or anxious, positive emotions can assuage those negative sentiments. As students continue to grow and develop, the effective management of emotions requires a balance in self-control and self-expression along with the support of awareness and integration (Chickering & Reisser, 1993, p. 90).

Emotional intelligence (EI) has become one measure of an individual’s awareness, integration, and management of emotions. One’s level of emotional intelligence can effect personal growth as well as career development. Maynard (2003, p. 791) defined emotional intelligence as, “a set of competencies that distinguish how people manage their feelings, how they interact and communicate.” Myers and Tucker (2005, p. 46) cited Mayer & Salovey (p. 10, 1997) in defining emotional intelligence as “the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth.” Weisinger (1998) developed an EI model that is based on the Salovey and Meyer’s (1990) EI theory. This model includes intrapersonal dimensions of emotional intelligence which involves self-awareness, managing emotions, and
self-motivation. Individuals who have integrated skills in these intrapersonal dimensions appear to be well-prepared for professional success.

Emotional intelligence is still in the relatively early stages of study by researchers, but thus far there does appear to be significant evidence to connect EI gains to future professional achievement (Goleman, 1995). EI theories such as Weisinger’s (1998) did suggest that individuals with high levels of emotional intelligence tend to be the most valued and sought after employees (Myers & Tucker, 2005). Goleman (1995) asserted that EI competencies may play a more significant role than academic skills in one’s success over their lifespan. Cherniss, Extein, Goleman, and Weissberg (2006) summarized multiple studies that investigate the positive correlation between EI and measures of success in various professional settings.

Thus far there appear to be limited studies which examine the relationship between gains in emotional intelligence as a result of student participation in WIL programs. Beck and Halim’s (2008) research of undergraduate internship programs explored the impact of short-term work experiences for accounting students in Singapore. This mixed methods study involved 250 students. Focus groups were conducted with seniors to get their views on their internship and the accountancy profession. The results of the focus group were used to create a questionnaire related to the internships, which were then administered to other accounting students. The results of the questionnaire were subject to statistical analysis. Beck and Halim’s findings indicated significant perceived growth for the students in areas such as adaptability, self-efficacy, and interpersonal skills. The researchers also asserted that their data did not confirm growth in emotional intelligence for interns. However, the authors admitted that their study did not specifically attempt to measure the development of emotional quotient for interns. A narrow and
constrained research design might have restricted this study from providing significant findings in relation to EI growth of internship students.

Cook, Bay, Visser, Myburgh, and Njoroge’s (2011) research also examined the internship experiences of accounting students. However, the researchers explicitly designed their study to better understand the development of student emotional intelligence. Cook et al.’s project included 430 first and fourth year accounting and liberal arts students from three different universities in Canada, South Africa, and the United States. The researchers incorporated an established measure of EI in their study by administering the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). The participants also were required to complete the Self-Report Psychopathy-III (SRP-III). Through the findings, Cook et al. were able to assert that work experience through internships was a significant, positive predictor of emotional intelligence. Based on their data, the researchers believed that there is strong evidence that some aspects of work experience may positively impact the level of emotional intelligence obtained by participants. The targeted design of this study is encouraging for those that support WIL programs as a means for growth of student EI. However, the limited amount of research on this topic indicated a significant need for additional studies before definitive correlations between emotional growth and WIL could be made. The subsequent section reviews literature related to the move from autonomy toward interdependence for WIL participants.

**Vector 3: Moving Through Autonomy Toward Interdependence**

The third of Chickering and Reisser’s (1993) developmental vectors involved students moving through autonomy toward interdependence. According to the authors, separation and individuation are crucial in the development of identity. Separation involves a physical distancing from one’s parents. Individuation is established through an individual becoming self-
sufficient and taking responsibility for their own decisions and direction. Beyond that, autonomy is described as a “mastery of oneself and one’s powers” (p.118). In practice, autonomy would be achieved as the student no longer needs to look for an external authority to rescue them from situations, but would instead become able to rely on their own abilities to address challenges. Progress in this area would also require some advancement in the vector of managing emotions as well (p.118).

Chickering and Reisser (1993, p.117) identified three components involved in moving through autonomy toward interdependence: “(1) emotional independence – freedom from continual and pressing needs for reassurance, affection, or approval from others; (2) instrumental independence – the ability to carry on activities and solve problems in a self-directed manner, and the freedom and confidence to be mobile in order to pursue opportunity or adventure; (3) interdependence – an awareness of one’s place in the commitment to the welfare of the larger community.”

Emotional independence starts with a distancing from one’s parents and moving into a transition of relying on other authorities, advisors, and peers for support. Chickering and Reisser (1993) described this period of transition for a freshman as akin to a “hog on ice.” The image conjures a period on unfamiliarity and awkwardness as students attempt to find proper footing in their new and strange environment as they are untethered from their parents. Advances in competencies and cognitive skills can bolster a move for the individual toward confidence and self-reliance.

Instrumental independence is shown by Chickering and Reisser (1993, p.132) to have two components: “(1) the ability to carry out activities on one’s own and to be self-sufficient, and (2) the ability to leave one place and function well in another.” The authors pointed out that
emotional and instrumental independence are linked and mutually facilitating. One of the most essential features of instrumental independence involves the establishment of personal control. Establishing this sense of agency comes from a reduced reliance on parents, and an emerging sense of maturity through the ability of the individual to make decisions and become self-reliant.

Interdependence is the capstone of autonomy (Chickering & Reisser, 1993). Individuals moving toward interdependence have established the sense of agency related to independence, but now begin to appreciate the value of compromise, respect, sacrifice, and consensus that can be achieved through interdependence. In moving toward interdependence individuals have an awareness of their own abilities, but also gain the courage to ask for assistance when it is needed. Development in this vector leads to a healthy balance between autonomy and interdependence. Chickering and Reisser (1993) pointed out that students who are willing to take part in co-curricular activities, which would include WIL programs, have ready-made laboratories for learning about interdependence.

Several early studies touched upon the link between students developing a greater sense of autonomy through their participations in a WIL program. Wilson and Lyons’ (1961) seminal book provided some of the first in-depth research from one of the initial comprehensive studies of cooperative education programs. This ground-breaking research project was the result of an extensive effort by institutions and individuals with an interest in better understanding the outcomes and potential for cooperative education programs. The study consisted of collaboration with faculty, administration, and private industry leaders as well. The project incorporated twenty-two schools that offered cooperative education programs and 16 schools that did not. Data was gathered through questionnaires to faculty, administrators, students, co-op employers, and alumni of the participating institutions. According to Collins (1973), this study
provided a set of acknowledged gains by students participating in cooperative education programs. In particular, co-op students garnered a greater sense of responsibility for their own efforts, and increased reliance on their own judgement. The participants also appeared to gain greater maturity as well. All these findings pointed towards a growth in autonomy by the students. The research also indicated that co-op students developed increased ability to understand and relate to other people as a result of their work placement, which also connected to Chickering and Reisser’s (1993) concept of moving through autonomy toward interdependence.

Wilson and Lyon’s (1961) study pre-dated the work of Chickering and Reisser which requires some effort to directly connect their findings to similarities with the seven developmental vectors. However, there are two subsequent studies by Brogden (1989) and Mueller (1992) that specifically examined the relationship between WIL programs (co-op) and the development of student autonomy. Brogden’s study was conducted at the College of Mount St. Joseph, a small, liberal arts college. The project drew upon Chickering’s (1969) early work in student development theory and incorporated the use of the Student Development Task Inventory (SDTI-2). This instrument measured development growth in three areas of Chickering’s vectors (developing autonomy, sense of purpose, and mature interpersonal relationships). The results of Brogden’s work indicated that cooperative education programs did provide students with growth in the areas of autonomy and a sense of purpose. However, caution should be used in extrapolating those findings too broadly due to the limitations of the SDTI-2 which was used. Unfortunately, there are a number of concerns with the use of the instrument, particularly with the reliance on accurate self-reporting by the subjects.
Mueller (1992) was intrigued by the findings of Brogden’s (1989) research. She took similar elements of Brogden’s work, including the use of the SDTI-2, but she enhanced the methodology with statistical analysis as well. This project was conducted at a public, research university. The population of the experiment consisted of 31 co-op students, 20 of which completed the pre-test and post-test. The test group consisted of students majoring in engineering, business, and liberal arts. The control group was made up of 56 students, 23 of which completed the pre-test and post-test. The findings of the study affirmed similar findings in Brogden’s research that indicate a growth of autonomy for students participating in co-op work placements. Mueller pointed out that her results do not support the assertion of Brogden’s findings that co-op programs also provide participants with a greater sense of purpose. These previous studies contained promising results which seemed to necessitate further research, but unfortunately the following decades did not yield an abundance of research specific to this topic. Thankfully, a select number of studies in recent years have begun to delve further into this subject.

The use of student reflection journals during internship experiences was examined by Bowen (2011) for potential signs of developmental growth for interns in terms of autonomy and professionalism. Bowen employed a small case study methodology for students participating in an internship course during their final year of study at the University of Toronto. There were three students that volunteered to participate by having their reflective journal reviewed for thematic analysis. Bowen reviewed each journal for themes and coded the responses into the following categories: sociability, evaluation, self-acceptance, knowledge transfer, increased (decreased) confidence, professionalism, and maturity. The methodology employed not only aimed to identify themes, but also attempted to identify how well content had been assimilated.
In terms of the findings, all three participants’ journals revealed relationships between increased confidence, self-evaluation, and professionalism. The writings also highlighted gains for the students in terms of maturity. Bowen found that these documents provided details on learning outcomes as recorded by the students themselves. This information can illustrate not only whether interns have experienced enhanced autonomy and confidence, but also how they have acquired those developmental outcomes through their experience as well.

It is also important to examine related connections to other theoretical models when reviewing the literature of student development theory. Chickering and Reisser’s (1993) writing on the movement through autonomy toward interdependence has significant correlations to the concept of self-authorship as highlighted by Kegan (1994) and Baxter Magolda (2001). Kegan described self-authoring individuals as having the “capacity to take responsibility for and ownership of their own authority.” Baxter Magolda (2001, 2007) has defined self-authorship as, “the internal capacity to define one’s belief system, identity, and relationships.” This “capacity” illustrated in the concept of self-authorship certainly mirrors the sense of agency or control that is gained in the movement through autonomy toward interdependence, which Chickering and Reisser illustrated in their third developmental vector.

Kegan formulated the concept of self-authorship in his work on the orders of consciousness (1994). His book explored how people organize experiences in a continual restructuring of the relationship between the individual and their environment. Kegan’s developmental stages consists of five orders. Each order builds upon the others. Kegan’s fourth order sees the individual achieve the capacity to be self-authoring which includes an understanding of one’s independence and self-regulation. The fifth order of Kegan’s model reveals the self-transforming mind, which is often difficult to achieve. At this level, one
comprehends a larger systems view including commonalities and interdependence with others. The concept of self-authorship includes three dimensions of development: epistemological, intrapersonal, and interpersonal. Kegan held that individuals who progress through these dimensions obtain the capacity for interdependence which provides one with a sense of respect for other’s perspectives and an ability to engage in genuinely mutual relationships. Once again, these developmental gains related to self-authorship mirror the need for interdependence underscored by Chickering and Reisser (1993).

Baxter Magolda (2001) built on the idea of self-authorship as highlighted in the work of Kegan (1994). She further examined the concept and implications of self-authorship in the realm of student affairs. Baxter Magolda proposed four phases on the pathway to self-authorship. Phase one of Baxter Magolda’s theory relates to following formulas. In this stage, the individual is still subject to the guidance of external authorities and allows those third parties to define who the individual is. Phase two is the crossroads. In this phase, tension arises in relationships as the individual seeks to assert his or her needs and desires. Ultimately, progression through the crossroads is marked by a clearer sense of direction and increased self-confidence. Phase three involves becoming the author of one’s life (self-authorship). At this level, the individual establishes his or her own beliefs and has more confidence to stand up to external pressures that challenge those beliefs. The final stage, phase four, relates to an internal foundation which encompasses a “solidified and comprehensive system of belief” (Baxter Magolda, 2001, p.155). Baxter Magolda’s development of the Learning Partnerships Model (LPM) addressed the conditions that foster self-authorship. These conditions were built upon three assumptions: knowledge is complex and socially constructed, self is central to knowledge construction, and authority and expertise are shared in the mutual construction of knowledge among peers. In light
of this, WIL programs might hold the potential to be healthy environments for nurturing the growth of autonomy, interdependence, and self-authorship of participating college students. Unfortunately, there has been limited research relating to student development of self-authorship through the challenges that WIL experiences offer (Linn, 2004).

Denise Jackson (2017) did provide one study that specifically examined the relationship between pre-professional identity development of college students as a result of their WIL experiences. In particular, Jackson employed Baxter Magolda’s (1998) concept of self-authorship as a framework for examining the different stages of development in students. In this qualitative, phenomenological study, Jackson reviewed the reflective writing assignments for 105 business undergraduate students who took part in a semester long WIL placement. The writing assignments were subject to thematic analysis, which revealed interesting findings related to the students’ experience. Several of these themes were highlighted as helping the participants better understand the requirements of their intended profession. Approximately one-third of the students noted the importance of completing tasks autonomously. Apparently, the active engagement of being individually responsible for an assignment at work provided the students with valuable insight into the profession. Also, one-third of the respondents noted to importance of learning from other co-workers and harnessing the power of internal relationships. Additionally, over half of the respondents cited the positive effects of collaboration and interpersonal relationships with co-workers and customers in better understanding the expectations and standards associated with their profession. This experience bolstered the students’ grasp of the need to align their individual behavior with the overarching company mission. Other positive correlations from the students involved developing greater self-awareness and also obtaining a better appreciation for autonomy and self-directed learning.
through their WIL placement. Jackson noted that these findings seemed to indicate a progression along the self-authorship continuum, though most students appeared to still be at the following stage. There were, however, some instances of participants that showed significant growth toward the crossroads stage also. There are some limitations with this study in regards to the sample consisting only of business majors from the same institution, and the data was gathered from only one method. However, the findings do provide promising results in identifying the perceived growth in autonomy and self-authorship that students experience through WIL programs. The following section explores literature related to the development of mature interpersonal relationships.

**Vector 4: Developing Mature Interpersonal Relationships**

Developing mature interpersonal relationships is the subject of the fourth vector in Chickering and Reisser’s (1993) student development theory. The authors stressed that relationships are “connections with others that have a profound impact on students’ lives” (p.145). Through these relationships, individuals learn how to manage and express emotions, how to be vulnerable and open, how to resolve conflicts, and how to make meaningful commitments. As students progress through this vector they must begin to rebalance the need for autonomy and attachment.

Chickering and Reisser asserted that tolerance and the capacity for intimacy are the two components which are central to developing mature relationships. Tolerance consists of two different arenas which are made up of intercultural and interpersonal contexts. Growth in this area involves reassessing assumptions and initial impressions of others. It means that the individual tries to obtain a deeper understanding of differences as opposed to just relying on
labels. Empathy is instrumental in gaining tolerance. New experiences, including those related to work, can foster growth of empathy.

The capacity for intimacy is supported as one’s levels of tolerance and empathy increase. The ability to sustain intimacy requires, “self-awareness, spontaneity, some measure of self-confidence, and ongoing work on support and communication” (p.161). Intimate relationships nurture self-understanding, which in turn, can lead to enhanced satisfaction in one’s personal and professional lives. Openness is fundamental to intimacy. With high levels of trust, openness, and stability, relationships can be reciprocal and interdependent (p.172).

In assessing the literature relating mature interpersonal relationships to WIL, it is necessary to acknowledge the work of Smith-Eggeman and Scott (1994). This study was specifically designed to examine the developmental potential for enhancing students’ “interpersonal relationships skills through participation in a cooperative education experience” (p.14). Subjects for the investigation consisted of undergraduate students from two groups. One group of students (145) had completed a co-op experience, and the other group of students (414) had not participated in co-op work. The research instrument utilized in this project was called the Mines-Jensen Interpersonal Relationship Inventory (M-JIRI) which was developed at the University of Iowa. The M-JIRI was specifically designed to conceptualize indicators relating to aspects of Chickering’s (1969) vector of freeing interpersonal relationships. The results of the instrument form two subscales which relate to tolerance and quality of relationships. The researchers collected completed and usable survey instruments from 124 co-op students and 284 students that had not participated in co-op experiences. The results of the study revealed more forward growth in tolerance and quality of relationships for cooperative education students as compared to those students that had not completed cooperative education work. Though the
significance of the comparisons on the quality of relationships scale appear to be a bit liberally interpreted, the data indicated promising connections between participation in cooperative education programs and the development of interpersonal relationship skills.

Schlosser and McNaughton’s (2005) exploration of cooperative education students’ perceptions of workplace communications offered some further insight into relationship building through work experience. Their study delved into student perception of their supervisor’s communication methods and how that influences the development of relationships in the workplace. The authors underscored the importance of effective communication practices in enabling all parties to gain understanding, trust, and improve relationship quality. These themes specifically paralleled factors of healthy and intimate relationships as highlighted by Chickering and Reisser (1993).

Schlosser and McNaughton used qualitative methods to compare ways in which students assign meaning to various experiences relating to communication during their work term. The sample consisted of 80 undergraduate engineering students at the University of Waterloo. All participants had experienced at least two to four co-op work placements. The students were asked to provide written responses to three prompts. These three questions all pertained to scenarios during the work term that involved various communication issues or methods employed by the co-op supervisor. Particular emphasis was included in each prompt that encouraged the respondent to address how these communication methods affected his or her relationship with the co-op supervisor.

Though the nature of this qualitative study and the focus on only engineering students did potentially limit the generalizability of the findings, there were however several interesting observations revealed in this investigation. Student responses revealed that co-op experiences
provided participants with an opportunity to experiment with and develop effective interpersonal skills through managerial modeling. This type of interaction is instrumental in assisting students with understanding appropriate interpersonal communication. Participants also indicated that they value regular face-to-face feedback from their co-op supervisor. The students believed that this was crucial to relationship building and improvement in the work place. In summation, the results of this project add a richer understanding of how co-op supervisors’ and mentors’ communication methods can nurture or hinder relationship building and student self-perception (p.29). This type of scholarship is helpful in advancing the understanding of developmental potential contained in specific aspects of WIL programs.

Fleming and Eames (2005) also examined specific structures of cooperative education experiences, and how they were perceived to affect relationship building. Their inquiry focused on learning in the context of the placement structure for a Bachelor of Sport and Recreation (BSR) degree program within Auckland University of Technology (AUT) in New Zealand. Students in the BSR program were required to complete 600 hours of cooperative education work placements during their final year of enrollment. The researchers used a combination of methods to investigate how the length and structure of the co-op placements affect learning experiences for the BSR students. This integration of multiple methods allowed the researchers to gain deeper understanding of the topic and to feel greater confidence in interpreting the data. Data collection for the study consisted of two stages. In stage one, 42 students completed a questionnaire regarding their co-op experiences. This instrument included open ended and scaled response questions related to what the students had learned and the factors that influenced learning during their work placement. Additionally, respondents were asked to chart their learning curve as a measure of the amount of learning experienced relative to the time course of
the co-op placement (p.28). The second stage of data collection consisted of in-depth interviews with seven volunteers from the cohort. The interviews touched on topics related to major influences on learning and how the length of the placement and the co-op structure might have affected the learning experience. Information from the questionnaire and the interviews underscored the importance of having enough time in the work placement to build relationships. Once again, interpersonal factors, such as those with co-op supervisors, were identified as a major influence on student learning. Participants’ responses indicate that the 350 hours that co-op students spent in the workplace were important in order to build relationships. This seems to affirm a need for students to develop social interactions with their co-workers in order to enhance their socialization and enculturation to the work place. The findings appear to support the assertion that students felt that the development of relationships in the work place was important to the learning experience.

In 2015, Fleming, once again, used the Bachelor of Sport and Recreation (BSR) program at Auckland University of Technology (AUT) to further examine the influences on student learning in the cooperative education process. This study (Fleming, 2015) employed a case study methodology and also incorporated two stages of data collection. The first stage consisted of questionnaires with some open-ended questions as well as some ‘complete the sentence’ prompts. The second stage of data collection involved semi-structured interviews about the students’ experience during their co-op work placement. Unlike the previous study, in this project Fleming incorporated students, academic supervisors, and industry supervisors in the solicitation of data. Interviews were conducted with six students, five industry supervisors, and five academic supervisors. Questionnaires were completed by 91 BSR co-op students, 18 AUT academic supervisors, and 28 industry supervisors. The findings of this study echoed those of
Fleming’s previous work (Fleming & Eames, 2005), which highlights the necessity of extended time in the co-op work placement in order to allow relationships to develop so that trust and openness can be established. These themes directly relate to the concepts that Chickering and Reisser (1993) illustrated in their discussion of healthy interpersonal relationships. Fleming’s (2015) investigation captured rich description of how student learning in the work place is driven by professional relationships between the co-op student and their supervisors or co-workers. It was through social interactions, meaningful discussions, and developing relationships with colleagues that students were able to learn procedural knowledge, and also deepen their understanding of professionalism in the industry. The following section explores scholarly literature pertaining to identity and work-integrated learning programs. Particular attention is paid to the formation of professional identity and the emerging concept of pre-professional identity as well.

**Vector 5: Establishing Identity**

In reviewing Chickering and Reisser’s (1993) fifth vector of establishing identity, the authors acknowledged that all of the other developmental vectors could actually be categorized under “identity formation.” In order to begin establishing identity, an individual must have progressed successfully through the preceding vectors. Chickering and Reisser pointed out that, “establishing identity certainly involves growing awareness of competencies, emotions and values, confidence in standing alone and bonding with others, and moving beyond intolerance toward openness and self-esteem” (p.173).

Chickering and Reisser (1993) conceptualized identity development in terms of resolving crisis. Individuals must face these challenges and make commitments in order to build strong
egos and healthy self-esteem. The authors described growth in this vector and what remains once identity is broken down as:

The primary element is that solid sense of self, that inner feeling of mastery and ownership that takes shape as the developmental tasks for competence, emotions, autonomy, and relationships are undertaken with some success, and that, as it becomes firmer, provides a framework for purpose and integrity, as well as for more progress along the other vectors (p.181).

Ultimately, Chickering and Reisser proposed that a solid sense of identity is composed of the following attributes: comfort with body and appearance, comfort with gender and sexual orientation, sense of self in social, historical, and cultural context, clarification of self-concept through roles and life-styles, sense of self in response to feedback from valued others, self-acceptance and self-esteem, and personal stability and integration.

Knefelkamp, Widick, and Parker (1978) are cited by Chickering and Reisser (1993) as identifying several environmental factors that foster identity formation, such as: experimentation with varied roles, the experience of choice, meaningful achievement, freedom from excessive anxiety, and time for reflection and introspection. To this list, Chickering and Reisser also added: interaction with diverse individuals and ideas, receiving feedback and making objective self-assessments, and involvement in activities that foster self-esteem and understanding of one’s social and cultural heritage. In many ways work-integrated learning experiences provides an environment that offers many of these factors that promote and nurture identity development.

Unfortunately, until recently there has not been an abundance of scholarly research exploring the relationship between identity development and WIL. In particular, there has been very little examination of professional identity formation through WIL experiences. Earlier
studies (Emry & Page, 1985; Weston, 1986) appear to have focused more specifically on career identity as opposed to professional identity. While these two concepts are clearly related, the nature of both ideas varies significantly. Career identity aligns with constructs like a student’s certainty of career or commitment to a career (Weston, 1986). These constructs actually more closely relate to Chickering and Reisser’s (1993) sixth vector of developing purpose. The concept of professional identity seems to link more directly to the fifth vector of establishing identity.

More recently, scholars have begun to examine the concept of professional identity and the potential connections to WIL experiences. Franziska Trede and her colleagues completed insightful studies investigating the nature of professional identity development and its connection with higher education (Trede, 2012; Trede et al., 2012). The initial research project reviewed the literature of higher education to provide a broader understanding of professional identity formation (Trede et al., 2012). The goal was to not only discern how scholars define professional identity, but also to catalogue existing theory and implications for pedagogical practice in higher education. Interestingly, the researchers found few attempts at defining professional identity in the literature. They found that scholars were more apt to illustrate the nature of the concept instead of directly offering a definition. For example, Higgs (1993, p.10) describes the elements of professional identity development as, “the attitudes, beliefs, and standards which support the practitioner role and the development of an identity as a member of the profession with a clear understanding of the responsibilities of being a health professional.” Clearly, Higgs’ comments are directed specifically at the healthcare profession, but the elements that are identified certainly have a much broader application.
The results of the literature review revealed a vast amount of literature on professional identity, but Trede et al. (2012) found little integration with the higher education research. The researchers asserted that universities must, “claim their role in professional identity development to prepare graduates for global citizenship, for leadership qualities and for future practice” (p. 379). Specifically, the authors pointed out that, “professional identity development is fostered by the authentic experiences of students in the workplace” (p.379). This pointed towards the potential for professional identity formation through student participation in WIL programs.

Trede’s (2012) next research project explicitly examined the relationship between WIL participation and professional identity development. She contended that, “WIL seems to be an ideal space to develop professional identity and professionalism because a WIL program prepares students for practice and includes: learning professional roles, understanding workplace cultures; professionalizing and socializing into a community of practice; and developing agentic workforce participants” (p.164). WIL programs are ideal for aiding students in exploring professional identities since it occupies an area spanning learning and work. Trede also illustrated WIL as the “in-between space” where self and professional meet (p.162). Interestingly through this study, the author also found that practicing professionals have trouble conceptualizing and describing their professional values and commitments. Therefore, individuals often have trouble drawing on their core identity. Trede offered a more explicit approach to professional identity development through a critical WIL curriculum. This curriculum would be based on three principles: problematizing participation, generating a discourse of professionalism and professional identity, and capacity building in students and mentors to question. Through her study, Trede concluded that WIL and professional identity
formation should be integrated throughout the curriculum so that the concept is addressed in the various learning spaces.

Macdonald, Cameron, Brimble, Freudenberg, & English (2014) offered a study that examines the integration of WIL experiences within a business degree curriculum. This Bachelor of Commerce degree offered majors in accounting and financial planning, and it also incorporated a two year paid internship along with a professional development program (PDP). Macdonald et al.’s research sought to explore two questions (p.162). First, does the internship improve students’ confidence and skills in dealing with their chosen profession? Second, does participation in the internship increase students’ identity with their chosen profession? The project employed a longitudinal survey methodology. Participants self-reported on information pertaining to professional skills, vocational skills, and professional identity. The instrument was administered at the beginning of each academic year, and also at the conclusion of the final year to measure the level of student development that took place throughout the program. Two groups were surveyed. One group had participated in the cohort which completed the internship and the control group were in a program not completing an internship. Surveys were gathered from 124 internship students and 154 students in the control group. The findings seem to indicate that the internship students outperform the students within the control group on the measures of professional confidence and skills, and professional identity development. These internships allowed the business students to try on the role of the professional which is an important element in developing identity (Chickering & Reisser, 1993). The researchers asserted that the internship and PDP had a positive impact on students. While these findings were promising, there were certainly limitations to the study regarding the exclusive use of self-assessment and potential sample bias which must be considered. Nevertheless, Macdonald et al.
proposed that the implications of the study affirmed that WIL programs provided students with more effective development of professional skills and professional identity. They also asserted that such programs can also lead to higher student retention rates and a more successful transition from college to career.

As WIL programs serve as a bridge between campus and the workplace, there are many factors within the work environment that can influence a student’s professional identity formation. Armstrong, Waite, and Rosenthal’s (2015) research delved into the influence that coaching or mentoring can have on the development of a WIL student. Mentoring from practicing professionals is thought to aid students through feedback on reflection and a more practical understanding of the challenges of a given profession. This particular research involved pharmacy students and professional coaches from a program through the University of Waterloo’s School of Pharmacy. The purpose of Armstrong et al.’s study was to “compare and contrast the experience of a group of pharmacy students with access to this coaching program with that of a control group that did not receive coaching” (p.256).

The coaches assisted the pharmacy students in developing professional identity by encouraging reflection on workplace practice, understanding the work experience and career development. The researchers utilized a longitudinal cross-sectional comparative design for the project. The study participants consisted of a control group and the intervention group. The control group did not have coaching while the intervention group (ten students) did engage with coaches. Twelve coaches also took part in the project. Self-assessments were administered to the participants. These instruments contained open-ended questions and rating questions as well. Feedback forms from the coaching process were also analyzed. There are several concerns to be noted by the design of the research. First, the self-assessment survey showed no significant
differences between the intervention and control groups. This could indicate a problem with the instrument. Secondly, the qualitative data in this study was only collected from the control group, which makes it difficult to gain a comparison between the groups. However, analysis of the available qualitative data from the research did reveal two themes: student development and coaching. The findings indicated that the coaching sessions were helpful in assisting students in beginning the construction of a professional identity and also gaining “navigation skills” for the professional workplace. These interactions provided the students with important feedback from professionals, which mirrors elements proposed by Chickering and Reisser (1993). The coaches also noticed advances for the WIL students in terms of their development and engagement. These findings do warrant further investigation, but the potential for professional identity development through coaching and mentoring in WIL programs does seem promising.

Bowen (2016a; 2016b) offered two studies that provide further insight into the relationship between WIL programs and student professional identity formation. Bowen’s (2016b) projects analyzed the experience of student interns through the lens of social identity theory. This theory proposes that individuals adopt certain attitudes and behaviors based on one’s desire to assimilate in a particular social group. Bowen’s studies explored internship experiences of students and how those students learn about professionalism and develop a professional identity. Participants were interviewed and also asked to draw rich pictures of the sources they used during their work terms. Interestingly, Bowen noted that the participants often had trouble defining professionalism. It seems that it was difficult for the students to describe the concept without relying on examples of behavior observed in their workplace. Of primary interest in the research, Bowen observed that, “WIL programs provide students with a context to experiment and test who they are at the moment and explore who they want to become as
professionals” (p.410). Once again, these findings highlighted important connections between WIL programs and the elements that Chickering and Reisser (1993) proposed as important elements of identity formation. In particular, the nature of WIL work placements provides students, like these interns, with formative feedback from others in the workplace. Bowen also captured the idea that the interns were able to try out variations of identity or “possible selves” in order to gauge how their behavior would be met by other professionals. This type of feedback appears to be crucial in the socialization process for individuals transitioning from higher education to the workplace.

Denise Jackson’s (2016; 2017) research also investigated professional identity development through WIL program participation. Interestingly, her work introduced the concept of a pre-professional identity (PPI). Jackson’s initial article on the topic delves into the connection between PPI and employability of college graduates. She presented a conceptual review of the importance of reframing graduate employability by embracing professional identity formation. In particular, the notion of PPI development was proposed as a means of better preparing graduates for the workplace. Jackson asserted that PPI formation not only connects to job knowledge and skills, but also offers understanding of professional conduct, qualities, culture, and ideology. Lave and Wenger’s (1991) ‘communities of practice’ model was used as an illustration of how PPI can develop for students during their college enrollment.

Communities of practice typically offer a shared sense of purpose, a focus on practice, and a shared identity. In terms of a professional setting, communities of practice can facilitate peer learning and professional development (Jackson, 2016). Jackson proposed that WIL programs can serve as a bridge between communities of practice found in the university and the professional workplace. As such students find themselves existing in what Wenger (1998)
described as the ‘nexus of multi-membership.’ In this nexus, WIL students navigate the landscape of their own social, academic, and professional spheres. This requires formation of different aspects of one’s identity as he or she engages with various environments of their lives. For WIL students, “engagement with a landscape of practice will help an individual develop, or negotiate, his or her identity through the experience of participation; community membership; establishing a learning trajectory and the process of reconciling multiple membership with several communities into one identity” (Jackson, 2016, p.13). Through this examination of the literature, Jackson contended that PPI formation through WIL participation is well suited as a primary outlet for preparing college graduates for a successful transition to professional careers.

Jackson’s subsequent study employed qualitative methodology to further explore the effectiveness of WIL programs in developing student PPI. As described in a previous section, Jackson’s research used Baxter Magolda’s (1998) concept of self-authorship as a framework for examining the different stages of development for WIL students. Reflective writing assignments for 105 business undergraduate students were analyzed. These participants took part in a semester long internship. Several themes were identified as helping the students better understand the requirements of their intended profession. In particular, approximately one-fourth of the participants noted the importance of feedback and reflection during their work term as it provided the students with opportunities for reflection and strategies for future improvements. Several respondents also noted the value that their internship provided by allowing for the trying out of various professional roles through important work that they completed during their internship. These themes offer connections to several elements of identity formation as illustrated by Chickering and Reisser (1993). Although the findings of Jackson’s study offered limited generalizability, the results do highlight themes that suggest the
potential that WIL programs offer in assisting students to begin developing a PPI. The bridge that WIL can provide between the university and the professional sector, and also the concept of PPI formation appear to be ripe areas for further scholarly investigation. The next section examines research related to Chickering and Reisser’s (1993) sixth vector of developing purpose.

**Vector 6: Developing Purpose**

According to Chickering and Reisser (1993), once an individual has progressed through the first five vectors then the clarity would be present to provide him or her with a foundation for looking forward. The sixth vector of developing purpose “entails an increasing ability to be intentional, to assess interests and options, to clarify goals, to make plans, and to persist despite obstacles” (p.209). Chickering and Reisser suggested that developing purpose involves formulating plans for action and setting priorities that integrate three elements: vocational plans and aspirations, personal interests, and interpersonal and family commitments.

The authors (Chickering & Reisser, 1993) noted that an individual discovers one’s vocation by examining what one loves to do, what is fulfilling, what utilizes one’s talents and challenges us to develop new skills. Students that proactively engage in career development activities like meeting with career counselors, taking career related courses, taking part in internships and discussing career pathways with their instructors are typically more likely to identify future vocational directions (p.216). Chickering and Reisser observed that when colleges require student reflection, exploration of options, and planning, then vocational aspirations and future directions take shape more quickly. In visualizing future plans, the authors pointed out that it is difficult to visualize a future role or to plan a way to live if one has not seen it before. In light of this, WIL programs can offer a space for students to explore options,
experience potential professional roles, reflect on those experiences, and plan for aspirations accordingly.

As mentioned in the previous section scholars like Weston (1986) have examined the relationship between WIL programs and the formation of career identity. Career identity aligns more closely with developing a sense of purpose than does the concept of professional identity.

The author observes that, “career identity can be operationalized by measuring the degree of decidedness about, commitment to, confidence in, and satisfaction with, a career choice” (p.25). Weston hypothesized that co-op students would develop a career identity more quickly that those students that had not participated in a co-op work placement. The study incorporated an eighteen item scale which was crafted to measure career identity. The scale’s design was based on theoretical underpinnings of Erikson’s (1963), Marcia’s (1966), and Chickering’s (1969) writings. The questionnaire was mailed to co-op and non-co-op graduates from North Carolina State University. The respondents consisted of 337 non-co-op graduates and 92 co-op graduates. Statistical analysis of the responses revealed some surprising results. Responses relating to career certainty revealed no relationship between co-op experience and career certainty. There was a slightly positive relationship between co-op work and career commitment, as opposed to the non-co-op respondents. While the results yielded some positive indications for relating co-op experience to career identity development, Weston felt that some of the measures could have been affected by issues in the design of the instrument. He also noted that rather than being a single measure, career identity might encompass several elements. The results of this project certainly indicated a need for further research on the topic.

Once again, a review of Mueller’s (1992) study provides further examination of the relationship between WIL participation and developing a sense of purpose. Mueller’s (1992)}
work built on the previous research conducted by Brogden (1989). The Student Development Task Inventory Second Edition Mueller (SDTI-2) was used as the measurement instrument since it was originally designed to measure movement in three of Chickering’s (1969) vectors, including developing a sense of purpose. The population of the experiment consisted of 31 co-op students, 20 of which completed the pre-test and post-test. The test group consisted of students majoring in engineering, business, and liberal arts. The control group was made up of 56 students, 23 of which completed the pre-test and post-test. The data from the SDTI2 was subjected to statistical analysis. Unlike Brogden’s results, the findings of Mueller’s project did not support the hypothesis that co-op participation would have an enhancing effect on students developing a sense of purpose. Additionally, Mueller’s work indicated concerns for the effectiveness of WIL programs in assisting students in gaining a clearer sense of direction for their future careers.

Delorenzo (2000) investigated the relationship of cooperative education exposure to career decision-making self-efficacy (CDMSE) and career locus of control. The purpose of the study was to “determine whether cooperative education work experience is associated with higher levels of career maturity compared to other types of work experience (related and unrelated to a student’s field of study or career interests) acquired during the college years” (p.16). According to Delorenzo, career maturity involves two specific constructs. The first construct is career decision-making self-efficacy, which relates to a person’s confidence to perform various career decision making tasks successfully. The second construct involves career locus of control, which equates to one’s belief in their own ability to actually control their career outcomes. Delorenzo hypothesized that co-op students would have greater exposure to self-
efficacy information like performance accomplishments and vicarious learning through peers and mentors.

Surveys questionnaires were designed to contain the CDMSE Scale-Short Form, the Career Development Locus of Control (CDLC), and a Career/Work Experience Questionnaire. Study participants consisted of engineering and computer science undergraduate students from a large university in Virginia. Analysis was conducted on 225 randomly selected surveys. The respondents were classified into three groups: (a) co-op work experience group, (b) non-co-op (related to student’s field of study or career interests) work experience group, and (c) non-co-op (unrelated to student’s field of study or career interests) work experience group. In comparing the results of the groups, it was shown that co-op students had significantly higher CDMSE scores (p=.01), however, there was found to be no significant effect related to the number of completed work terms. The findings also did not reveal a significant relationship between career exploration activities and the development of an internal locus of control regarding career development. It seems that the data did point to significance in the type of work experience. The more closely related to a chosen career (like co-op), the higher the CDMSE scores were. Ultimately, Delorenzo’s (2000) study does not support the idea that co-op experiences promote career locus of control, however it does offer indication that co-op work can enhance a student’s career decision-making self-efficacy. This points to an increase in one’s confidence in their own ability to plan and make career choices, which aligns with similar observations from Chickering and Reisser (1993).

Surprisingly, a review of the literature related to WIL programs and students developing a sense of purpose or career direction reveals an area in need of further exploration. Of the existing literature that is available, even those sources provide mixed findings for consideration.
Further study of this topic would be beneficial for other scholars. The following section surveys the literature pertaining to the seventh and final vector of developing integrity.

**Vector 7: Developing Integrity**

Chickering and Reisser’s (1993) seventh vector involves the development of integrity. This final vector is closely tied to developmental tasks of establishing identity and developing purpose. The authors stated that, “our core values and beliefs provide the foundation for interpreting experience, guiding behavior, and maintaining self-respect” (p.235). As students embark on their college careers, they bring to campus their core values and beliefs. During that time in college, students can take part in experiences that challenge pre-existing assumptions and behaviors and experiment with various beliefs. These values might be affirmed or challenged through one’s exposure to new perspectives.

The development of integrity consists of three sequential but overlapping stages: (a) humanizing values – shifting away from automatic application of uncompromising beliefs and using principled thinking in balancing one’s own self-interest with the interests of one’s fellow human beings, (b) personalizing values – consciously affirming core values and beliefs while respecting other points of view, and (c) developing congruence – matching personal values with socially responsible behavior (Chickering & Reisser, 1993, p.237). Congruence offers a sense of understanding and peace of who one is, and where one stands with others as well. Pascarella & Terenzini (1991, p. 365) proposed that, “an essential function of the college in fostering principled moral reasoning is to provide a wide range of intellectual, cultural, and social experiences.” Through WIL placements, students can experience environments that can challenge, affirm, and shape one’s core values and beliefs.
It would seem that WIL programs offer a variety of opportunities for students to engage in work and activities that can shape one’s integrity and values. In terms of professionalism, ethics is a vital responsibility that can be assessed and acquired during a co-op or internship. Tillman’s (1990) study involving engineering students set out to determine any growth in ethical orientation that was experienced by the participants during their co-op work as they progressed through their undergraduate enrollment. Three basic core concepts were identified as most common to engineering codes of ethics: the public trust, qualities of truth, and professional performance. The following ethical questions guided the study: (a) What ethical orientations do civil engineering students demonstrate when making professional ethical decisions?; (b) Does the ethical orientation of the students change as they progress through a civil engineering undergraduate curriculum?; (c) Do students express the same professional ethical orientation for each core concept (p. 18)?

The population of the study consisted of 255 civil engineering students which ranged from freshmen to seniors at Northeastern University. Tillman used a specially designed instrument which had twelve hypothetical professional, ethical situations. Responses were entered from a Likert scale regarding the importance of one’s own sense of right and wrong, the rules governing engineering behavior, and the consequences of their behavior when making a decision. Thirty-three percent of co-op students confirmed that they had encountered an ethical dilemma during their work placement. Types of ethical issues experiences involved encouragement to lie or withhold information, offers of bribes or gifts, asked to ignore or alter information, told to complete work that was not up to design specifications, and many other scenarios.
The project design certainly presents limitations that must be considered. In particular, the study attempted to determine the level of growth that students experience in their ethical orientation as they progress through college, but the methodology was not set up as a longitudinal design which would have been more appropriate in measuring the actual growth of the participants. However, the findings did seem to show that the engineering co-op students took their ethical responsibilities very seriously. In situations that exceeded the students’ levels of professional experience, the participants seemed to feel more comfortable relying on established rules as opposed to their own judgement. Interestingly, as the students progressed through the program, they appeared to become more comfortable relying on their own ability to discern right and wrong without relying on a strict set of regulations. This study demonstrates how WIL students were able to experience the humanizing values that Chickering and Reisser (1993) identify as involved in developing integrity. These co-op placements afforded the students with a chance to comprehend the need to balance self-interest with the well-being of others.

One study in particular sought to measure advances in moral judgement and the effects of cooperative education experience for accountancy students (Dellaportas, Cooper, & Leung, 2006). The primary purpose of this project was to compare accounting students’ moral judgements by using two test instrument. The instruments consisted of the Defining Issues Test (DIT) and the Welton instrument (Welton, LaGrone, & Davis, 1994). “The DIT is a self-administered questionnaire that elicits the subject’s level of moral development” (p.6). The instrument contained hypothetical moral dilemmas as part of the testing. The DIT was developed from Kohlberg’s (1969) theory of cognitive moral reasoning and development (CMD), which focused on how one’s values can effect conflict resolution and problem solving.
The Welton instrument is a context specific questionnaire that parallels the DIT in design, and consists of four hypothetical business and accounting dilemmas.

The secondary purpose of this research (Dellaportas et al., 2006) was to explore the potential effects on an accounting student’s moral development after completing one year of education and one year of co-op work. The sample consisted of 97 accounting students ranging from freshmen to seniors. The participants completed the research instruments three times throughout a one year period. Upon analysis of the data the Pearson correlation revealed that the relations between the DIT and the Welton P-scores were weak (r=0.31, n=208, p>.01). This could indicate an issue with the accuracy of the instruments or that the students used different levels of moral reasoning in responding to accounting related issues as compared to a hypothetical social scenario. It did seem that “there was a significant change in the P-scores of the period during which accounting students were either preparing for or undertaking cooperative education, with the largest difference occurring during the actual work placement period” (p. 18). These results indicated that the work placement appeared to significantly increase the students’ test performance which seemed to once again support the idea that WIL programs could foster growth in moral judgement and integrity.

A deeper survey of the literature revealed a very limited number of studies that offered concrete designs and analysis of WIL programs in relation to developing integrity or professional ethics (Campbell & Zegwaard, 2011). There was, however, scholarly work available which discussed this topic at a conceptual level. In reviewing the overarching literature, it became apparent and must be considered that not all WIL placements provide quality learning and development for the student. It could be dangerous to assume that the professional environment would provide an outlet for teaching and observing proper ethical and moral behavior. Due to
incompetent supervision, corrupt organizational culture, or a lack of opportunity for observation, WIL programs might not always provide an ideal environment for the development of integrity (Campbell & Zegwaard, 2011; Dellaportas et al., 2006; Handelsman, 1986; Zegwaard et al., 2017).

Once again, a consideration of the development of an emerging professional (pre-professional) identity through WIL participation provided an outlet for intentionalizing the enhancement of one’s integrity and ethical behavior. Zegwaard et al., (2017, p. 150) observed that an emergent professional identity involves, “an evolution of understanding the obligations of the professional to affect positive change and actively respond to ethical and moral ideals, empowering the individual to exercise agency, and transform practice in the workplace.” Higher education must find a way to better prepare students for the ethical challenges of the modern work environment. Scholars contended that we must move past the idea of WIL programs “as being solely a process of socialization, or enculturation, into a dominant value structure, towards students being equipped with a critical sense of mind, and moral agency, to better interpret and negotiate the workplace” (Campbell & Zegwaard, 2011, p.213). This dilemma requires further discussion and research to identify targeted ways to refine WIL programs for this challenge.

Zegwaard et al. (2017) proposed that specific measures be incorporated throughout the curriculum to address this issue for WIL participants. These recommendations included better implementation of ethics courses and activities prior to work placements and also a more effective use of reflection and feedback during and after the WIL experience. By embedding these measures and actively investigating other concrete changes WIL students can be better armed to face ethical challenges before during and after their placements. This would allow the participants to develop as critical agents of their learning, actively shaping their practice settings
The achievement of critical agency can foster the acquisition of humanizing values, personalizing values, and ultimately congruence as highlighted by Chickering and Reisser (1993). Once these students obtain congruence, then their critical agency will allow them to match their own integrity with appropriate social responsibilities and to also be clear on their own ethical stances in relation to social and cultural environments. In order for WIL programs to effectively promote this type of growth there must be a more concerted effort to research and implement effective practices into the WIL curriculum.

**Shortcomings of Previous Research**

Although numerous studies do exist to provide an understanding of the benefits of WIL participation as it relates to psychosocial development, several gaps are present in the existing research. The disconnect between research on graduate capabilities and professional development appears to be prevalent (Daniels & Brooker, 2014; Jackson, 2016). The varying range of professional identity frameworks reveals a necessary topic for exploration also (Trede, 2012, p. 375). The concept of professional identity is a fairly recent subject of scholarly research with the majority of studies coming within the last five years (Bowen, 2016a; Bowen, 2016b; Ibarra, 1999; Jackson, 2016; Jackson, 2017; Macdonald et al., 2014; Trede, 2012a; Trede, 2012b; Walther et al., 2011; & Zegwaard, 2015). In particular, scholarly work on the phenomena of professional identity development, and it’s influencing factors for undergraduate students is still under explored (Jackson, 2017; Molinero & Pereira, 2013). More specifically, research is needed to understand how to structure WIL programs so that learning and growth of professional identities can be more intentional (Zegwaard, 2015).

The review of literature relating Chickering and Reisser’s seven developmental vectors to WIL programs revealed numerous areas for further study. In terms of the first vector of
developing competence, there was a notable lack of literature related to developing physical competency, and several surprising contradictions found in the research regarding the development of intellectual competencies through WIL experiences. Studies connecting WIL to managing emotions was also limited, and it reveals a need for more concrete research methods to be employed towards this topic. Identity studies as related to WIL are a more recent trend, but further research appears to be needed in regards to the concept of pre-professional identity and the connection to WIL participation. In the examination of the literature on developing purpose and integrity, it seems that the existing scholarship is predominantly more conceptual and anecdotal. This indicates a need for more thoroughly designed and researched studies using a variety of methods to explore existing WIL programs.

This chapter reviewed the existing scholarly literature as related to psychosocial development of students and WIL programs. Specifically, Chickering and Reisser’s (1993) seven vectors of student development were highlighted in conjunction with relevant research that pertained to WIL program participation.

The next chapter explains the proposed phenomenological research methodology of this study. This includes discussion of the research questions, the population and sample, the role of the researcher, site selection, data collection and analysis, and potential ethical issues.

The fourth chapter highlights the results of the research and offers specific observations of notable major and minor themes identified during analysis. The final chapter presents conclusions of the study with discussion regarding implications of the research finding for future research and practice.
CHAPTER III

Methods

The following chapter discusses the qualitative, phenomenological research design of this study. This particular portion of the project describes the details pertaining to the role of the researcher, the population and sample, site selection, data collection, validation strategies, data analysis tools and procedures, and relevant ethical issues.

Research Questions

The topic of professional identity development appears to remain an underexplored area as evidenced by a varying range of theoretical frameworks in the literature (Trede, 2012). Additional research gaps remain for issues related to graduate capabilities and professional development as well as the need for further exploration of the factors that might influence professional identity development of undergraduate students (Daniels & Brooker, 2014; Jackson, 2016; Jackson, 2017; Molinero & Pereira, 2013). Finally, the limited amount of studies which investigate the potential links between WIL and pre-professional identity development necessitates research into these experiences and the possible resulting phenomena (Zegwaard, 2015, p. 94).

The research questions outlined in this study were crafted in an effort to address some of these existing research gaps. The central research question of this project addresses: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs? Additionally, the studies sub-questions explore the following:
1. How does participation in work-integrated learning support the development of personal and/or professional identity?

2. How do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences?

This research project incorporated a qualitative design. Creswell (1998, p.15) described qualitative research as, “An inquiry process of understanding based on distinct methodological traditions of inquiry that explores a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.” In particular, Creswell specifically underscored the complexity and holistic nature of this type of research. Sharan Merriam (1998) supported the importance of the mosaic nature of qualitative methodology. She further described qualitative studies as an “intensive, holistic description and analysis of a single entity, phenomenon, or social unit” (Merriam, 1998, p. 34). The intricate and richly detailed essence of qualitative studies can provide an illuminating depth of understanding for the researcher which can be hard to obtain through other methods.

In light of the characteristics of qualitative methodology, it was appropriate to employ this approach in order to best accomplish the purposes of this research study. In particular, the investigative strengths of the phenomenological model offered a methodology that was ideal for examining specific phenomena. As Moustakas (1994, p. 14) illustrated, “the understanding of meaningful concrete relations implicit in the original description of experience in the context of a particular situation is the primary target of phenomenological knowledge.” As Husserl’s pioneering work in phenomenology illustrated, experience and subjective meaning can be extremely valuable in better understanding ourselves and the world around us (Groenewald,
2004; Wilson, 2014). According to Heidegger (1977, p. 74) phenomenon means, “to bring to light, to place in brightness, to show itself in itself, the totality of what lies before us in the light of day.” Therefore when studying phenomena, the themes that appear to the researcher through the investigation, provide clearer perception of an experience and generates new knowledge in the subject area (Moustakas, 1994, p. 26). The implementation of phenomenological methodology in this study shined a light on the experiences of the WIL students that participated. Analysis of those lived experiences offered insight into potential effects of WIL programs on personal and professional development and also any perceived career development gains for the students as part of their WIL participation.

The Role of the Researcher

In a phenomenological study, the researcher plays a uniquely, pivotal role in the investigative process. Smith, Flowers, and Larkin (2009, p. 3) described the unusual position of the researcher as needing to play a “dual role” in a phenomenological study. The researcher brings their own personal experiences and perspective to the project. This portion of the researcher’s role is very much aligned with that of the participants in the study. As an additional responsibility, the researcher must also employ a systematic, intentional approach to gathering data and performing thorough analysis. As such, the researcher becomes an instrument in conducting the study which provides credibility that largely depends on “the skill, competence, and rigor of the person doing fieldwork” (Patton, 2002, p. 14).

In my own professional background, I bring several years of experience from various perspectives related to WIL. A significant portion of my professional experience was spent working in a variety of roles in human resource departments with several manufacturing or industrial related companies/organizations. For approximately two to three years, I spent much
of my work time devoted to developing a successful cooperative (co-op) education program for
my employer. This experience required developing a recruiting process, a training schedule, and
a support structure for students that were hired into the co-op program.

During this experience, I began to understand the value of a successful program for
employers. The changing demographic of the workforce found many key employees in the
category of “Baby Boomers” and therefore meant that they were on the cusp of retirement
eligibility. This left many companies scrambling to develop succession plans for those key
positions. In response to this employment crunch, my employer turned to their co-op program as
one potential solution for recruiting future leaders in their engineering department.

As I hit the road in an effort to develop a recruiting network with various colleges and
universities in the region, I began to realize that the employment crunch issue was also being
compounded by a shortage of students that were willing to go into engineering and technical
fields. As a result, the recruitment process was very competitive for viable candidates. I began
to realize that I was recruiting to a location that was not very desirable geographically, and the
industry was not very glamorous either. This challenge highlighted the need to craft a co-op
program that offered unmatched professional training and responsibilities, but that was simply
not enough. Due to our location, I realized that we would have to make the living arrangements
and other amenities lucrative enough to attract the most talented engineering students.

Once the students were on site, I also began to better understand their perspectives and
the challenges associated with leaving school and taking on an experience that was often very
foreign to them. They typically found themselves away from their own campus without the
usual support group of friends or faculty to assist them. They also had to deal with the transition
of living arrangements, transportation, or other daily necessities. Many of these young men and
women were facing these challenges for the first time in their lives. Not only did I begin to recognize the obstacles that they faced, but I also observed the growth that they experienced during their work-term. This growth was often very recognizable from a professional standpoint, and also from an interpersonal perspective as well.

This firsthand experience that I had with co-op programs and the individuals involved resulted in my becoming a proponent for the benefits of work-integrated learning (WIL) programs. Eventually my employment path and professional relationships provided me with an opportunity to accept a position in the Dean’s office in the School of Engineering at a public university (SPU) in the southeastern United States. In this position, I was tasked with recruiting engineering students to SPU, and also providing academic and career advising to students once they enrolled. This experience allowed me to gain an additional perspective from the academic sphere, especially in better understanding the concerns of the student in relation to their development. This highlighted to me the challenges and support that students experience in their academic responsibilities and campus involvement. During this time, I also continued to gain a deeper appreciation for the growth and learning that students would obtain from participation in WIL programs.

My role as the researcher on this project was probably further complicated, and also enhanced, by the fact that I now serve as the Associate Director within an Interdisciplinary Manufacturing Program (IMP) at SPU. The IMP program is a relatively new program on campus, having admitted the initial class of students in 2010. One of the central roles of my position in the center has been to establish a co-op/internship program. This opportunity has allowed me to use quite a bit of creative license in crafting the direction and details of the WIL
program. These conditions have resulted in my feelings of ownership and emotional investment in the success of the IMP’s WIL program.

My personal and professional views have caused me to place a great deal of importance on the impact that WIL experiences can have on the development of college students. I often take a great deal of pride in watching IMP students gain technical knowledge and professional maturity during their work terms. While creating the co-op program, I have reviewed information on best practices and also looked at scholarly work on WIL programs. Many of these resources underscore the importance of experience, feedback, and reflection on the student development process. After reviewing these sources, I have developed my own personal biases on the importance of work experience for a student’s personal and professional development.

While my professional proximity to the IMP co-op program could have presented some challenges in terms of bias, I also believed that there were advantages to this arrangement as well. As the co-op program director, I had control over the data collection process and access to all the necessary information for the study. My position also gave me more insight into each of the individual students in the co-op program. Another positive aspect to this arrangement, was that any findings from the study could be directly implemented for improvements to the IMP WIL program. Ultimately, reflection on my role as researcher revealed potential concerns regarding bias (which will be delineated in subsequent discussions), but awareness and impartial peer review served to overcome those challenges while leveraging the advantages of the access afforded to me as a researcher/practitioner.

Due to my employment history and personal experience, it was important that I clearly identified my own personal assumptions that I brought into this study. Husserl identified the freedom from suppositions as the *Epoche*, which is a Greek word that means to stay away from
or abstain (Moustakas, 1994, p. 85). In phenomenological research it is imperative to struggle toward this *Epoche* in order to prevent any presuppositions of the researcher from contaminating the data. Therefore this reflection on my own personal experience and history with the phenomenon of WIL was an important part of the methodology which allowed me to identify assumptions and approach the topic with a sense of openness.

As a result of this reflection, I identified my first assumption which exposed my belief that participation in WIL programs provide students with positive personal and professional growth. I tend to believe that WIL students typically gain new technical or industry related skills as well as a sense of what it is like to be a successful professional. I often expect that these students have experienced the challenge of independence and resulting maturity that leads to personal growth. Secondly, I assume that WIL students will have a better sense of their professional identity at the conclusion of their work terms. This presumption often includes the expectation that the WIL experience provided the student with a clearer direction for their career path as well. Finally, my third assumption presumes that all WIL students have reflected on their own participation, grown and matured from the experience, and view their involvement as a positive event. In reviewing these assumptions, I was able to clearly identify biases in regards to the benefits of WIL. As a researcher, this was a stark reminder for my need to be constantly vigilant against my personal assumptions creeping into the analysis process, which certainly underscored the need for bracketing and validation strategies as well. These will also be discussed later in this chapter.

**Site Selection**

The research site for this study, SPU, is a public university in the southeastern United States. The university enrolls over 20,000 students on its primary campus. The Carnegie
Classification website (http://carnegieclassifications.iu.edu/) describes SPU as a large, four-year institution with enrollment that is primarily residential. The university is categorized as a Doctoral University with Carnegie’s highest level of research activity, but the enrollment profile indicates a high level of undergraduate enrollment as the percentage of the student population.

The more narrowly defined location for the study was an Interdisciplinary Manufacturing Program (IMP) which is housed at SPU. The IMP was formed in 2008 as an interdisciplinary academic program tasked with preparing graduates to be leaders in modern manufacturing organizations. Currently, the IMP is exclusively a selective undergraduate program that admits students from a variety of disciplines. In order to participate in the program, students can select one of three bachelor’s degrees offered by the School of Engineering (mechanical engineering, chemical engineering, or general engineering). Also, students can major in either accountancy or any degree pathway in the School of Business (management, marketing, finance, economics, etc.). In the fall of 2017, the total student population of the program consisted of 186 students (62% engineering, 18% accounting, and 20% business). The student body consists of 26% females and 74% males. A variety of states and regions are represented in the program with approximately 51% of the students claiming in-state residency. The average ACT score for IMP students is greater than 29, while the overall ACT score for freshmen entering the university is 24.7 as of 2015-16.

During their tenure in the program students participate in a minimum of eighteen credit hours of manufacturing coursework which is very practically focused on content related to lean manufacturing and continuous improvement. Upon completion of the coursework, students receive a minor or emphasis in manufacturing on their academic transcript. During their participation in the program, students are strongly encouraged to take part in some sort of WIL.
experience which typically consists of an internship or cooperative education (co-op) term with a manufacturing or business organization.

The differentiation between a co-op or internship experience is often difficult to define due to the various uses of these terms applied by the host employers. For internal purposes the IMP defines a co-op as any experience where the student is employed fulltime (minimum forty hours per week) and enrolled in a co-op course which results in the student receiving academic credit for the successful completion of their work term. Successful completion would consist of submitting weekly reflective journals, an end-of-term co-op report which includes project summaries and reflective writing based on their experience. Students must also submit an evaluation of their employer. Employers are also asked to submit a performance evaluation of the student’s work. The final co-op grade is comprised of the co-op report and weekly journals, student evaluation of the employer, and the employer’s performance evaluation of the student.

Within the IMP, internships are also strongly promoted as a viable method for gaining practical, professional experience. Accountancy students within the IMP typically complete a minimum of one internship as part of meeting requirements for graduation from the School of Accountancy. IMP students majoring in business also have an opportunity to take part in an internship which can be counted for course credit toward completion of an undergraduate degree as well. Though compensation data was not gathered as part of this study, it is important to consider that typically most internships and co-op positions within the IMP program are paid work placements.

**Population, Sample, & Participants**

Creswell (p. 111) affirmed that participants in phenomenological studies can come from a single site, and he underscored that it is most important that subjects must have experienced the
phenomenon being explored in order to effectively share and communicate their lived experiences. The IMP program provided a readily available study sample in light of the program’s focus on providing their students with a WIL experience. Therefore, the chosen sample for this project was narrowly focused on undergraduate students in the IMP at SPU who had participated in the program’s WIL program by taking part in a co-op or internship experience.

The IMP’s WIL program consists of approximately thirty to forty students each year. These experiences take place during the fall, spring, and summer academic terms. As the director of the IMP’s WIL program, I have access to detailed information regarding the student profile and employer specifics involved in each co-op experience. I employed purposeful, criterion sampling to select the study participants that have experienced the WIL program and that are also willing to freely take part in the research. As Michael Patton (2002) demonstrated the power of purposeful sampling lies in its ability to yield information-rich cases for in-depth studies. This results in a more thorough understanding of how the central phenomenon relates to student development and/or the emergence of a professional identity. This purposeful approach to sampling for the study incorporated an aspect of homogeneity due to the fact that all participants were affiliated with the IMP program. My “insider” status as a researcher and also as a staff member in the IMP, provided a factor of convenience to the sample selection as well.

Participants in the study consisted of a sample of students that completed a co-op or internship experience as an undergraduate. The aforementioned profile of the IMP provides some indication of the type of student that will be selected for this study. For further understanding, the employers that hire these WIL students are typically companies that have some operations or interests that connect to the manufacturing industry. Many of these partner
employers produce products related to the automotive industry, but the IMP has also developed a diverse roster of collaborators in other fields such as: food processing, biomedical equipment, metal forming, aerospace, shipbuilding, electronics, and many others. Based upon the academic focus areas of the students, WIL jobs are typically found in areas associated with engineering, operations, accounting, finance, or human resources.

As both John Creswell (2012) and Michael Patton (2002) pointed out, the sample size of a research project likely varies with each study. The primary necessity in determining the size of the sample is to ensure that it supports the purpose and outcomes of the study. Of course, the goal of this project was to better understand how a WIL student perceived the influence of the work experience on their personal and professional development. In order to gain an in-depth insight, the sample size for the study must not become too unwieldy. As Creswell (2012) indicated, qualitative studies typically involve few cases in order to help provide a more detailed understanding. Also due to limited time and resources of the researcher, the number of participants must be narrowed. In light of these issues, the minimum sample size for this project was 51 WIL students. There were 38 interviews conducted and 33 co-op reports reviewed. For 12 of the interviewees, they also had co-op reports examined. It can be difficult to discern an accepted standard for phenomenological research participants. Creswell (1998) does assert that ten subjects should constitute a “reasonable size.” This project’s sample number well exceeds Creswell’s recommendation. The goal, of course, is not to merely hit a target number, but as many scholars also note saturation is the key aim in selecting sample size for qualitative studies (Merriam, 1998; Patton, 2002; Seidman, 1998; Yin, 2003). The research sample for this study allowed for a thorough saturation level of the phenomenon, while also preventing an overwhelming amount of data for analysis.
The primary means for soliciting study participants was through an initial email (Appendix A). The mailing list consisted of all students that were active members in the IMP. The email provided a notice to those individuals that had taken part in a WIL experience (co-op or internship). General introductory comments and specifics about the purpose, and procedures for the interviews were included in the initial email. Once students responded with an email indicating their willingness to volunteer, I then replied with more details related to the interview arrangements and a request to answer any of the students’ questions or concerns prior to our meeting.

The initial email request yielded an impressive number of affirmative responses, but a second email request was sent the following semester in order to include any students that might have been off campus working as a co-op or any individuals that might have simply missed the initial interview request. The second round of solicitation in addition to snowball sampling by word-of-mouth from a few of the initial participants provided a sample size that met the needs of the study.

**Data Collection Procedures**

Interviews were conducted with IMP WIL students as one source of data collection. The students were all undergraduates that had completed at least one WIL experience during a summer or semester and had since returned to fulltime enrollment at the university. The student interviews were conducted in a one-on-one format between the researcher and the participant. The venue for the meeting was in a small meeting room in the IMP facility in order to allow for uninterrupted discussion. I avoided conducting these sessions in my own office in order to provide a more neutral setting for the participants. The duration of the interviews typically lasted approximately thirty minutes to one hour in time depending on the depth of student responses.
and the opportunity for follow-up questions. Again, these interviews were scheduled after the conclusion of the student’s WIL experience.

As participants arrived at the interview location, they were welcomed and provided with some preliminary documents to review before beginning the interview. Each student was asked to review a consent form (Appendix B) and a release form (Appendix C). The consent form covered specific information such as: a description of the study, risks and benefits, confidentiality, right to withdraw, IRB approval, and a statement of consent. The release form was also provided to enable me to audio record the interview and to transcribe later. These forms were presented to the participant with time allowed for each individual to review the documents. I also explained the details of each form and time for questions was allotted as well. In addition, a $5 Starbucks gift card was then given to each student as a “thank you” for their participation. When handing out the gift card, I once again reminded the participant that they had the right to withdraw from the interview at any time with no repercussions including retaining the gift card as well.

Once those documents were thoroughly covered, I then provided an explanation of the basic structure of the interview session regarding duration and the approximate number of questions and general format. At this time I also asked each participant to provide me with a pseudonym that would be used for the study. This allowed me to reaffirm the confidentiality of the study for the student. After asking the participant if they had any questions, I then started the recording device and commenced the interview process.

The format of the student interviews was semi-structured which allowed for coverage of topics concerning the research while also allowing the flexibility to incorporate the emerging opinions and views of the students and to also address any new ideas or information that they
might bring forth (Merriam, 1998). Specific questions in the interview protocol (Appendix D) were based upon prior research by Chapman (2011) regarding study abroad participants. Chapman’s interview questions were based largely upon the Seven Vectors as highlighted by Chickering and Reisser (1993). The goal of this approach was to incorporate a similar interview structure and method that was previously focused on the experience of study abroad students and instead investigate the phenomenon of WIL for students.

Analysis of documents was used as a second source of data for the study. These documents consisted of assignments that were submitted by undergraduate students as part of their co-op courses. The co-op courses are classes that students are enrolled in during their co-op work terms. These courses typically run the duration of a regular semester or full summer term.

As Merriam (1998) and Yin (2003) pointed out, document analysis is not to be taken as a literal recording of the events as they took place. However, these documents do provide a more thorough understanding of the participants’ perspective of the events as they occurred. Merriam (1998) highlighted the usefulness of personal documents in studies as a “reliable source of data concerning a person’s attitudes, beliefs, and view of the world” (p. 116). The available documents that were assigned through the co-op program provided a useful source of information on the students’ views of their experience during their work term.

The IMP’s co-op courses require students to submit several types of documents that include personal reflection. At the end of the co-op course the student is required to submit an end of term co-op report. This report includes two parts. The first component is a section that provides a detailed summary of projects completed during the work term. The second part of the report is a reflective writing exercise that asks co-op students to reflect on several developmental aspects of the work experience. I have incorporated these co-op reports as well as an additional
data source. These reflective writings have not been used as a direct match for each individual interview participant but were instead utilized as an additional source of data for verification and validation purposes.

**Reliability & Validation Strategies**

The complex nature of qualitative research often leads to concerns of the credibility and validity of such studies. In order to ensure reliability and better validate the findings of this study, I have incorporated several quality assurance measures. Many scholars highlight the importance of triangulation in providing an assurance of validity to qualitative studies (Creswell, 2012; Merriam, 1998; Patton, 2002). Denzin’s (1970a; 1970b) writings on research methods also highlight the importance of triangulation as an important validation measure. He suggested that there are four approaches for effective triangulation by using multiple sources, methods, investigators, and theories. In addition, Lincoln and Guba (1985) also provided support for the use of multiple data sources, peer debriefing, and member checking as effective means of ensuring reliability and validity as well.

**Multiple Data Sources**

This research project has incorporated triangulation through the use of multiple data sources. Using multiple data sources has allowed me to check interview results against information found in co-op reports from the co-op courses mentioned previously. Patton (2002) underscored the importance of these cross-data validity checks in using multiple sources not just to yield the same results, but to rather test for consistencies or inconsistencies. This approach can strengthen the data that is gathered by giving the researcher a much deeper insight into the phenomenon being explored.

**Member Checking**
I have also incorporated member checking as another measure to assure reliability of the findings (Creswell, 2012). Member checking involves engaging with study participants to ensure accurate portrayals of the data that has been gathered for analysis. In keeping with this approach, I asked five interview participants to review the findings of the data analysis and they provided comments on the accuracy or inaccuracy of the findings as based on their WIL experiences. This process provides several benefits in enhancing the reliability of the research (Lincoln & Guba, 1985, p. 314):

- It provides an opportunity to assess intentionality of the study participants.
- It gives participants an immediate opportunity to correct errors or challenge potential incorrect interpretations.
- It provides participants an opportunity to supply additional information that might have been left out of the initial interview.
- It puts the participant on record as having provided certain responses and agreeing to the accuracy of that information thereby making it difficult for later claims of misunderstanding or investigator error.
- It provides an opportunity to summarize.
- It provides participants with an opportunity to give an assessment of overall adequacy and to confirm individual data points.

**Peer Debriefing**

Peer debriefing was also employed as a quality assurance measure for this study. Peer debriefing is highlighted by Lincoln and Guba (1985) as a useful technique for affirming the credibility of research. It is essential that the individuals that serve in this capacity are actually peers of the researcher. If the debriefers are either senior or junior to the researcher then the
feedback could be taken with too little or too much emphasis. The peer debriefers should also be
someone with substantive knowledge of the content and methods involved in the study. As
Lincoln and Guba explained (p.308), peer debriefing serves multiple purposes: (a) the process
helps keep the researcher honest by being exposed to an external “devil’s advocate”, (b) the
process also provides an opportunity to test and/or challenge working hypotheses of the
researcher, (c) the process also allows the opportunity to develop and test next steps in the
emerging methodological design, and (d) the process provides the researcher with an opportunity
for catharsis which could clear the mind and open the way to “next steps” of the study.

**Clarifying the Bias**

In qualitative studies, the researcher serves as the instrument (Merriam, 1998; Merriam,
2009). As such, every researcher brings their own set of preconceptions, interpretations, and
personal biases to a study (Denzin, 1989; Patton, 2002). As Stake (2006, p. 87) pointed out, it is
difficult for us to completely change our personalities as individuals. While we should confront
negative biases, some efforts to suppress our own interpretations can drive those beliefs into the
shadows. Instead, a better approach would appear to be that of clearly identifying,
understanding, and openly addressing our bias in order to keep it ever present before us as
researchers. Thankfully steps can be taken to clarify researcher bias in an effort to prevent those
beliefs from incorrectly influencing a research study.

In the phenomenological method, the concept of *epoche* or *bracketing* is an essential step
in initiating a research study. Moustakas (1994, p. 85) described the concept and process of
*epoche* as “a preparation for deriving new knowledge, but also as an experience in itself, a
process of setting aside predilections, prejudices, predispositions, and allowing things, events,
and people to enter anew into consciousness, and to look and see them again, as if for the first
The process of bracketing was instrumental in helping me to begin to understand my biases or beliefs throughout the study. This is an important consideration since epoche is not performed only at the outset of the research, but it is also an ongoing process throughout the life of the project (Patton, 2002, p. 485).

Reflexivity has been an essential outlet in the epoche process in helping me as a researcher better understand my own experience and background with WIL programs. As I discussed in the Role of the Researcher section of this chapter, my current and previous employment experiences have provided me with extensive background with various perspectives related to WIL programs. Those past experiences have created several basic assumptions and beliefs that I have about WIL programs, especially as it relates to student outcomes. It was important to go through that reflective process in order to bracket out my own predispositions in an effort to suspend my own judgments. I also maintained a research journal throughout the research process which assisted in keeping my personal thoughts in perspective. This reflexivity not only helped me clarify my own assumptions and worldviews, but it should also assist the reader in better understanding my perspective as the researcher as well (Creswell, 2012; Merriam, 2009).

There are several additional measures that are recommended by scholars, which I have elected to incorporate into this project in order to clearly identify my own bias. I consciously attempted to employ negative case analysis during this study in order to look for data that supports other explanations that are contrary to my own (Merriam, 2009; Patton, 2002). This approach combined with the previously mentioned feedback from peer debriefers and member checks allowed for outlets to challenge and engage my own personal assumptions and opinions about the data. Finally, I included rich, thick description in the findings as another means to
potentially negate the dissemination my own personal bias as part of this study. By using thick, descriptive quotes and segments from student interviews and course documents, the reader can potentially look past any bias that I might have interjected, and instead form conclusions from the descriptive data in order to better judge the merit of any conclusions drawn from the study as well (Merriam, 2009).

**Data Analysis Procedures**

As Merriam (2009, p.175) illustrated, data analysis is essentially making sense out of the data. In a larger context, it is the effort of the researcher to extract some meaning from the information collected. This is done by consolidating, reducing, and interpreting what participants have said or written, and also what the researcher has observed about a phenomenon (Merriam, 2009). In order to gain a deeper understanding of the essence and meanings students attach to their WIL experiences, I elected to employ the phenomenological approach in conducting this study. This philosophy was also applied to the analysis of the data as well.

When examining the phenomenological method in a broader context one can find some fundamental components of the process. Giorgi (1997) defined those essential components in three interlocking steps: (a) the phenomenological reduction, (b) description, and (c) the search for essence. The concept of phenomenological reduction brings us back to the process of *bracketing*, which has been discussed in previous sections of this chapter. As the researcher, I was tasked with “bracketing out” my previous views and beliefs about the WIL phenomenon in order to view the participants’ experiences exactly as they communicated during the data collection process. The use of thick, rich description was integral to gaining a deeper understanding of the phenomenon as lived by the research participants. This all led to a
thorough review and analysis of the data in an effort to grasp the essence of an event or experience, which in this case was the participation in a WIL program.

While Giorgi (1997) provided a useful summary of the phenomenological method, the practical demands of examining the data sources for this project required a more detailed and systematic approach to analysis. For this reason, I specifically incorporated the use of the Stevick-Colaizzi-Keen Method as depicted by Moustakas (1994). This particular method is a modification by Moustakas based upon work from Stevick (1971), Colaizzi (1973), and Keen (1975). This methodological technique involves the following steps for data analysis (Moustakas, 1994, p. 122):

1. Crafting a detailed description of the researchers own experience with the phenomenon.
2. Using the verbatim transcripts of the experience completing the following steps:
   a. Consider each with respect to the significance for description of the experience.
   b. Record all relevant statements.
   c. List each non-repetitive, non-overlapping statement. These are the invariant horizons or meaning units of the experience.
   d. Relate and cluster the invariant meaning unit into themes.
   e. Synthesize the invariant meaning units and themes into a description of the textures of the experience. Including verbatim examples.
   f. Reflect on your own textural description. Through imaginative variation, construct a description of the meaning and essence of your experience.
g. Construct a textural-structural description of the meaning and essences of your experience.

3. From the verbatim transcripts of the experience of each of the other co-researchers, complete the above steps a through g.

4. From the individual textural-structural descriptions of all co-researchers’ experiences, construct a composite textural-structural description of the meanings and essences of the experience, integrating all individual textural-structural descriptions into a universal description of the experience representing the group as a whole.

The concept of imaginative variation is central to this process. Imaginative variation allows the researcher to view each identified theme from multiple perspectives. Douglass (Douglass & Moustakas, 1985) described this process as similar to “moving around a statue in order to view the object from different directions. By employing imaginative variation I was able to gain a more thorough and meaningful understanding of the invariant themes (Patton, 2002, p. 486).

The Stevick-Colaizzi-Keen method was used to analyze not only the interview transcripts but also the written co-op course reports as well. Due to the significant amount of interviews conducted for this study and time limitations, all documents were transcribed using an online transcription service provided by Temi (www.temi.com). Temi offered access to transcription technology on a per recording basis. After thoroughly testing the application, I proceeded with transcription of all recordings. The software allowed me to listen and read along through the transcript and correct any errors the software made in the transcription process. Once the transcription was finalized by the software, I then reviewed the document again for any additional errors and corrections that were necessary. When all recordings were transcribed, the
transcripts and co-op course documents were saved in Microsoft Word format and stored on my password protected computer. Backup copies were also saved on a separate storage device and kept in a secure location as well.

**QSR NVivo Software**

The QSR NVivo 12.0 (NVivo) Software package was used as a research tool in this project. I elected to incorporate this technology into the analysis process due to the large amount of raw data that was required to be managed and reviewed in the limited time allotment. Qualitative Analysis Software (QAS) like NVivo has been shown to be very effective at helping researchers gather and sort through their data (Bloomberg & Volpe, 2012; Leech & Onwuegbuzie, 2011).

The researcher is always the primary investigative tool in a qualitative study, but technology can certainly enhance the process. Typically, QAS programs cannot and should not analyze data for the researcher, but it can provide useful features during data analysis, such as: storing and organizing, labeling or coding, searching, connecting, comparing, mapping, and many other features (Bazeley & Richards, 2000; Creswell, 2012; Patton, 2002). While QAS programs do not supplant the role for the researcher in the analysis process, they do assist in removing barriers to detailed analysis (Richards, 2002). However, the observation skills of the researcher are still the best option for discerning themes and patterns for the available data. No form of technology can as readily observe subtle cues during an interview such as tone of voice, context, and body language or visual cues (Bloomberg & Volpe, 2012; Patton, 2002). Those perceptions can only come from the observational skills of the researcher.

**Anticipated Ethical Issues**
All research participants were treated in the appropriate manner according to the ethical guidelines proposed by the American Educational Research Association (AERA) and the American Psychological Association (APA). Also, prior to commencing the research project an application to conduct research was completed, filed, and approved by SPU’s Institutional Review Board (IRB). This application process was helpful in assisting me to consider potential ethical issues like subject vulnerability, recruitment procedures, consent, risk, benefits, and confidentiality. I also employed Patton’s (2002) checklist for ethical issues as a guide throughout the research process. Patton’s checklist covers many of the same considerations that are mentioned in the IRB application process as well.

My leadership role in the IMP program was one of the initial ethical concerns that I wrestled with in developing this study. I serve in an upper-level administrative position while also advising some of the student participants. Of particular concern was my role as one of the instructors for one of the co-op courses in which several of the participants had been enrolled. However, due to the design of the study and the sample group being used, all of the participants were required to have already completed any co-op or internship coursework prior to participating in the data collection process. Also, volunteers for the project were secured on a voluntary basis by email response. Any students not responding to the email were not pursued and coerced or even encouraged to participate. Selection was based solely on an affirmative response to the recruitment email by the participant. In addition, students were encouraged to speak openly and honestly during the interview with full confidence in the confidentiality of the study and without repercussions for any opinions that they held or shared during the process.

Additionally, I wanted to make certain that the research participants had full disclosure and understanding of the study, so that there would be no possibility of deception and confusion
in understanding the purpose and potential risks related to participation. Prior to each interview, the consent form (Appendix B) was discussed with each student. This clearly identified my name and information as the primary investigator, and also my faculty sponsor as well. I presented a summary of the description of the research.

The potential risks were also illustrated for the subjects. For example, if students had suffered any negative experiences during their co-op term then the discussion of that issue might bring negative feelings and thoughts back to mind. There were some participants that did have negative experiences during their WIL work term, but they all seemed willing to share without ill effects. Being aware of this possibility, I was mindful that I did not want to push the students too far in the interviews when discussing negative memories.

This consideration of risk in particular related to the disclosure that I discussed with each student regarding their right to withdraw from the process at any time without any concern of negative consequences. I was careful and consistent in pointing out that if they did not like the questions, or they simply wanted to leave no matter what their reasoning, the participants were there voluntarily and could leave at any point without fear of reprisals or impact of their status as a member of the IMP program. As an additional reinforcement, they were reminded that they could take their Starbucks gift card with them even if they decided to withdraw from the study.

Confidentiality was another ethical consideration that was carefully acknowledged and discussed with the participants. The consent form provided a detailed explanation of the extensive measures that were taken in safeguarding their identity in order to make sure that it was kept confidential throughout all stages of data collection, storage, analysis, and the communication of the findings. Before each interview, the participants selected a pseudonym that was then used in the interview and at every point subsequently.
Conclusion

This chapter discussed the methodological approach applied during this research study. Specifically, attention was given to presenting my role as the researcher, the population and sample used, the site selection, data collection procedures, reliability and validity strategies, data analysis methods and tools, and anticipated ethical concerns as well. The following sections will address the findings and themes identified during the analysis process with the final chapter providing overarching conclusions and implications of the research for future research or application.
CHAPTER IV

Research Findings

The purpose of this phenomenological study was to explore the psychosocial and professional development of undergraduate student members of an interdisciplinary manufacturing program who participated in work-integrated learning (WIL) experiences at a public university in the southeastern United States. The phenomenological methodology employed in this project was essential in identifying the lived experiences of the participants during their WIL work terms. Analysis of the collected data revealed important elements of WIL experiences and how those events helped to shape the personal and professional development of the participants.

This study was focused on answering the following research questions: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs? The specific sub-questions also consisted of: (a) how does participation in work-integrated learning support the development of personal and/or professional identity, and (b) how do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences? The remaining sections of this chapter will provide a summary of the research findings, including details and profiles of the study participants, and a discussion of major and minor themes that were identified during the analysis process.
Participants

All study participants were members of the Interdisciplinary Manufacturing Program (IMP) at a public university in the southeast United States (SPU). Data for this study was gathered from two sources. The first source consisted of semi-structured interviews that were conducted with 40 students that had completed at least one WIL experience as an undergraduate. All interviews were audio-recorded and transcribed by the researcher. After review and initial analysis of the interview transcripts, 38 of the interviews were deemed to be applicable and usable for this project. Of the interview participants, 13 (34%) of the students were females and 25 (66%) of the students were male. This gender breakdown is very reflective of the gender profile for the total student population within the entire IMP (33% female and 67% male). A review of the academic majors of the interview participants shows that 25 (66%) students are engineering majors and 13 (34%) of the students majored in either accountancy or business degree programs. Once again the percentage breakdown by major category is roughly reflective of the categorization of student majors in the IMP (60% engineering majors and 41% accounting and business majors).

The second source of data for this project was obtained from document analysis of student writing assignments from co-op courses completed by IMP students. The documents that were analyzed consisted of the end of semester co-op reports that were submitted by the students. A major portion of the reports required the co-op students to reflect on their experiences as they related to topics such as: expectations for the experience, transition into the workplace, mentors, application of courses to job duties, changes in attitudes and beliefs, gains in knowledge and skills, growth in professionalism, and effects on career and educational goals. Due to the nature and structure of WIL courses within academic departments at SPU, only co-op reports from
engineering students within the IMP were available for review in this study. Of those documents, 33 co-op reports were analyzed for this project. Those 33 reports were produced by a total of 25 co-op students meaning that eight of the students had participated in more than one co-op course. This obviously resulted in those particular students having two co-op reports available for review. Additionally, 12 of the students that had their co-op assignments reviewed in this project also participated in the research interviews. In terms of sequencing in completion and collection of all data sources, all co-op reports were completed and submitted by students as part of their co-op course requirements prior to conducting the research interviews. Details of all participants’ demographics and characteristics, and also personal profiles of interview participants are provided in the following sections.

**Interview Participant Characteristics**

Table 2 illustrates the demographic information for the interview participants including the pseudonyms for each students. As the table shows, there were 13 females and 25 males taking part in the interviews. Again, this sampling was reflective of the overall gender dynamic in the IMP. The racial makeup of the interview group was largely made up of white students (36), while only two students identified with any racial background other than white. This racial demographic was also somewhat similar to the racial characteristics found in the larger IMP as a whole (89% white and 11% minority).

In examining the specific majors of the interview participants, it became clear that the vast majority of the group consisted of mechanical engineering majors (21), followed by business (7), accountancy (6), chemical engineering (3), and general engineering (1). In looking at the geographic element of this profile, the interview participant group was composed of 14 in-state students (residents) and 24 out-of-state (non-resident) students. This sample contained a
somewhat larger proportion of non-resident students than was actually found in the total IMP student population. The residency breakdown of the overall IMP student group contains 51% resident students versus 49% non-residents. Finally, the academic classification of the interviewees was comprised of four sophomores (11%), 13 juniors (34%), and 21 seniors (55%).

Table 2

*Interview Participant Demographics*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Major</th>
<th>Gender</th>
<th>Race</th>
<th>Residency</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam B.</td>
<td>Business</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Armstrong C.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Austin P.</td>
<td>Chemical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Bill F.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Caroline B.</td>
<td>Chemical Engineering</td>
<td>Female</td>
<td>Asian</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Chandler P.</td>
<td>Business</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Curtis W.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Dan B.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Dan L.</td>
<td>Accountancy</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Eli D.</td>
<td>Chemical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Elizabeth H.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Faith W.</td>
<td>Accountancy</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Frank R.</td>
<td>Accountancy</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Fredford T.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Gus M.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Hank J.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Jack R.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>James D.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Jason V.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Jennifer M.</td>
<td>Business</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Jennifer P.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Keith L.</td>
<td>Accountancy</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Mac B.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Maria L.</td>
<td>Business</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Marissa L.</td>
<td>General Engineering</td>
<td>Female</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>McCharen C.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>McKenzie R.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Nadia C.</td>
<td>Business</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Nick A.</td>
<td>Business</td>
<td>Male</td>
<td>Hisp/White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Nicole A.</td>
<td>Accountancy</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Penn G.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Prime C.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
</tbody>
</table>
Rico S.  Accountancy  Male  White  Resident  SR  
Robert J.  Business  Male  White  Non-Resident  SR  
Sidney A.  Mechanical Engineering  Female  White  Non-Resident  JR  
Tony S.  Mechanical Engineering  Male  White  Non-Resident  SOPH  
Verne L.  Mechanical Engineering  Male  White  Non-Resident  SR  

Document Analysis Participant Characteristics

The details provided in Table 3 illustrate the characteristics of the co-op students whose written reports were analyzed as part of the study. Pseudonyms for each participant are also provided in the listing. This group of students consisted of eight females (32%) and 17 males (68%). Engineering students exclusively comprised this sample with 20 mechanical engineers and five chemical engineers. Similar to the interview group, this cluster had 22 white students and three students that identified as any racial background other than white.

Table 3
Document Analysis Participant Demographics

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Major</th>
<th>Gender</th>
<th>Race</th>
<th>Residency</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam T.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Ben P.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Calvin M.</td>
<td>Chemical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Caroline B.</td>
<td>Chemical Engineering</td>
<td>Female</td>
<td>Asian</td>
<td>Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Charlotte K.</td>
<td>Chemical Engineering</td>
<td>Female</td>
<td>Af Amer</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Christian S.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Clark A.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Edward A.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Eli D.</td>
<td>Chemical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Elizabeth H.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Eloise M.</td>
<td>Chemical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Glenn S.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>James D.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Resident</td>
<td>SOPH</td>
</tr>
<tr>
<td>Lee M.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>Hisp/White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Mac B.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Marissa L.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Resident</td>
<td>SR</td>
</tr>
<tr>
<td>McCharen C.</td>
<td>Mechanical Engineering</td>
<td>Female</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
<tr>
<td>Penn G.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Phillip C.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Resident</td>
<td>JR</td>
</tr>
<tr>
<td>Prime C.</td>
<td>Mechanical Engineering</td>
<td>Male</td>
<td>White</td>
<td>Non-Resident</td>
<td>SR</td>
</tr>
</tbody>
</table>
Roger F. Mechanical Engineering Male White Resident SR
Sidney A. Mechanical Engineering Female White Non-Resident JR
Stuart J. Mechanical Engineering Male White Resident JR
Verne L. Mechanical Engineering Male White Non-Resident JR

The residency breakdown for these students consisted of 12 residents (48%) and 13 non-residents (52%), which was roughly on par with the total IMP student population. The academic classification revealed four sophomores (16%), 12 juniors (48%), and nine seniors (36%).

Finally, Table 4 offers a view of further details regarding the document analysis collection. This graphic highlights how many co-op reports each individual had submitted for analysis.

Additionally, this summary illustrates which students (12) were interview participants and also had their co-op course documents analyzed as well.

Table 4
*Document Analysis Participant Details*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Reports Analyzed</th>
<th>Interview Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adam T.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Ben P.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Calvin M.</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Caroline B.</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>Charlotte K.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Christian S.</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Clark A.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Edward A.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Eli D.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Elizabeth H.</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>Eloise M.</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Glenn S.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>James D.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Lee M.</td>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>Mac B.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Marissa L.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>McCharen C.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Penn G.</td>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>Phillip C.</td>
<td>1</td>
<td>No</td>
</tr>
<tr>
<td>Prime C.</td>
<td>2</td>
<td>Yes</td>
</tr>
<tr>
<td>Roger F.</td>
<td>1</td>
<td>No</td>
</tr>
</tbody>
</table>
Annotated Narratives

The following section contains annotated narratives for each interview conducted during the research project. In general, most interviewees seemed eager to share gleanings from their WIL experiences. The subsequent annotations provide a brief introduction to the students and an overarching summary of the participants’ work term. These summaries also include specific quotes that proved to be descriptive of the essence of their WIL experience.

Adam B.

As a junior business major, Adam B. was able to take part in an internship with a new and growing solar energy company. He was able to secure the position through a personal connection with a friend, and he found the opportunity to be quite challenging at first when he “felt very inadequate” in the midst of other interns that were “ivy leaguers.” He “caught up with them” in a couple of weeks once he recognized how to better use his “free time” and learned what he “needed to know to be an active part of the team and really have a lot of say.”

Adam’s quick adaptation contributed to an apparent growth in his self-confidence and “independent” thinking. The challenge of adapting to and thriving in the workplace seemed to have provided Adam with a chance to demonstrate critical thinking skills which allowed him to assess the assertions of others. This also afforded him an opportunity to feel confident in his own ability to think and form his own ideas and opinions instead of simply trusting in what others told him.

In his co-op, Adam gained a better understanding of the challenges and benefits of working in a team environment. “I definitely learned the most about how to work in a team and
like be the most effective problem solver,” he explained. While grasping the skills for independent thought, the co-op experience also challenged Adam to become a better listener and to hear the opinions of others without “biting people's heads off.” Now he says he is “less biased and less ignorant, that's for sure... I'm definitely more open-minded.”

Armstrong C.

“The most unpredictable part of the job is dealing with the people that were below the engineering peg rate and above them.” Armstrong’s internship experiences provided him with the intricacies of interpersonal interaction in the workplace. He was able to work in two separate internships with different manufacturing companies. As a mechanical engineering student, this allowed Armstrong to gain practical skills while solving real-time engineering problems. He discovered that the vast majority of a process engineer’s job is directed toward continuous improvements efforts. This meant that if Armstrong found no imminent problems in the manufacturing process, then he could proactively identify ways to incrementally enhance the production process. That process improvement knowledge “was something that I didn't have the aptitude for yet, but I've gotten to be better from the two internships that I’ve had.”

From these real-world experiences, Armstrong realized how important it is to enlist others in the problem solving process. Armstrong stated that he, “gained the most knowledge and clues to solutions from talking to people who worked the line every day and knew exactly what problems I was talking about.” He came to greatly value his ability to engage with his fellow co-workers. Armstrong felt that “the best skill was learning to talk to the people who knew exactly what the problems were.”

Armstrong seemed to appreciate the balance of skills that he picked up through his internships, including both the interpersonal and the technical, engineering related knowledge.
Those tangible tools and the soft skills that he gained established a sense of confidence in Armstrong as he envisioned his transition from an engineering student to a professional engineer in the future. In terms of a specific career pathway, the internship also “reinforced” Armstrong’s “interest in aerospace by actually doing aerospace work.”

*Austin P.*

Austin also completed a summer engineering internship with an aerospace manufacturing company in Arkansas. His transition into the company was a bit intimidating for him, but his confidence grew as he adjusted to his new environment. Initially, Austin was “overwhelmed” and felt quite a bit of “pressure” adapting to the demanding environment of the workplace. He noticed that many of the other interns were from prestigious engineering schools. Austin recalled feeling “a lot of pressure to perform, but then a few weeks into it I realized that I could keep up with these guys.”

As the work experience continued, Austin began to see that he could not only compete with students from other colleges, but that he could also thrive in that environment. He realized after his internship that three of the students seemed to have risen above the rest in their performance. He proudly recalled that he appeared to be in that “cream of the crop.” This realization offered him a positive perspective and comfort level regarding his future. Austin subsequently realized that he could “get into industry and just perform and just do a great job with whatever role I'm given,” and that made him “feel comfortable” about his future.

While the internship did enhance his confidence in his ability to measure-up against other engineering interns, his adjustment to the work environment was not so seamless. Austin had a very robust sense of humor. He enjoyed laughing and joking with his co-workers. As Austin recalled one incident really taught him “that there are certain things you can't really say in the
workplace environment.” His manager pointed his behavior out to him and gave him some advice on appropriate professional behavior. This incident provided Austin with a valuable learning experience. He discovered the importance of watching “what I say in a professional environment… and so it taught me to really reign things in and what sort of personality you can reflect in the workplace.”

Bill F.

Bill is a mechanical engineering student that worked for an automotive supplier. During his internship, he was also able to observe the behavior of managers and leaders in the factory, which had an impact on him. He felt that he had “a lot of good role models at work.” These individuals not only impressed Bill with their work ethic, but also their dedication to community service. He observed their commitment to producing a quality product for the customer. The behavior that he observed provide him with the realization that “the thing that's good for the customer is also good for you.” In a larger sense the WIL experience showed Bill that “there is room in this industry to do things that don't affect your bottom line as much on profit, but it benefits your community.”

During his work, Bill was given opportunities to challenge himself while utilizing his current skillset and also obtaining new engineering knowledge. He was able to improve his problem solving skills while also picking up new abilities with CAD software and machining. His success on these tasks led Bill to a project which entailed more authority for him, which in turn provided even greater chances to learn and grow. The assignments gave him “a ton of responsibility.” In Bill’s opinion, the challenges that he faced were similar to those that a “true engineer” would face in their career. His project work resulted in a cost savings to the company of approximately a quarter of a million dollars.
Clearly for Bill, his internship was beneficial in gaining and exercising new abilities, but he also began to feel a sense of gratification from the work that he was able to complete. This sense of pride came not just from his personal success, but also from the positive impact that his contribution would have on the organization in the future. Bill beamed that he felt good “knowing that I'm leaving a lasting impact that will be used for the next 20 years at this company.”

Caroline B.

“I feel more confident now than two years ago when I first went into the internship process.” As a junior in chemical engineering, Caroline worked as a co-op for a large petrochemical corporation. She was able to work two semesters with the same company which provided her with valuable insight into the professional world and also her own skills and abilities. Confidence and communications were consistent themes in her reflections on her time as a co-op.

During her work placement, Caroline became aware of her shyness and how it was challenged during this experience both in the professional environment and also in the personal arena. She learned how to “push through” her shyness in order to complete assignments or connect with others. Caroline also used the experience to evaluate her strengths and deficiencies and take input from her supervisors. Her managers often told her that she was doing good work, but that she was hesitant to ask questions. Caroline noted that she prefered to “sit back and listen” or tried to “absorb everything” before giving an answer. That was an important developmental lesson for her during her work placement. It is something that she made a determined effort to improve. Caroline stated that she then began to “constantly tell myself not to be afraid to ask questions.”
Caroline came to appreciate the power and necessity of communications in the workplace. She observed, “I don't think I realized how important it is to be persuasive and be able to persuade someone.” Caroline’s co-op work underscored for her that a project’s success or failure could rest on how well a proposal is communicated to other stakeholders. The growth in confidence and communication techniques appear to have affected the way Caroline will approach her future professionally but also personally. She noted that these lessons specifically “were the biggest skills that I was able to gain from that, and I'm able to apply it in my life everywhere. I'm able to apply it here at school or when I approach things personally.”

**Chandler P.**

Chandler is a managerial finance major. He completed a summer internship with a wealth management firm following his junior year. Conversely, Chandler did not have an issue with shyness or a lack of confidence. He was self-assured in his “skills with just talking to people, and being able to talk to a brick wall.” For Chandler, the internship confirmed some of the abilities which he felt that he already possessed. He recalled that “it showed me what I already had, which was the interpersonal workings in an office environment.”

The work experience also challenged Chandler to become more mature and provided him with a glimpse of life after college. The internship made him “more of an adult.” This growth was developed through basic responsibilities like maintaining traditional working hours. Through his work Chandler also acquired a “real-world view” of what one is required to do for work “for the rest of your life.”

Chandler also appeared to have gained some insight into more of the specific direction of his future professional path through the internship. He stated that, “you can't really see the path you're going on until you do something like this.” The work placement helped Chandler narrow
down his career focus and close in on a more specific path related to investment banking or wealth management.

**Curtis W.**

Curtis was able to be involved with a couple of WIL experiences during his time as a mechanical engineering undergraduate. He recognized the fact that his co-op work equipped him with practical experience as an engineer, and it also gave him an appreciation for the professional expectations on a daily basis as well. For Curtis, there was a moment of “shock” when he went from doing “true intern work” to then being given more substantial project assignments. He recalled “both the fear of having that responsibility and then kind of the pride of being entrusted with it and the motivation behind it.”

For Curtis, the professional expectation of responsibility was exciting and came with some fear as well. This new challenge required him to self-evaluate. He learned that he had “a lot of room to grow.” Curtis soon realized that he needed to improve his time management and the organizational skills. It became clear to him that he “wasn't necessarily there.”

These co-op projects not only revealed to Curtis the need to be organized but also the necessity of being self-directed in order to accomplish tasks. This was also a lesson in independence for him. He emphasized the need for “managing yourself and being independent and making sure that you put forth the time and the effort to get it done.” Curtis’ work experience afforded him many challenging assignments, and he used those experiences to self-evaluate and identify areas for improvement as a result.

**Dan B.**

“It was kind of like an eye opener, like this is what corporate America is.” Dan’s WIL experiences were revealing to him in several ways, but perhaps not in the traditional sense that
many of the other students seemed to convey. Dan is a mechanical engineering student that was able to work as a summer intern with two different engineering related organizations. The corporate environment experienced in one of his internships showed Dan that he was not interested in pursuing such a career path upon graduation. He felt that desk jobs were for “stability” and he did not want that yet. He had trouble connecting to the more senior co-workers and the things that they valued. Dan desired to “be adaptable and flexible and change a lot.” That was his focus at the time and the internship employer did not seem to offer him that.

The internship showed Dan B. the reality of the engineering profession and the corporate work place. His experience allowed him to determine that such a pathway was not something that aligned with his present needs and interests. As a result, Dan did not feel a desire to engage with his fellow workers or endeavor to learn about the operation. While the internship might not have been the ideal environment for Dan, it did reveal to him what was important. He realized that he wanted a career with “meaningful work and meaningful community.”

The internship also taught Dan B. some valuable lessons for the future regarding independence and initiative. Toward the end of his work term, Dan realized that he could have acquired more skills in the machine shop if he would have simply asked or shown more interest. This moment seemed to provide a new realization for Dan. He recalled, “I think it definitely made me a little more critical of what do I actually want from things, and speaking up for that and for my development.”

Dan L.

Dan L. is a senior in accounting, and he completed summer internships with two different businesses. The time spent with these companies provided him with helpful experience and career insight. Being able to obtain those positions and complete them successfully instilled a
greater sense of confidence in Dan. He stated that “learning those types of skills really helps boost your personal confidence as well as confidence that you show outwardly as well as emotional confidence.”

During his work, Dan L. was allowed to interact with clients. Those occurrences presented challenges that ultimately resulted in the development of more confidence and new skills. Dan learned how to adapt to changing situations and how to plan for a meeting with clients. He observed, “That's nerve wracking the first couple times you do it. After that it becomes more natural, and you know how to prepare better.”

For Dan L., these internships also presented a chance for him to confirm that his career pathway of accountancy was actually something that he enjoyed and wanted to continue to pursue. It gave him some insight in what location that he might want to begin his career as well. Dan reflected, “I picked accounting, just thinking I want the knowledge, but I really enjoy it… but I would also say that getting to do them in multiple cities has really helped me narrow down where I want to live long-term.”

_Eli D._

“So I was sort of just thrown into it and given some decent projects.” Eli dedicated quite a bit of time during his undergraduate studies as a chemical engineer towards gaining professional experience. He was able to complete four WIL experiences with three different companies. He relayed observing quite a bit of personal and professional growth through those work terms. One of his primary learning points related to the daily life on an engineer, and what that looked like. For Eli, it was important to understand the demands of the job and what the work-life balance might be like. He felt like the WIL placements were crucial to gaining a
perspective on those issues. In his view, engineering “is the kind of thing you feel like you just have to have some sort of experience and internship to really know what it's like.”

As Eli advanced through his various WIL experiences, he was granted more responsibility and the ensuing challenges that came with it. He was afforded the opportunity to really lead projects which at times was intimidating for him. However, this did grant him a chance for self-evaluation. Eli learned that he likes “getting the challenge, getting to lead, getting a chance to take responsibility for a project and see it from A to Z all the way through.” When leading and completing projects, it is typically necessary to present the outcomes and results to other stakeholders. Through these project experiences, Eli was also faced with developing communication skills which are necessary in the professional environment. Through his various co-op presentations, he felt that he had improved in his ability to communicate important details and benefits that his work had produced.

In addition to the professional skills and knowledge that Eli acquired, he also learned what he wants in an employer, and what he values in his personal life. He began to see the complexity of integrating personal and professional roles. Eli realized that he valued “life outside of work.” Through his WIL placements, Eli was able to establish his priorities in relation to his personal and professional life after graduation. He stated, “I want the challenge at work, but when the work day's over I want to be able to go home and enjoy it.”

_Elizabeth H._

Elizabeth is a mechanical engineering student, and she also completed multiple WIL experiences. She was able to work several jobs with automotive manufacturers and she worked for manufacturers in other industries as well. Though she would eventually gain a wealth of job experience, the first co-op was a bit frightening for her. “The first one was terrifying because I'd
never had a job before, like at all ever.” Elizabeth would go on to reflect upon her personality type and how she learned to navigate interpersonal relationships at work. As a self-described introvert, Elizabeth observed that she always found it easier to “socialize professionally” than it was with her peers. She felt like that was a skill that could not be learned through coursework. Elizabeth asserted that “it's just a totally different ball game, and you start to learn to play that ball game whenever you start going on co-ops because you start to learn the professional speech and emotions and ways of doing things.”

Elizabeth not only noted the differences in interactions with others at work, but she also began to notice the challenge of navigating the workplace as a female in an engineering environment that has typically been heavily populated by males. In several situations, Elizabeth felt unfairly treated herself or she saw other female co-op students treated differently based on their gender. She perceived that male students were often given preferential projects or assignments as a result. Elizabeth observed, “I don't know, but I feel like part of those assignments are from gender biases…I feel you really have to prove yourself a little bit more than your male counterparts personally.”

As Elizabeth relayed it, being a female engineer requires developing confidence, but navigating that path sounded very difficult to her. The paradox for a female engineer is that often females perceive a need to exhibit confidence to compete with males, but conversely when a female demonstrates self-assurance then others might view them more negatively than their male counterparts.

As part of becoming a female engineer, I've tried to become more confident in myself. I mean it's a struggle to change your personality and your introvertedness and your tendency to just kind of stay down and not necessarily talk yourself up or be as confident.
It was very difficult if you're not naturally a confident person. So, just trying to do that for myself. It's been hard and it's hard to find that balance between becoming pretentious and becoming confident. I mean that's very fine line to walk…It is harder for girls because sometimes what a guy says it's confident, but if I say it, it's pretentious. So just walking the fine line because all of my examples in the workplace have been males, and sometimes exhibiting the male mannerisms and the male personality can come off very different out of a female face, body and voice. So, it's really difficult, and I have changed because of it. I can't think of the changes right off, but I do feel different than I did freshman year, and I think that it's partly embodying those role models that I've had throughout these co-ops.

**Faith W.**

Faith is an accountancy student who was hired as an intern by a large international manufacturing corporation. She was assigned to a team with another intern from the IMP. They were asked to travel to several manufacturing locations and conduct audits of the various factories. Through her work term, she began to also notice the role that gender played in her interactions with her co-workers. Faith recalled, “There were a couple of times where maybe I wasn’t taken as seriously as my counterpart because he was male.” This situation was very frustrating to Faith, as she was dedicated to her work and spent a great deal of time trying to learn and understand the industry.

Even though she often felt “undermined” by her male co-workers and managers, Faith found ways to cope with the challenges. She specifically tried not to let the bias negatively affect how she viewed herself. She remarked that “it's a problem with that person though…I will not change my attitude towards you…I'm not going to let your discrimination affect how I do my
job.” Faith also found inspiration and support from a mentor. In particular, one of her primary role models in the company was a female manager who provided Faith with encouragement and advice. The mentor told Faith, “They say that there’s no gender discrimination now, and we both know that that’s not true.” Faith was told that she might have to work harder and longer than her male counterparts to even receive consideration for opportunities. The mentor imparted that “at the time it sucks, but at the end of the day you will come out a better worker.”

This internship experience also revealed to Faith some of the nuances between the various generations that can currently be found in the workplace. She observed that interactions among co-workers of different ages and generations can present a challenge regarding communications and expectations. Faith believed that millennials often prefer frequent and immediate feedback, especially in relation to good performance. She noted that one of her managers used a different approach in which only negative performance was addressed swiftly and very little was said about positive outcomes. Faith found the varying generational differences in the workplace to be a challenge. However, she did feel that it helped her to better understand “how it's going to be in the workplace,” and that made her “feel a lot better about knowing that and not feeling entitled or expect praise” when she performed well.

Frank R.

“Just the motivation is the difference. I feel like every kid needs to do something to like push them to the limit because then this becomes fun. Like school was not bad anymore.” Frank is a sophomore in accountancy and he completed a summer internship with a small business. His work experience challenged him and allowed him to stretch by playing multiple roles within the business. He found that his internship provided him with increased maturity and a new perspective on his studies as he returned to campus. During his work placement, Frank realized
that he had to “grow up in the situations or fail,” so he “grew up.” He now applies that maturity in his approach to his school work. Now Frank knows that he has “to get it done,” and as a result he is “more goal oriented than before.”

The internship certainly offered Frank insight into the demands of the business world, but his work actually stoked the flame of his interest in the demands of running a successful company and understanding the market. He realized that there was more to learn from his coursework, and he was eager to absorb that knowledge from his remaining classes. Frank explained, “That's why I'm really excited for finance next semester, and accounting…like, I need to get better at that so I can handle way better things than a small company.”

Frank realized that his classes will give him a better foundation of knowledge as he advances toward life after graduation, but he also possesses a sense of confidence as he enthusiastically approaches his career. Frank is now assured that if he can “set up a good system at a small business then I can definitely thrive in a big business and make that even better than it already is.” This sense of accomplishment has encouraged Frank to push himself to grow and improve. He now sees his future career trajectory as a CFO or CEO. Frank feels a need “to be in charge, train, and figure out what's causing issues.” Frank’s WIL experience instilled not only confidence, but also helped him clarify and refine a direction for his future career. As a result, this allowed him to invest in his coursework and tailor his remaining academic career toward the pathway that he now envisions for his future.

Fredford T.

“The more learning you do earlier in your life…the more you can do that ahead of time and not fall on your face quite as much, the better things will go for you down the line.”

Fredford’s WIL placement took him to work for an aerospace company in Connecticut. He
appreciated the safe environment offered by the internship which enabled him to use the internship as a dress rehearsal, of sorts, prior to stepping into an engineering position after graduation.

This internship provided him with valuable technical and interpersonal skills. Technically, Fredford acquired detailed knowledge on the inner workings of a jet engine. He also observed the variety of soft skills that he gained through his internship. He described these soft skills as “overall organization, communication, social, all of that whole well-rounded picture” of how one fits “into a workplace as a person” and what one can “contribute to that company and the people.”

From his experience and exposure to the various technical and interpersonal aspects of his work, Fredford was better able to envision his future. He saw that he could use his engineering knowledge and his soft skills in a unique way that he had not considered before. Fredford’s experience revealed to him that he had the technical ability to succeed as an engineer, but he learned that his passion was really rooted in “organizing people and moving parts around rather than sitting down and working on one technical task.” He enjoyed being able to “connect people, and make things move forward.” During his work term, Fredford was exposed to a new career area of technical sales. He interacted with some of the professionals in that particular department and that career pathway appealed to Fredford. The technical sales staff were tasked with making sure “there's a good communication line between the clients and the company.” Fredford believed that his particular skillset would enable him to “have a good base level of engineering knowledge that would help fuel” him to succeed in that career area. This experience revealed to Fredford that technical sales might be an area of interest in which he would like to put more focus.
**Gus M.**

As a junior in mechanical engineering, Gus took some valuable lessons from his summer internship in a paper mill. The challenges presented during his work allowed him to expand his perspective. He described the change, “I guess, I tend to listen to people instead of cutting them off… I listen to their point of view to see how we could work together on it.”

This new level of open-mindedness resulted from challenges in project work and learning how to communicate with a variety of people. He said that he learned “the most effective way to communicate with people.” Often the plant workers were assigned to different shifts so Gus had to understand how to address that challenge in order to effectively relay valuable information to all groups. He realized that there were many generational and demographic differences within the workforce. It required Gus to “take into consideration other people” that had worked for the company for many years and they had become “set in their ways.” Gus said, “It made me become more aware, I guess, of other people’s feelings.”

This experience seemed to have resonated with Gus, and instilled in him how important listening can be toward success in the workplace. As a result, he envisioned his professional identity being shaped by this realization. Regarding his work in the future, Gus said, “I want to be seen as someone who would listen to coworkers and who's willing to accept their point of view and hopefully that they would be willing to accept mine.”

**Hank J.**

Hank is a junior in mechanical engineering from California. He returned to his home state in the summer to take part in an internship with an innovative design and manufacturing company in the automotive industry. Even though he was back in California, Hank was hours away from his home, and this presented a new opportunity to explore his independence. The
work term was the first time that Hank lived by himself independently. He asserted that in college one doesn’t really live by themselves “because you have roommates that can help you and teachers and stuff, but it was probably the first time that I was really on my own and had to get my work done.”

Hank felt the freedom and responsibility of this independence not only in his internship, but also on a personal level as well. He observed, “Just learning how to manage money a lot more on my own. The first time I was financially independent too…just the routine of having to make yourself do things, making sure you keep up with stuff.” Even though the internship offered new challenges in terms of independence, Hank seemed to have adapted to the demands of the job by exhibiting adaptability and trusting in his ability to think through problems. Even though Hank found the work interesting, he did not feel that it was overly burdensome. Hank’s viewpoint was that engineering wasn’t the most challenging part of the assignment. He and his mentor noted that it was “common sense that’s hard,” but their engineering degrees provided them with a way to “figure things out.”

While this observation was affirming for Hank, it also presented some frustration for him as he returned back to campus following his work term. He was disappointed because he felt that he had not “learned in school…it’s like you get the job, and you learn the ropes.” Upon his return to campus, Hank found himself focused on “differential equations” instead of learning to pull from resources and apply them to real world issues. That disconnect in academia seemed to lead to a sense of frustration for Hank.

*Jack R.*

The day-to-day work of Jack’s WIL experiences proved to support his decision to become a mechanical engineer. By Jack’s senior year, he had completed three manufacturing
related internships. The projects that he completed sparked a passion in him for the engineering profession. Jack discovered that he was “ready to work,” and that he “really did want to do engineering.” The work assignments allowed Jack to experience product development and utilize 3D software. That exposure to engineering skills helped him to confirm his career path. Jack smiled as he exclaimed, “I really am glad that I chose this path because…that’s exactly what really intrigued me and kind of makes me very passionate about working.”

Through these various internships, Jack also gained an appreciation of the need for independence and self-reliance in the work place. He found that he was hesitant to ask somebody for help.” Jack did not want to simply give up when faced with challenges at work. He assumed that a constant stream of questions would become annoying to his co-workers. Jack realized that most issues seemed “like problems at the beginning right when you hit them, but then thirty minutes to an hour afterwards of digging into it, you can figure it out very easily.” Jack also began to understand that experiences that he had solving problems himself allowed him to “build up more confidence.” He noted, “I kind of feel like I've found how confident I am in myself to figure out these problems and just how determined I am to continue even when something kind of seems like it's in my way.”

After working through these problems and learning to be determined in solving problems on his own, Jack’s independence also led him to gain a higher level of maturity as well. To him, this felt like moving further along on his journey to adulthood. The WIL experience allowed Jack to emerge “with a different viewpoint of what it means to really be more mature.” He believed that the internships helped him “grow more as an adult, as a man, and everything.”

James D.
“Now, I feel like I am actually ready to go out and be on my own, and before I didn't really know if I could do it.” James is a sophomore in mechanical engineering. He completed a year-long co-op experience with a large manufacturing company. While James was primarily stationed in the southeast, he was also able to travel during his co-op. The personal challenges of living on his own and travelling for work also gave him an increased sense of independence. James learned about paying rent, using credit cards, booking hotels, and scheduling travel. He remarked, “those things were all firsts for me, and now I'm paying bills…just a lot of good life skills to have later down the road.”

While this experience did garner James a measure of growth in personal independence, he also received positive feedback from his supervisor during his co-op. Initially, James wasn’t sure where he “stood” in relation to his performance. The positive evaluation gave him a boost of confidence and some reassurance that he did measure-up with his peers. This affirmed for James that he had “what it takes to succeed in a project management and manufacturing engineering role.”

With this jolt of self-assurance, James was then able to assess his experience with the company and make some determinations on his wants and desires regarding the direction of his career. He recognized the he didn’t want just any job, but that he really desired a career that would be fulfilling to his specific needs as an engineering professional. The work placement allowed James to evaluate his career priorities which primarily consisted of “what the facility is manufacturing, what it's being used for, and what its effect on society is.”

Jason V.

“I found myself thinking about how I would deal with it as a manager rather than an engineer.” Jason is a senior mechanical engineering student who completed an internship at a
large automotive manufacturing facility in the southeast. While, Jason eventually found his stride at work, the initial adjustment into the plant environment was overwhelming for him. His desire to succeed and learn was strong, but some helpful advice from his manager assisted in his adjustment. Jason initially “put a whole bunch of pressure” on himself to “squeeze everything” out of the internship that he could. His manager told Jason that he was “going to drown” if he maintained such an intense approach, so he finally realized that there was “no need to just squeeze it so hard.”

Jason faced other obstacles at work that caused him to be anxious, but once again he found advice and encouragement from his supervisor. The work placement required all interns to present their projects to the Director. Jason felt unsure of how to effectively present, but he clearly wanted to impress the Director. His manager took him aside and had Jason practice his presentation. He told Jason, “Relax, it's just a one-on-one conversation and that's all public speaking is.” This guidance from his supervisor put Jason at ease and helped him to succeed.

For Jason, the interaction and guidance that he received from his manager was invaluable in his development. The expertise and knowledge that his supervisor was able to pass along to him not only eased Jason’s anxiety, but it also established an encouraging environment which promoted learning. Jason reflected, “I had a really good manager that really poured into his employees, for lack of a better word. He really wanted to develop them, and he kind of laid that out for me as well.”

_Jennifer M._

“It sort of helped me get on the right track and get in the right gear, I guess, to get going this semester.” Jennifer M. is a junior in marketing and corporate relations. She was previously majoring in chemical engineering and prior to the internship she shifted directions toward the
marketing field. Jennifer’s internship provided an opportunity to try on her new profession in a customer service role with a technology related company. The experience gave her a “mental shift” from engineering to marketing, which she felt was “really healthy, especially still being in school.”

The internship was very crucial in providing Jennifer M. with insight into the marketing world, which came at a very important time in her academic career. This allowed her to make the change of majors and use the experience to confirm her choice. She not only saw the positive side of the profession, but she also was able to observe the conflict and tension that can be involved in interacting with customers. Jennifer soon realized that customer care professionals “had to deal with a lot of really angry people,” and they had to be helpful “no matter what.” She got to see her colleagues dealing with emotion and “managing anger.” Jennifer came to appreciate the challenge and importance of maintaining one’s composure in difficult situations.

Having seen the good and bad aspects of the profession, Jennifer was undeterred about her decision to change her major to marketing. If fact, it appeared to have fueled a passion for the field and a determination to be a leader in the industry. Jennifer exclaimed, “I didn't realize that I wanted as much responsibility as I do… I want to be like a high-level executive in a big company. That's what I really want to do!”

Jennifer O.

Jennifer O. is a mechanical engineering student that took part in two internships. She was able to work at a paper mill and also for a defense industry manufacturer. Jennifer noted several observations and lessons from her work experiences. She came to value input from her supervisors whenever it was offered, but found that those opportunities for feedback were
limited. “I preferred having feedback, but I would have liked feedback more frequently.”

Jennifer also observed the importance of communication and the role that it played in workplace conflict and resolution. She recalled, “I would say the only kind of conflicts I had with people were just solely miscommunications. Like, if I wasn't working well with someone, it's because we either weren't meeting enough, or we were just talking on different planes.” Jennifer also learned that it is difficult for her to ask questions, which for her, was like admitting that she didn’t know something.

Additionally, Jennifer’s time spent working in an industrial setting allowed her to see the importance of establishing a culture of safety. One particular incident had a lasting impact on her perspective on that issue. An accident occurred in the mill which resulted in an employee getting injured. Her supervisor really drove home the importance of being leaders and setting an example of safety for others. That caused Jennifer to re-evaluate her approach to work. She recalled, “I think that really changed how I viewed what I was doing. I was like, what I'm doing affects these people and if I do something wrong or if we don't follow this procedure, people can get hurt.”

From that incident and other experiences and feedback, Jennifer O. gained a view of different management styles, and she also garnered a deeper understanding of responsibility and how that relates to leadership. Jennifer observed that most successful people “weren't afraid to be wrong and they weren't afraid to accept responsibility when something happened, especially like safety incident wise.” That approach to leadership and accountability impacted Jennifer. She recounted, “I kind of see where I want to be, and honestly, I don't know if I would be the one who’s like, yeah, that was me, but, I think that's something that I'd like to do.”

Jennifer P.
“I just knew how things worked and I had never even set foot in that company before.” Jennifer P. completed three WIL experiences in manufacturing facilities prior to her senior year in mechanical engineering. By her third internship, Jennifer had a firm grasp on professional expectations. She also used those experiences to better understand and to confirm her choice of major and to narrow down a specific career direction in manufacturing. Jennifer eventually “decided in the end to go into the operations route of manufacturing over the engineering route.”

Throughout those various companies and internship positions, Jennifer P. observed and also began to appreciate different aspects of company culture. At times, her work exposed her to people from different backgrounds. Jennifer not only noticed the individual nuances with her co-workers, but she also regarded how each organization seemed to take on a personality or culture of its own as well. Her work experiences allowed Jennifer to find the company that she “liked,” that “worked for” her, and where she thought that she “fit in.” Jennifer was pleased that the “internships were able to show” her that.

Keith L.

“I saw within the firm that people highly, highly valued somebody that could get the work done.” Keith is an accounting major with a goal of becoming a financial analyst after graduation. He participated in two internships prior to his senior year. Both companies were financial firms and offered Keith insight into the demands of the profession. He recalled working 70 and 80 hour work weeks. The schedule was challenging. Keith stated, “That's one of the biggest components of this kind of industry, whether or not you can work the hours. It's not too difficult, but you have to be able to put in the time.”

Keith quickly was exposed to the expectations of that type of work schedule and the demands that come along with that. He also gained insight into the pace at which the business
moved. He recalled a specific incident during his first week at the internship in which his boss emailed him at 11:00 p.m. with a project assignment. Keith woke up very early the next day and had the report ready for his manager before he arrived at work. When the supervisor received the report, he told Keith, “Yeah, I wanted this last night I don't care about this now.” That incident was enlightening for Keith as he began to realize that the “company had poor leadership.”

Keith observed that the incident was a reflection of the culture at the top of the organization. He was very discouraged by the experience, and it definitely gave him pause in considering a future career with the firm. Keith lamented, “I mean, if the director just laughs in your face and says that business school is not the way to go then I mean that's going to go down through the ranks.” The negative environment created by the leaders of the firm was the primary reason that Keith was “not interested in staying at the firm” to start his career.

Mac B.

“It pretty much put a fork in the road. Do I stay the course with more things related to my education that I've chosen to follow or do I try to do something completely different?” Mac’s WIL experience permitted him to do some exploration literally and figuratively. His engineering internship allowed Mac to work in a couple of different locations for a manufacturing leader in electronics. His internship took him from Tennessee to Arkansas to New Mexico. Mac’s work offered a chance to get to know himself and also potentially set him off in a new direction with his career. He emerged from his internship with “the most self-awareness” that he had ever possessed. Mac knew that he eventually wanted to “become a professor” because he “thoroughly enjoyed the university atmosphere a lot more than the corporate atmosphere.”
This time away from campus during work required Mac to go through some self-evaluation in terms of strengths and potential weaknesses. There were times when he doubted himself and his own abilities and was forced to confront parts of himself with which he was not familiar. Mac reflected, “It helped me come to terms with myself, like who I actually am and, what are some things I'm good at or maybe not so good at?” He often felt “insufficient” or that his work ethic wasn’t “measuring up.” The insight that he gained was impactful on a personal level. Mac remarked, “I guess it's made me more aware of myself in a holistic standpoint because I'm actually getting to experience parts of myself and my own personality that I never got to.”

The opportunity to explore his personality and his abilities appeared to have led Mac to a better understanding of his career preferences. He realized that he did not “want a job whose sole priority is to make the company money and to expand the profit.” He knew that a pathway was laid out for him that would allow Mac to “get a good job” and “climb some type of ladder.” The work placement helped him recognize that he “wanted to be a professor at some point” because he “enjoyed the diversity of the university environment.” Mac felt that being a professor would allow him to be able to assist students, which certainly was appealing. It appeared that Mac was still searching for and exploring potential career directions. The WIL experience was helpful to him in that process of charting a direction. As Mac noted, “trying to find that is kind of difficult. I can't expect everything to be perfect though. I realize that. I do. I just want to start off right.”

Maria L.

Maria is a management information systems major who completed a summer internship in the IT department at the corporate headquarters of a large paper manufacturing company.
This work opportunity gave her a wealth of experience and required her to quickly assume responsibilities under very tragic circumstances. Maria’s manager had complications during a pacemaker surgery, which unfortunately led to the supervisor’s death. This incident happened very soon after Maria began her work term. The unexpectedness of the situation certainly threw Maria off balance. She recalled thinking, “Well, I don’t know what I’m going to do now.” Thankfully, her mentor “stepped in because” Maria “needed somebody, and it was really great that she did that.”

Fortunately, Maria’s mentor was proactive in jumping in and offering assistance. This aided in Maria’s transition into her internship after the tragedy, and it also provided a role model and a sounding board for Maria. Her mentor also had a background in computer science so there was a quick connection and helpful insight offered. Maria felt that the mentor “had lots of different positions, and I could talk to her about all of them. She just kind of took me under her wing early, and we worked together a lot.”

The support of her mentor and the hands-on experience that she garnered gave Maria a sense of reassurance as she prepared for her future career. Her success in the internship experience allowed her to feel a better sense of preparedness as she approached graduation and life after college. Maria also acquired a boost in her confidence from the work. Prior to the internship she remembered being “really nervous that” she “wouldn’t be able to do it” or that she “didn’t have enough coding knowledge.” So, in the future when Maria starts a new position she believed that she might be nervous, but she will trust in her competence and she will also understand that her employer will train her in the skills needed to be successful.

*Marissa L.*
Marissa is actually a general engineering student, but she completed a summer internship in the accounting department of one of the leading logistics companies in the industry. She accepted this position to explore her interest in accounting in order to make a determination on her future direction. The commencement of her internship began well and she was quickly accepted into the department. Even as an intern, the group expected her “to work as a full time employee.” They gave her a great deal of responsibility and instilled her with “the confidence” in herself to “speak up” and communicate in a way that did not seem like Marissa was “fresh off the boat from college.”

Even though Marissa’s adjustment to work went well, her time there was not without incident. An issue that involved sexual harassment by a contractor was very eye-opening and troubling for her. Marissa had requested that the contractors come in and raise her desk. She relayed the details of the incident:

There were these two people that came up and then one of them had gone to get tools and the other person that stuck around had a lot of a very inappropriate comments to say to me. Then it continued to progress as the other person came in to help raise it. So what happened for me was, you think about a lot of social issues that are big today, and that are getting a lot of push forward. After that experience, I didn't know what I could or could not do. What I ended up doing is…I felt so uncomfortable in my space. I left and went to go sit in another coworker's cube and just asked if I could sit in there and she asked if something was wrong and I said, “yes”…I stayed with her for about, I want to say at least 30 minutes until I felt comfortable enough to go back to my space even though the workers were far gone by that point. So, she went into my manager's office after I had left to kind of tell her about it, and then immediately afterwards my manager came out
and pulled me into her office to talk about it. She was very reassuring and said, “I want you to understand that this is not okay and that we’re going to take this seriously.” So, that was very reassuring to me because I didn't know what I could or could not do in this situation, and I felt like I couldn't say something because I didn't want to become a problem. Here I am an intern and it's my very first part of my internship, I just got here essentially. So, that was huge for me because it made me feel so much more comfortable because when you come into a new environment, you're not sure like where everything is, how everything is going to play out. So, that was a huge pivotal point for me in the internship even though so early on that these people genuinely cared for my wellbeing and they'll step in if something's not okay.

Thankfully, throughout this troubling incident, Marissa felt supported and encouraged. She found the company culture to be safe and nurturing in her growth and development as an intern. This was an aspect of the company that she really came to appreciate as she looked toward her future career. Marissa observed that “it was really the culture and the standard that they had set for the care they have for their employees and that was big” because she realized that regardless of what she wanted to do professionally, the setting in which she worked was a “huge” part of her job satisfaction as well.

**McCharen C.**

“I found out a lot more realms of engineering that I didn't know existed.” McCharen is a senior in mechanical engineering. She completed an internship with a large electronics manufacturing corporation and also took part in a co-op with a bio-medical firm. These experiences offered new perspectives related to engineering and also some of the interpersonal challenges that she might face as a female engineer. Many times she found that she was the only
female in engineering meetings, so she had to “learn to have a lot more confidence” when she spoke. McCharen soon observed that, as a female in that environment, she would have to try to hold her own and “be very aggressive” when addressing issues and projects at work. She often felt that her work was questioned or she had to “over explain” herself. This was something that she did not observe happening to the male interns.

Despite the challenges she faced as a female engineering intern, McCharen persisted in her work. Through that process, she gained excellent technical skills and a clearer perspective on the engineering profession. McCharen believed that her internship gave her “much better knowledge of what engineering actually is.” She expressed, “I learned it's this whole different world out there of what your possibilities are for engineering…it definitely opened my eyes, and helped me decide what I want to do more of.”

Upon entering her co-op placement, McCharen was concerned about how she would measure up against her peers in the co-op program. Many of the students had an outstanding academic pedigree which gave her pause as the WIL experience commenced. However, as she settled in to her work, McCharen gained confidence in her abilities and assurance that she could hold her own with the other co-op students. While competing with students from other prestigious engineering schools, McCharen realized that she “actually knew more” than the other interns. She later learned that her supervisor hired her because she had “much more experience than anyone.” She soon “gained confidence” and also realized that she could “actually compete against people who…go to the top schools in the nation.”

**McKenzie R.**

“I would say that I realized that if you want to get places you might have to be more vocal. Maybe not letting someone walk on you or take you for granted.” McKenzie is a junior
in mechanical engineering, and she also worked as an intern at an electronics manufacturing company. Once again, as a female she experienced the challenge of working as an engineer. Through her observations and advice from a male engineering mentor, McKenzie realized that she would have to be assertive in order to progress as a female in the engineering profession.

Going back to the gender thing, I want to be respected…I think the reason that there is a difference between men and women in that field is because maybe some of them don't go in and act like one of the boys, if that makes sense…like hold their own. If someone's, joking around with you, you can joke around right back, you know what I mean? Being confident in myself and not taking crap is a lot different than being criticized…being sure of who I am and confident in my answers and not letting anyone to hold me back because of my gender or because I don't look like the typical engineer or something like that.

McKenzie was undoubtedly determined to succeed in the engineering field and not allow the view of others to limit her professionally. She also was able to see the complexity of interpersonal dynamics in the workplace and how important respect was in general. McKenzie realized that an awareness of those interactions with co-workers could be an important factor in one’s achievements or contentment at the office. She eventually learned to understand relationships in the office and how to avoid “stepping on anyone’s toes.” McKenzie also found it helpful to be aware of her surroundings, and she tried to treat “everyone with the same level of respect and happy-go-luckiness.”

Despite some of the challenges that she encountered in her internship, McKenzie was still eager to graduate and move on to her life as a professional. Her return to school only crystallized her desire to complete her coursework as quickly as possible and move forward. McKenzie exclaimed, “I'm just like done with school…because I realized that school is just a
bunch of obstacles to see that you can get this degree...” Her work experience had affirmed to her that she could be successful as an engineer and McKenzie could not wait to jump into her professional career.

_Nadia C._

“You get burned out if you do something that's not fun. So, seeing that happen to other people and then seeing if you don't find something that you actually really want to do, that it just is going to suck.” Nadia C. is a student with a colorful personality and she likes to enjoy what she does. As a junior in managerial finance, Nadia completed a summer internship at a refrigeration plant. While working for the company, she observed employees that appeared to have succumbed to the drudgery of work and that lifestyle did not appeal to her. She found that one of her managers “was just boring…there's nothing interesting about her.” Nadia understood that the business world did require a serious approach at times, but to her that did not seem to be “a fun way to live.”

Through this experience, it seemed that Nadia was beginning to grapple with a way to integrate her personal self with her professional self. Through “lunch and learns” at the company, she was able to envision a career trajectory that would allow an assimilation of her personality into her working life. In particular, she gravitated toward the example that she observed in the company’s vice president of the marketing department. Nadia believed that “he had just the most interesting things to say about what he did every single day.” She noted that his presentation was interesting, and he presented “what he did in kind of a fun, fluid, interactive way almost.” She was able to visualize herself doing something like that professionally. She quipped, “I don't mind being the marketing guy who was like really silly, but people still thought of him as professional.” Nadia wondered, “How are you going to be different from everybody
else if you withhold the things that you think are funny and you like to talk about?” She lamented that she would not “want to compromise” on what she thought “was a good way to present” herself or who she really is.

Nick A.

Nick is a junior in accountancy. His internship placed him with a large international company with manufacturing locations throughout the world. His work allowed him to visit locations in the U.S., but he was also stationed abroad during his internships. Nick had travelled quite a bit before his work placement, but he had never been to Asia before. His parents helped him move in when he arrived, but then he was on his own. The experience offered a measure of growth in independence. Nick asserted, “I'm not going to have a problem being on my own after this because, I mean, I was pretty much thrown on my own for this whole six months while I was there.”

Being alone in a foreign city and working at a new location offered some new hurdles for Nick. However, he was able to adjust to the local and company culture eventually. For Nick, the challenging part of being abroad “was meeting people and just adapting to different cultures.” Luckily, he found very little “language barrier,” and he seemed to have adapted fairly well. The adjustment to the work environment also offered a challenge. Nick had to work long hours and endeavored to learn the process and operations. He remembered:

They wanted me to get on the floor and experience what was really happening, so that was kind of harsh having to work the full seven days, but if that's what they're doing then that's what the real world is.

The tasks and projects to which Nick was assigned allowed him to learn new skills. He acquired new knowledge from a technical standpoint and also grew in maturity thanks to
willingness to ask questions. He recalled working “a lot with Excel,” and he learned to ask questions. Nick relayed the struggle that interns often feel in wondering if they should or should not ask questions. He noted that many interns think that they are “expected to know things” and that they “shouldn't really ask for help because that looks bad, but it's the opposite because they want you to succeed.” So, Nick “got better at knowing when to ask questions…” and that made him “more aware” and “more mature.”

Nicole A.

“I felt a little deceived by management, because I would have never moved for that job had I known that's what it would be.” Nicole finished two internships prior to her junior year in accountancy. Both work placements were with distribution centers. Her first job was with a major book distributor and the other company dealt in houseware. As her previous quote indicated, Nicole’s second internship was not a great experience for her. She was hired to be an inventory profile coordinator, but as the sales volume increased, she found herself in the warehouse filling customer orders. Nicole felt deceived by her managers. She remarked, “They just wanted their numbers to look better for their higher ups. So, I learned that people don't always have my best interests at heart.”

Nicole’s previous internship experience proved to be quite helpful in addressing the situation. Feedback that she received from a previous mentor gave her the confidence to approach her new supervisor about her concerns. The mentor told her that she performed well in her assignments, but she needed to “be more assertive and not be so sweet.” So at her second internship, Nicole went to her supervisor to express her displeasure about how she was being utilized. She said, “That was scary for me, but my supervisor was very understanding.” The supervisor promised to try to help, but apparently “his hands were pretty much tied at that point.”
Although her internships did not go exactly as planned, Nicole did learn some lasting lessons from both experiences that she will take with her as she continues her career path. She learned how to balance frustration while also standing up for herself. She understood “that emotions shouldn't be too much a part of the job, and that she needed “to be more assertive with people and not try so hard to not step on everyone's toes.” She also gathered that one cannot simply make a case based on emotions, but one should “think through it logically” and “give good reasons… because at the end of the day it's about their bottom line, not about how you feel.”

**Penn G.**

“I really felt like I figured out more of what I want to do and what made me happy.”

Penn worked as an intern for a biomedical engineering firm prior to his senior year in mechanical engineering. This WIL experience was illustrative to him in allowing Penn to visualize what a career would be like in the corporate world. From this internship, Penn realized that his career expectations were not a good fit for the environment of a large company. He noted that he “didn't like working in the corporate atmosphere.” The setting “felt a little stuffy maybe or almost too many rules, but the rules were in place for a reason. It felt like it was overwhelming…too proper.”

Penn’s primary takeaway from the internship was a confirmation that he really preferred to work in a small organization or even that he might like to start his own business one day. His time in the workplace did provide him with an understanding of how to navigate the professional environment by not only utilizing his skills but also through interpersonal relationships. Penn believed that it was “not just where you work, it's really more of who you are as a person.” He felt that technical knowledge was necessary, but having “people skills is as important, if not more important than knowing how to do the engineering and knowing how to do the accounting
and stuff like that.” Penn learned that one has to “be able to interact with people to really succeed.”

**Prime C.**

“The way I was treated and the rumor that went around when I was coming was that I was the mole getting sent in to report to higher brass about what’s going on.” This quote from Prime about his mechanical engineering co-op experience definitely revealed the negative tone that was present at the beginning of his work term within a major engine manufacturing facility. Prime’s situation was quite unique in that he was working in a factory that was previously managed by his father. This resulted in him having to deal with the lingering effects of his father’s tenure in the plant. So on day one, everyone in the facility knew his name. There were pre-existing expectations and “issues that were left unresolved” from his father’s tenure. Those lingering issues “came back to be dealt with” by Prime. He confessed, “Unfortunately, the way I handled it was put a chip on my shoulder…I did everything I could to figure out what was wrong in that place…I just wanted to find problems and point them out.” On one project, Prime found a $5,000,000 a year issue, and he thought that he had “shown them.” He soon realized that is “not how it works.” Prime had to “learn how to be a team player” and “get rid of that chip” on his shoulder. After learning that lesson “the co-op became significantly better” for Prime.

Prime worked very hard to get rid of the chip on his shoulder. He also realized that it would take time and effort to overcome any preconceived notions that others had about him based on their views of his father. Prime noted that his father’s legacy in one way or another changed “the dynamic” of his relationships with his co-workers. He stated:
I just had to establish my own rapport and come up with the fact that I'm not who my father was. I tried very hard to produce similar results, but I figured out how to try and do it in a different way.

In fact, there were challenging situations in which Prime had to make crucial decisions that affected production and the output of the whole facility. A particular issue still remained vivid in his memory. One could still feel the pressure of the moment when he relayed the story, but the learning that he took from it was also evident. In this particular situation, Prime discovered that the factory had been producing parts that were out of tolerance. He found himself in the position of having to make a crucial decision on how to address the issue. He chose to shut down production. After he investigated the problem over an eight hour period, the decision was made to continue producing parts. Prime lamented:

I didn't know how to deal with it. I didn't know what to fix. I didn't know who to talk to. So, I just had eight hours to figure it out...I had eight hours to come up with a solution and sadly at the end of that eight hours the solution was...sorry guys keep going. I got a lot of judgmental looks... That was something I'll never forget.

Rico S.

“I can't rent from Hertz anymore. I don't know if you know this. I'm blacklisted from Hertz. I cannot rent.” Prior to his senior year, Rico completed a year-long accountancy internship with a large international corporation. As his comment indicated, this experience did not always go smoothly. His comment about Hertz referred to a rental vehicle that was stolen on one of his many travels to audit the various manufacturing operations for the company. The theft of the rental car was undoubtedly a learning experience for Rico. He was also teamed with another IMP student as they traveled to these locations. Their assignments and travels together
resulted in opportunities for conflict and growth. He reflected, “I think I was able to see what I do well and when I don’t.” At times he admitted that he would “slack on some” of his job, and he would see his fellow intern “picking up the pace for me.” Rico felt that it definitely “raised that sense of accountability.”

As the interns were going through this process, Rico remarked about how they were able to recognize these issues of conflict, and resolve the problems in order to be successful in their work as a team. When they would “hit snags or things that were very difficult to understand” they “really did get testy.” Initially they would just separate and take a “breather.” Later in the internship, they became “more professional about it.” Rico observed, “If I wasn't doing something, she would let me know…if she wasn't doing something I will let her know, and…We were able to have much more constructive conversations on the expectations of both of our performances.”

In terms of conflict, Rico also reflected on the potential for issues when auditing a facility. This presented an unusual situation that put the interns in a sort of position of authority when reporting on the financial health of a factory. This was clearly a scenario that was fraught with possible conflict between the student and the facility managers, but Rico learned the value of mutual respect and also the need for accountability. He noted that it was “very interesting to work out that dynamic.” Rico summarized, “Yes, I'm a student and I have no right to step on all of your toes, but at the same time, I'm representing the corporate side of this company, and I need to do my job.”

Robert J.

“It really opened my eyes to understand people different than me…people who I would have never thought I would have become good friends with.” Robert is a management major
who was able to complete internships with two different manufacturing companies. One organization was a leading manufacturer in the lighting industry and the other company was an aerospace firm. Both opportunities provided Robert with new skills and responsibilities, and also allowed him to interact with co-workers from diverse backgrounds. The challenges and responsibilities offered Robert a helpful insight into the manufacturing world.

I felt like an employee, and I did not feel like just a college kid who was fetching coffee…I got to lead my own projects very often, and I don't know if everyone gets to do that in their internships.

As with other interns, this also gave Robert some insight into what he wanted to pursue in his career and certainly revealed to him what he was passionate about. He found a strong sense of work ethic within himself, and that a lot of the job duties he experienced aligned with his career interests. Robert expressed, “I think that was probably one of the most valuable things that I learned about myself is figuring out what I love and how to use that in a career and how to motivate myself with what I love.”

Sidney A.

“I've learned a lot about trusting myself and knowing that I'm smarter than I probably give myself credit for at times.” Sidney is a junior with a double major in mechanical engineering and business. She worked as a co-op for a large HVAC manufacturer and she also was employed as an intern within an automotive manufacturing facility. Those jobs were clearly a boost of confidence for her, but they also came with challenges. One of the most difficult aspects was being one of the only females in a predominantly male work environment. When she started, Sidney recalled the advice that she was given:
Even when I did my one-on-ones to start, comments were made about making sure I
dress appropriately and being prepared to be underestimated and people are going to
discredit what I do. So, I had to work a little bit harder, I think, than some of the guys
did, especially to fit in.

Despite the hurdles that she has faced at times in the work environment, Sidney was able
to excel in her work, and this experience gave her a great viewpoint on her future. At the very
least, she was presented with situations that allowed her to experiment and try on new roles in
the workplace. Sidney remarked, “Well, it definitely showed me what I do and don't love...it
definitely helped me open up to when I'm applying for jobs now coming up, I know kind of the
path that I want to go down.”

This “opening up’ for Sidney was a revelation that engineering consisted of more options
than she had previously considered. She assisted on various projects, and this allowed her to
experience the role of sales engineers. That career area seemed to fit in with Sidney’s talents and
interests. It was a career pathway that she “didn't even know was an option.” Through Sidney’s
WIL participation, she gained a wider exposure to professional roles as she approached a
decision point about her future.

**Tony S.**

“I'm a lot better with people than I thought it was!” Tony is a sophomore in mechanical
engineering, and he took part in an internship with a processing plant that produces chocolate.
The work environment allowed him to interact with a number of co-workers and sharpen his
interpersonal skills. Tony was pleasantly surprised with his ability to connect with people in that
setting.
Tony’s success in his internship was a boost of confidence personally, but he was also encouraged by the impact that it had on his relationship with his father. His accomplishments provided a chance for him to gain respect and esteem in the eyes of his father, which was clearly significant to Tony. It made him feel “really happy and proud” to impress his father which was one of his “favorite things to do.”

Tony’s return to campus presented an opportunity for him to apply some of his newfound knowledge and habits to his life as a student. His view of the “working world” definitely impacted how he structured his daily schedule when he was back on campus. He expressed that he was more likely to do his homework and “get it out of the way early instead of waiting until the last minute.” His approach at work made Tony realize, “I should do this at school…you know, finish my work early so I can go and do fun stuff later. So, that’s exactly how I set up my class schedule this semester.”

Verne L.

“It was sort of a bipolar relationship.” Verne apparently felt conflicted on the outcome of his WIL experiences. As a mechanical engineering senior, he finished three co-op placements prior to his senior year. He completed two rotations with an aerospace organization and another with a defense industry firm. Verne seemed to oscillate between a sense of accomplishment and a feeling of being underutilized. There were many times when he felt “very fulfilled” and “part of the team.” There were other times where he felt like he was “being very underutilized” and “very much like an intern.” Verne related the experience to the swing of a pendulum. However, he believed that the majority of his internship experience had “been frustration with being underutilized.” Ultimately though, Verne admitted, “I usually have a pretty good feeling about it on the back end when I look back over what I was actually able to accomplish.”
Throughout those co-op experiences, Verne learned how to manage his emotions despite variations in work demands and other issues that he faced. One particular incident was very frustrating and certainly tried Verne’s patience. During his final project presentation to the managers, one of the leaders asked where the idea for his project originated. The initial proposal was Verne’s concept. He was shocked and frustrated when his immediate supervisor took credit for Verne’s idea.

That moment was very surreal to me because it seemed like something that only happens in movies…In that moment I just really tried to reel myself in and be measured with my words…That was one of the worst moments for me that I've ever had in an internship…especially because that was my last day.

Despite enduring this trying experience, Verne benefitted greatly from the skills and knowledge that he acquired throughout his work. The ability to compare his ideas about the profession of engineering versus the reality that he experienced through these jobs were immensely helpful to Verne as he envisioned his career trajectory. It allowed him to gain a clearer understanding of himself and what type of work environment best suited him. Verne found that he enjoyed engineering and technical challenges, but he also discovered a love for “working in team environments” and being able to “bring other people up.” This helped him realize “a lot of my perceptions when I'm daydreaming in class about where I want to go with my career…are not really valid. I don't think I could've learned that without going out there.”

Analytic Themes

Following a review and analysis of the interviews and co-op reports of the WIL students, several themes emerged. These themes covered a variety of topics that touched upon various aspects of the participants’ experiences. The five central themes that were observed were: (a)
Assimilation and Integration, (b) Experience and Understanding, (c) Interpersonal Perspective, (d) Personal Identity, and (e) Pre-professional Identity.

The first theme is Assimilation and Integration. This concept touches upon the topic of the student making the passage from campus to the working world and back again. In this area the study participants touched on the assimilation process when arriving at their internship or co-op placement. They also spoke about their life after returning to school and integrating the lessons learned into their academic approach. This theme also examines the expectations prior to the students commencing their WIL position, and how the reality of work compared to their preconceived notions.

The second theme that was observed dealt with Experience and Understanding. This topic explores the types of knowledge and skills that the participants acquired through their WIL placements. By “going” and “doing,” the students gained some very specific competencies which are required of their chosen profession or industry. In particular, students shared their thoughts on the area of communication and how that played a role in their work. Responsibility is a concept that was often mentioned by students and it was closely related to the experiences the participants had in their work.

Interpersonal Perspective is the third theme revealed through the analysis process. Many comments and stories were shared by the WIL students regarding their interactions with others in the workplace. The participants relayed stories of individuals that they encountered and also their experiences working in collaboration with others on team projects. Often times these interactions involved conflicts, which presented the students with interesting learning opportunities. The role of professional mentors or role models was also evident in this theme.
The fourth theme offered insights into the growth of *Personal Identity* for the WIL participants. These workplace challenges experienced by the students not only offered professional gains, but it also stretched many of the individuals personally. The participants discussed some of the progress that they had made in terms of independence. Many students offered a number of observations from a self-awareness standpoint. Additionally, increases in self-confidence was a consistent topic relayed by the study participants.

Finally, *Pre-professional Identity* is the fifth theme observed through the research. The students relayed their observations in learning to navigate the professional world. Interestingly, gender issues were of particular note when examining some of the challenges discussed by several of the female participants. Comments related to professional identity and professionalism were also observed in this area. Students provided their perspectives on how their WIL placements affected how they now visualize their future careers.

The following model is provided as a means of visualizing the journey represented by the themes which were revealed through the analysis of the WIL participants’ experiences. Figure 1 denotes the journey of a WIL student. In many ways, the image of an explorer can be applied to these participants as they discovered unfamiliar territories and built bridges or passageways to new destinations. This allowed many of the students to explore new environments, learn new skills, grow personally and professionally, and also visualize potential future professional pathways.

*Figure 1. WIL Experience as a Bridge between the Academic & Professional Worlds*
While the previous model illustrates the journey of WIL students in relation to their academic and professional experiences, the following graphic (Figure 2) represents the psychosocial and professional developmental aspects of WIL programs in reference to the individual student. As these spheres illustrate, when an individual engages in a WIL placement they appear to grow through their experiences and gain further understanding. Participants often receive a deeper insight into interpersonal perspectives. The work experience and knowledge gained from these programs impact advancements in both personal and pre-professional identity. As the students move between campus and their WIL placements they must assimilate to different environments and integrate new knowledge during their journey. After completing multiple WIL experiences, the assimilation and reintegration processes essentially inform or enhance previous developmental gains.

Figure 2. WIL Experience Model: Psychosocial & Professional Development
Figure 3 presents a word cloud which was developed from the WIL student interviews and the co-op student reports that were analyzed in this study. A review of the graphic reveals the words and ideas that were most commonly mentioned by the participants. Words relating to understanding or acquiring knowledge were some of the most often highlighted terms, such as: to know, get, see, think, learned, realize, and understand. Experience, work, and trying were prevalent words that related to the job itself. Items connected to relationships at work were also revealed, such as: person, people, mentor, relationships, ask, and communication. Concepts associated with professionalism were also present in the word cloud. Terms like professional, career, respect, and future are all listed in the graphic. The following sections will highlight and summarize the themes and related elements that have emerged through the analysis of both the WIL participant interviews and the co-op student reports.
Theme I: Assimilation & Integration

“My first few days went surprisingly well. I had the guidance of my boss and help from other co-ops to ease my transition.” Adam T.’s comments in his co-op report explained his experience as he transitioned into his new role with his employer. In reviewing those accounts from the research participants, one could see that not all WIL students had the same experience as they adjusted to the workplace. This theme, while listed first, could really be viewed as a bookend or a continuous thread for each WIL student as they made passage between their college or university and their WIL employer. In some sense, it is the bridge that connects the academic and the professional worlds. The following sections highlight the assimilation phases, the expectations, and the realities of the participants that navigated between the spaces as students and emerging professionals.
Adjustment

In reviewing the responses and data from participants, a majority of the students who were interviewed (76%) and who completed co-op reports (76%) mentioned their experience of transitioning either into or back from their WIL work term. Certainly, the movement between school and work and back to campus was a significant process for the students, but a further examination of the comments revealed that the participants’ experiences in adjustment phases were anything but uniform.

Varying Adjustment Experiences

Adam T.’s previous comments denoted a very smooth assimilation into his WIL placement. In Stuart’s co-op report he had this to say about his initial adjustment, “My first few days on the job were pretty standard. I went through orientation, was shown to my desk, and was introduced around the office to the people I’d be working with.” This all seemed very mundane and simple, but not all students had such a tranquil adjustment to their workplace.

Ben P. likened his transition into his new work environment to being thrown into the fire. His co-op report stated, “When those were done I was thrown into the fire immediately with projects and things to do, even though they started out small.” Instead of an easing-in period at work some participants found the welcome to be less than smooth and a bit harsh in the beginning. In Prime C,’s interview he relayed how the employees felt that he was a spy sent in by the corporate leaders. Their perception set him up for a rough beginning, as he stated, “So on day one, I got put in charge of counting the garbage…Counting the garbage and counting the scrap. That was my job.” Verne L. also relayed his awkward adjustment experience as, “being in a strange environment like that accompanied with working around people that I didn't
necessarily feel connection with, on top of just not knowing anything, and just being thrown to the wolves more or less.”

From this sample of comments, it seemed that each transition experience was unique for each student, but there are certainly some common elements that emerged. It appeared that the culture and environment of the company had an effect on how the students assimilated into their new role. Experiences ranged from positive to negative to a mixture of both. The passages of these students into their WIL placements also involved the handling of emotional issues as well.

**Emotions**

Of the students interviewed, several provided thoughts related to the emotional aspects of their adjustment to their new situation. Some of this was related to dealing with the workplace, as Marissa explained, “The emotional challenge of frustration and stress was something that came up a lot and others to their new living situation…and then it's just this vicious cycle of I don't get to do what I want to do at the end of the day because I'm so tired.” One of Verne’s internships offered a work setting that was particularly conducive to making him anxious. As he recalled, “It was a very stressful environment to be in because…it's really difficult to do while there's somebody rigging scaffolding behind you…while you're balanced up on a pipe or something.”

There were also issues of students having trouble adjusting to their new living situations. In Caroline’s interview she discussed the move to her new city as, “The biggest challenge for me was actually loneliness, because this is the first time I've moved away, and not had a roommate. I guess I could've had a roommate, but at the time I was just wanting to be pretty independent.” Dan B.’s comments also touched upon his feelings while living and working in Memphis. His manager switched departments soon after he arrived. That difficulty compounded his adjustment
to living in Memphis as well. He reflected, “I enjoyed living in Memphis, but…that was a depressing…I have notes of like, just depression and like thinking that I’ve got to get out of here.”

**Intimidation**

Dealing with feelings of intimidation or feeling overwhelmed was also specifically mentioned by several of the interviewees. Often times, these feelings appeared to arise from a fear of measuring-up with one’s peers. Some participants were intimidated by the other WIL students in the workplace, and perhaps by the glowing reputation of the other schools represented there. In relation to this, Adam B. said, “I felt very inadequate. Everyone was all from…all their friends were ivy leaguers. All these kids were from…the Northwestern students and stuff like that. At first I felt it was overwhelming.”

Austin worked as a co-op for a manufacturer and shared a similar experience. He “learned not to panic” since it was “a little overwhelming getting into that fast paced environment” with “a lot of pressure.” Many of the other interns were from top rated engineering schools and Austin found that there “was a lot of pressure to perform.” However, he soon realized that he could “keep up” with the other interns, and “do the same work.”

These instances relayed the feeling of inadequacy and concern for keeping pace with one’s peers. Some participants even questioned their ability to measure-up intellectually. Adam expressed his concern for this, “I'd probably say that setback in the beginning, you know, again, feeling like not near as intelligent as the people I'm sitting at a table with. So, it took a lot of learning.” In addition to comparing themselves with their peers, some students also felt challenged to compare themselves with practicing professionals that they encountered. Edward wrote of his initial arrival in his office as follows, “Within my work area, there are about 30
engineers. It was quite intimidating walking in because most of the engineers knew I was coming, but I had only known two people who I met during the interview.” Eli’s first internship came after his first year in college, and he was aware of his lack of knowledge and experience which clearly aided in his anxiety before starting work. His first experience “was pretty intimidating.” Eli had just finished his freshman year so he felt “sort of like being thrown into the deep end of the pool and learning how to swim.” He eventually learned how to adapt, and he was given some interesting project work.

*Understanding New Environment*

Along with the initial shock and intimidation of arriving in the workplace, the participants also were challenged with being successful in the assignments that they were given. Several of the subjects relayed stories of their struggle to figure out the organizations in which they found themselves. Between analysis of both students’ interviews and co-op reports, a number of respondents discussed their challenge to understand their employers and their new role within those organizations. Glenn reflected on his difficulty in comprehending his new work facility. He soon found that he “was not prepared for the magnitude and complexity of the plant itself.” The biggest challenge that he faced “was understanding and memorizing where every component was being fabricated.”

It is often not considered how difficult it can be to gain an understanding of the inner working of an organization especially one that produces multiple components in one large facility. Jennifer O. shared similar thoughts on her adjustment period:

The hardest part about adjusting to my environment was the size of the mill and the complicated process. I only worked in one area, the pulp mill, but this area also included
the wood yard, chemical plant, cooking digesters, and bleach plant. Learning my way around and fully understanding the basics of the process took weeks.

Prime not only had the challenge of adjusting to the facility, but he also had to comprehend what his role within that environment should be. He recalled, “I did not understand what it meant to be a quality engineer for a manufacturing facility...so, in my first few days of work I spent a majority of my time learning what it meant to be a quality engineer.”

*Asking Questions*

In light of the challenges in trying to understand their new organizations or their roles within them, the students conveyed how they went about adapting and discerning what they needed to know in order to succeed. Asking questions and observing were highlighted by several of the participants as having a positive effect on their ability to adapt and understand.

Caroline reflected on “being new to the refinery” and “unfamiliar with the units, the products being manufactured, and the organization of the refinery as a whole.” Understanding the systems “was difficult during the first few weeks.” She “overcame this by listening to many people, reading the refinery handbook, and asking questions.” Caroline realized that she needed to take the initiative and proactively seek information from other people or sources.

Oftentimes, this seemed to be a challenge for students since there could be a fear of rejection or looking unprepared. Some of the research participants conveyed the importance of overcoming that fear. On this subject, Eloise said, “I became accustomed to asking a lot of questions, and I found that everyone was more than willing to help.” Austin also made the adjustment, stating, “A good coping skill for me was to go and talk to people, so talking to my supervisor...getting clarification.” In many of these scenarios, the WIL student’s initial concerns about approaching others was often replaced with the actuality of those individuals that were
eager to help. Once the students made this realization, it appeared that that was often a turning point in their effort to adjust and understand. Jennifer O. shared her thoughts:

I was part of the team, so it was really important that anytime there was a meeting that they would include me on it, and someone would debrief me on it if I didn't understand what was going on. I was always encouraged to ask questions…So, it was good. I felt valued. I felt like my contributions were definitely valued and everyone was always willing to help me.

*Expectations*

In terms of preparing themselves for WIL participation, student expectations appeared to be somewhat varied. Specifically, there was some difference in whether the students even had pre-existing expectations or not prior to commencing their work term. A few of the respondents were unclear on what to anticipate. Edward wrote in his co-op report, “Since this was my first real engineering job, I was not entirely sure what to expect when I first started working.” Adam T. expressed a similar sentiment, “This was my first real experience working in the manufacturing world. I was unsure of what to expect when I came here.” For many students, the demands and environment of the professional world were a foreign territory so having unclear expectations was understandable.

*Varied Expectations*

For a couple of the students, the actuality of their WIL experience was much different than what they envisioned. In his co-op report, Prime wrote, “I had expected a far different experience, though this one will be more valuable than what I had hoped for and expected.” Fortunately for Prime, the reality of his work placement far exceeded any pre-conceived notions that he held, and seemed to have provided value for him as a result.
In Robert’s interview, he also touched on the difference in what he experienced at work versus his expectations. It was “a lot more loose” than he expected. Robert always imagined that “everything that adults do is knowing the objective best way to do it…Everything is done intentionally, but that's not always the case.” For Robert, this “peak behind the curtain” allowed him to view the reality of the professional environment as a participant instead of speculating on what the demands of the job entailed.

A portion of respondents at least had some idea as to what they expected to gain from their WIL experience. One of the more common remarks related to students using the work experience to get a better grasp on career goals and what type of professional pathway they wanted to pursue. In relation to this, Marissa offered, “My expectation for this experience was to come out of it with a clearer understanding of what this position is, as well as having a better idea of what I wanted to accomplish after graduating from school.” Glenn also relayed his hopes for his takeaways from his work, “I had initially hoped that I would have an experience that was going to be thorough and beneficiary for future employment.”

*Learn & Gain Knowledge*

Co-op reports provided the most commonly mentioned expectations that students had for their WIL experiences. Table 5 presents a summary of some of the comments offered by the participants. The recurring theme in these comments touched on the idea of learning or gaining knowledge.

Table 5
*WIL Expectations: Gaining knowledge*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calvin M.</td>
<td>Co-op Report</td>
<td>I believed that I could learn a lot about the industry and managing a plant; overall, this semester lived up to my expectations.</td>
</tr>
</tbody>
</table>
Caroline B. Co-op Report  Going into my second term at ExxonMobil, I hoped to gain more technical knowledge, learn about the refinery, understand more business aspects of the site, and develop more leadership skills while adding value to the company.

Eli D. Co-op Report  First of all, I wanted to gain technical knowledge as it applies to petroleum refining and process unit operations in general.

James D. Co-op Report  I was hoping to gain real world experience with a fortune 500 company, learning valuable engineering, manufacturing, and business skills.

McCharen C. Co-op Report  I expected it to have a valuable, established co-op program that would increase my knowledge and experience. My expectations were met and significantly exceeded.

Roger F. Co-op Report  Coming into this internship, my goals were both to learn more about hydroponic farming and to gain valuable experience in the application of lean manufacturing principles to food production.

Stuart J. Co-op Report  I hoped to gain experience working with a professional engineer and learning about the process of design and implementation in the engineering world.

Charlotte K. Co-op Report  My goal was to gain ample experience in biomedical engineering and learn how the company uses its leading expertise in manufacturing and its large global footprint to change lives.

Phillip C. Co-op Report  My expectation for this project was to improve my communication and organizational skills while getting to travel extensively.

The comments revealed that the students expected to gather specific technical or professional knowledge, such as the quotes offered by Caroline, Eli, and Roger. Others like Calvin, Charlotte, and Phillip hoped to garner a better understanding of a particular industry or certain abilities that would be helpful in the future. Either way, many of the students viewed learning and knowledge acquisition as a significant goal for their work placements.

Reintegration

A final component in the theme of Assimilation and Integration, touched on the WIL participants returning to campus. The typical pathway for a WIL student involved the student coming back to academia after completing their work experience and continuing their progress towards their degree. In some cases, students experienced this cycle several times depending on
how many internships or co-op rotations that they acquired. As a result of this dynamic, the integration of lessons and growth experienced at work impacted how some students re-engaged in their studies, or it altered their overall view of higher education.

Schedules

In some ways, the influences that were evident for students were in small or practical ways. Some respondents noted the variance in schedules between campus and work. Typically, students are afforded much more flexibility in setting their academic schedule as opposed to the often more rigid expectations of an office setting. Adapting to those new expectations appeared to have a positive effect for some students upon the resumption of their classes. Nicole stated, “Also something kind of weird, but it's made me more of an early morning person…it's made me a lot more mature in that I realize I'll waste my day if I sleep till 9:00.”

Robert also shared a similar sentiment, “I've gotten a lot better because of my internship. I've gotten a lot better at going to bed a little earlier, being more conscious of that and waking up earlier.” While this might not be something that the students sustain until graduation, at least they have grasped the difference in what is expected in the professional realm versus their current environment in college.

Appreciation

There were also other small ways that a couple of students noted their return to school. Once again, Nicole observed, “It's made me thankful that I had the opportunity to go to school and learn stuff because I would rather put in twelve hours a day in classes and studying than eight hours a day in a warehouse.” The challenges and hardships that she faced in her internships allowed her to have a very positive perspective on her remaining time in school.
Stuart also gained a greater appreciation for the freedom and enjoyment offered through his college experience. He realized how lucky he was to “still be in college and have a few years left.” He observed that the “real world” was “a daunting thing” awaiting him. Stuart noted, “I look forward to my future and my career that’s ahead of me, but for now I’ll let all that stay ahead of me while I live in the moment.” On balance, it seemed that the exposure to the reality and demands of the workplace allowed some participants to take lessons from their WIL experiences and apply it to how they approach their studies and also how they enjoy the moments and opportunities that still await them on campus.

**Approach to Academia**

Re-entry into life as a student had many notable effects on the WIL participants’ approach to academia. Several items emerged from the respondents’ perspectives. Motivation or a change in attitude towards their school was evident in several cases. In Frank’s interview, he stated, “Motivation…Just the ability to get things done now. It's like you don't even realize yet, but you will. You're going to get there, but like that motivation completely changed everything and I'm so glad that I realized that from experience.” Marissa also wrote about the shift in her views on college, “I now have a completely different mindset returning to college after having taken some time in a fulltime job environment for six months than I did going into college at 18 after high school because that's just what you do.” This new motivation of some of the participants seemed to stem from a connection that was revealed between coursework and the professional world.

Calvin shared that his new understanding would help him “find classes more interesting” as he related them back to lessons he “learned in the field.” He also felt more focused because he was “able to discern a more specific direction to take” with his studies. As Calvin pointed
out, this new perspective on school in relation to his future career could also direct specific courses that he chooses to pursue as part of his degree path.

Caroline offered a similar opinion, “I am now more motivated to study relevant topics in school.” The work experience also appeared to impact learning and understanding for some of the students as they undertake their remaining coursework. During his interview, Nick responded, “I've learned that now I can kind of visualize and grasp the concepts in class easier just because I've actually done them myself. I already know what the teachers are trying to say and how they're approaching teaching.”

Several Participants noted how their experience from work and managing projects helped to teach them about time management and procrastination. Glenn had this to say on the topic, “The Co-op experience has helped me alter my attitude towards work assignments as well as further my understanding of the importance of staying on schedule with a project and to not put assignments on the back burner.” For Curtis his work placement also made an impact in helping him manage his workload at school. He stated, “I think it's helped from getting back to school and being able to manage my own time between different classes, different projects that we've got going on.”

*Application of Coursework to Careers*

Several students touched upon the topic of how their coursework applied to their success in the workplace. Interestingly, there was almost an even split in those students’ opinions on whether or not their classes were actually useful to them in their WIL experiences. Glenn’s comments on the topic were very positive, “I was elated to discover that a large portion of my work assignments have related to several courses that I have taken so far.” Jennifer also found her classes useful, “During my co-op, I used knowledge from several of my previous courses.”
Caroline provided even more detail in how her engineering classes prepared her. The courses were useful to her in the project assignment that she was given. She expressed, “I would not have been able to understand what a material balance, heat exchanger, or break-even value was if not for my coursework.” In addition, Caroline asserted, “Excel and my knowledge of it from my freshman chemical engineering class became extremely valuable to me, as most of my projects were to build Excel-based tools.”

It seems worth noting that all of the positive remarks relating how coursework helped the participants in their work were actually found in co-op reports only. This could be that students were being graded on the report and felt more compelled to share positive comments as a result. Perhaps the students interviewed were not all provided an opportunity to comment on this and if so then there might have been more positive comments. At this point, this is all speculation and would require a more purposeful research design on this subject for further exploration.

Again, there were certainly equal amounts of students that found little use for their courses when they were deployed into the professional environment. Ben’s experience was quite concerning as he commented that his “classwork had almost nothing to do with my job.” He found that fact to be quite “upsetting” in knowing that his classes would not help him “in the real-world and that it almost doesn’t matter” how he performed in courses because he “won’t use it.” In a very real sense, Ben’s outlook on school was dampened after this realization.

Hank also returned from his co-op with a sense of frustration about his coursework because after returning from his work placement he realized that he was “never going to use this.” His work experience required “pulling from resources” to solve problems not “doing all these math equations.”
In some ways, the experience for students killed motivation instead of enhanced it. As a few of the participants observed, they did not feel that their classes were relevant to the demands of their profession, which could potentially restrain one’s eagerness to engage in courses. Jennifer P. recalled her skepticism at her coursework upon her return, as she conveyed, “I mean I sit in class like in fluid mechanics last year. I remember saying that everyday being like, I'm never going to use this equation. I'm never going to use this.”

McKenzie also shared her views, “I realized that school is…a bunch of obstacles to see that you can get this degree. As soon as I go into a job, they're going to teach you what they want me to know.” After her time spent in the workplace, she viewed college as a barrier to get beyond or something on a checklist to complete in order to move into the next phase where she will be taught what she actually needs to know. In light of these comments regarding the return to campus, it appeared that there were various positive and negative aspects of the WIL experience observed by students.

**Summary**

The first theme, *Assimilation and Integration*, presented issues related to the passage of students between campus life and the professional world. This section underscored the challenges and experiences of students as they made adjustments to their work environment. The topic of expectations and outcomes that students anticipated was also detailed. Finally, the aspect of WIL students returning to school was also explained. This offered a glimpse into student perspectives on the benefits and challenges that those transitions presented upon their return to campus.

**Theme II: Experience and Understanding**
Experience and understanding was undoubtedly one of the most common themes to emerge from the data sources. The vast majority (98%) of WIL students felt that the skills and abilities that they obtained during their work was invaluable to their career development in some way. Christian summarized his thoughts:

I have learned so much from this internship that I would not have been able to otherwise learn from class. The work experience that I have gained will help me in the future to be able to stay on task and to be able to identify the manufacturing processes of a production line.

The experiential learning provided by these WIL placements definitely impacted the learning cycle for many students helping them to advance and secure a greater knowledge base with each new project or challenge. As an example, Glenn stated that he “could not have had a better experience.” The complexity of the manufacturing facility widened his “range of knowledge on all areas of a manufacturing plant.”

Within the theme of Experience and Understanding, there are several elements that are displayed. Students discussed issues like competencies and skills obtained from work. In particular, communication was one ability that was highlighted most often. Responsibility was a concept that appeared to interconnect with the idea of experience, so this element will also be examined in further detail as well.

**Competencies and Skills**

The topic of specific competencies and skills was one of the more often discussed elements relating to the experience gained by the WIL participants. Most of the students relayed their perceptions of how they were impacted by the abilities that they learned during their work
placements. In particular, the respondents touched on issues such as: technical skills, understanding processes, problem solving, soft skills, and the value of these competencies.

Technical Skills

Technical skills and specific applications were an issue that was discussed by many of the WIL students. Several of the participants commented on the varying exposure and experiences with software and applications used in the professional setting. Some of the programs like Microsoft Excel are widely used in a variety of industries and businesses. Other applications, like AutoCAD or Creo are utilized in specific professions like engineering. The WIL placements afforded the students a chance to try out these tools and gain in their proficiency levels.

Charlotte discussed her experience in relation to this and revealed an increased confidence in her ability to use some of those applications. Her assignments required her to become “a lot more comfortable with using Excel” and she “learned more shortcuts which will make assignment completion at school quicker.”

As an accountancy student, Faith also showed signs of increased self-assurance in her ability to use professional applications following her work with a major electronics manufacturer. She expressed her thoughts, “I feel a lot stronger in that and…obviously a lot of Excel skills…lots of understanding what a quality presentation is.”

Some of the students shared how their mentors or other professionals provided assistance in learning these applications. Jack’s experiences with engineering firms allowed him to work alongside an engineer that was willing to share his knowledge in Excel and other software. He relayed this story, “I definitely know Excel was one of those that I use tremendously at work. I even had one of the actual active engineers give me a lesson at least once a week on different apps…very complicated things.”
Other students like Mac found themselves immersed in projects that required them to build on their knowledge and go in depth on the tools and applications needed to complete the task at hand. Mac’s comments seemed to reveal a mixture of amazement and exasperation at how much he was asked to dive into specific programs in order to do his job. He exclaimed:

I got really good at coding. I also got pretty damn good at Excel sheets. Oh my God, the tables I’ve made! Being able to sort through things and find like the smallest little inconsistency…data mining, organization, graphing…I got really good at that.

James also provided comments on the variety of technical skills and competencies that he gained experience in during his year-long co-op with a global manufacturing company. He asserted, “I have gained project management, team leadership, AutoCAD, Excel, Visio, public speaking, data analysis and process improvement skills. I believe each of these will be valuable for any engineering or manufacturing job in the future.” James was able to identify a toolkit, of sorts, that he obtained and that he felt would bring him value in his future career.

*Understanding Processes*

“I’m able to be more analytical and really figuring out processes.” Nick’s business internship provided him with an opportunity to see the importance of understanding a process. He believed that his ability to analyze and diagnose issues in a process would serve him well in his career. As an engineering student, Jennifer O. appeared to see the same value in managing and maintaining the efficiency of a process. She also visualized how this ability could translate into other professional aspects of engineering. On this subject Jennifer O. said that, “Reliability taught me how to keep a process running and take care of machinery. As a mechanical engineer, this is incredibly valuable if I work in other areas like design or process engineering.” Curtis also offered his thoughts on grasping process flow, “Understanding how those systems work,
you know, gaining a lot of experience in that gave me that competency.” His experience with processes in his engineering co-op’s, certainly gave him a sense of confidence as he advanced in his career.

Marissa’s WIL experience in accounting also revealed to her the value of understanding how those professional processes functioned. She shared that her internship taught her, “How to review and quickly learn an entire process start to finish and how to review and analyze the material in a way that I and others can understand it.” Marissa’s statement showed that she not only gauged the importance of knowing how procedures and processes flowed, but she also saw the value in being able to communicate that to others.

As an accounting student, Frank’s summer internship provided insight into the actualities of how the financial systems of business truly worked as opposed to the sanitary examples provided in academia. He observed, “I’d never really done anything besides schoolwork in accounting… so when I actually got to do it for real, it was a lot more messy and a lot more work than it is in class.” The complexities of the accounting functions of a business were certainly on full display for Frank in his internship. These lessons revealed the messy and complicated nature of the system which provided a chance for Frank to expand his knowledge base as he returned to school and proceeded towards his future career in accounting.

Problem Solving

Understanding and analyzing a process is an essential part of problem solving as well. Problem solving skills were an element that was commonly mentioned by the research participants. Curtis’ experience as a co-op exposed him to the challenge of solving engineering problems. He also found the environment to be quite different from the challenge of course assignments. Curtis discovered that when you are assigned a project at work then your
supervisors “expect you to figure it out.” He felt that problem solving in school was “spoon-fed” to students, but found things to be “more abstract in the real world.” According to Curtis, the professional world is “a lot more independent where you have to go out and figure that stuff out for yourself.” Curtis touched on how one’s process knowledge can directly integrate with problem solving skills. He illustrated how an individual’s previous experience or other resources could be beneficial in addressing new issues.

Jack’s previous work experience provided him with a sense of persistence in facing down problems on the job. He observed that “most of the little problems that you hit, they seem like problems at the beginning right when you hit them.” By working through issues independently, Jack was able “to build up more of a confidence” in himself. He also discovered how “determined” he was “to continue even when something” seemed like it was in his way. Jack’s comments indicated that his persistence allowed him to find success and confidence in solving problems. With each new issue, he utilized his previous experiences to help on the next case. Again, this reflected the nature of how WIL placements help expand and advance the participants’ abilities as they continuously progress through the learning cycle.

Armstrong also touched upon the connection between analyzing a process and being able to identify potential problems. He observed that communication with others was often one of the most helpful aspects of identifying problems. In his estimation, “Ninety percent of my problems that I did find were just from letting people tell me what they don't like about it. If their solution saves money or makes products faster, then I'm all for it and I'll implement it.” In this observation, Armstrong also identified another relationship related to the theme of Experience and Understanding. He revealed how employing soft skills enhanced the problem solving process.
**Soft Skills**

Interpersonal interaction is discussed in a later section, but in terms of tangible abilities, many respondents expressed an appreciation for the usefulness of soft skills in the professional world. Table 6 provides a brief glimpse of some of the perspectives that the research subjects shared regarding soft skills.

**Table 6**

**Competencies & Skills: Soft Skills**

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fredford</td>
<td>Interview</td>
<td>In terms of soft skills that goes back to overall organization, communication, social, all of that whole well rounded picture of how you fit into a workplace as a person and what you can contribute to that company and the people around you.</td>
</tr>
<tr>
<td>Keith</td>
<td>Interview</td>
<td>I think there’s almost more soft skills than hard skills just figuring out how to talk to people and deadlines and what’s required of you even though it’s not specifically stated right.</td>
</tr>
<tr>
<td>Tony</td>
<td>Interview</td>
<td>I mean there's just a number of miscellaneous things that it taught me throughout that I can't always put into words...</td>
</tr>
<tr>
<td>Armstrong</td>
<td>Interview</td>
<td>As skill that I learned, I wouldn't have known that if I hadn't have got taken the initiative to go talk to people.</td>
</tr>
<tr>
<td>Eloise</td>
<td>Co-op Report</td>
<td>Overall, it is the non-technical things you learn that are most important. Things that affect your attitude are more important than equations and calculations.</td>
</tr>
<tr>
<td>Dan L.</td>
<td>Interview</td>
<td>You know a company is continuously going to be throwing you into a new medium...with client facing, that's nerve wracking the first couple times you do it. After that it becomes more natural and you know how to prepare better.</td>
</tr>
<tr>
<td>Caroline</td>
<td>Co-op Report</td>
<td>It has been amazing to see how my chemical engineering classes apply to industry, to develop communication and interpersonal skills, to increase my technical knowledge and application skills...</td>
</tr>
</tbody>
</table>

It can often be difficult to consistently define the term soft skills. It seems that each individual holds their own understanding of the concept. In Table 7, Fredford offered his specific view of what soft skills meant to him. He saw the idea as connected to interpersonal abilities and how one contributed to the workplace. Keith’s internship with a securities firm
gave him an appreciation for the value of soft skills over even the more technical aspects of the profession. This opinion was also supported by Eloise. Dan’s experience in interacting with clients revealed to him that soft skills were abilities that could be practiced and honed with continued experience. Once again, as participants advanced through their jobs those experiences provided an expanded knowledge base allowing the individual to continue to become increasingly proficient in that skillset. Finally, Caroline expressed her appreciation that her engineering co-op afforded her valuable technical abilities and soft skills including communications.

Value of Competencies

The final topic of discussion related to competencies and skills obtained during WIL experiences touches on the value of the abilities students earn during their work. The value to students does not only come in terms of monetary transactions, but perhaps more importantly in the doors that can be opened for students as a result of their experiences. Austin’s internship with a defense manufacturer has already served him well, as he illustrated, “Being able to talk to people about that…it really has opened doors, professionally, that would not have been opened otherwise.” James also appreciated the value that his experience brought in giving him access to new opportunities. He said that it has helped him, “because now I have experience and that’s gotten me in the door of a lot of places that I wouldn't have been able to interview with.”

Bill also felt that his prior engineering work would help advance his career. He commented that he’s gained, “a wide variety of skills that I've at least gotten to develop and I feel like that's going to greatly benefit me when I go to my first job…that I already have experienced for these skills.” Keith also told of how his internship in finance could help him break into a difficult industry. He asserted that, “The development of professional skills is definitely one of the biggest components
and also understanding the industry…You cannot break into this industry without prior
internships because academic knowledge and personal knowledge of this industry are worlds
apart.” Curtis’ also touched on how academic knowledge differed from actual work experience.
He asserted, “I think the experience is everything. There's a reason that employers look for
experience on the resume, because you learn a lot more from experience than you do from
books.”

Finding employment after graduation can be challenging. Competition can be a difficult
hurdle in securing lucrative positions for recent graduates. Fredford saw his WIL experience as
giving him an edge in the job market. “From the technical standpoint in terms of applying for
full time jobs now, it'll definitely serve me better,” he declared. According to Fredford, work
experience would help students get “higher on that rung” and could “obviously bring you closer
to whatever goal you're trying to go for.”

**Communication**

As the previous section illustrated, gains in skills were one of the primary advantages that
WIL participants took from their work experiences. Communication certainly qualifies as one
the skills that students acquired, so much so, that it warrants further examination. The
importance of communication was mentioned by a segment of the respondents. These
individuals shared examples of how they came to value and acquire useful skills in this particular
competency. The following section highlights specific elements of communication which were
shared by the WIL participants. These concepts showed how communication connects to:
gaining understanding, conflict resolution, presentation skills, and persuasiveness.

*Gaining Understanding*
“I learned better communication skills especially in situations when I needed clarification on how to complete a project, or if I needed to report the completion of a project.” Charlotte’s comments here illustrated how communication was necessary to gain understanding of an assignment or to clarify expectations from a supervisor or co-worker. During her work placements, she also began to appreciate the need for feedback from her manager. Charlotte observed that “proper communication skills” also tied “well with getting feedback.” She stated, “I was encouraged to request feedback from my manager at least every three weeks to keep me updated on my progress at the job, and to point out mistakes that need immediate correction.” Charlotte saw the value in having regular input from her supervisor, so that she could ensure clarity in the expected direction of her work. Austin also expressed that “a good coping skill for me was to go and talk to people…talking to my supervisor and getting clarification.”

One of the key aspects of communicating and understanding is certainly an ability to hear and absorb the feedback that is shared by others. Several participants presented their improved listening abilities as a result of their work experience. Mac remarked, “Listening is a large skill that's improved over the past year, and I will be able to implement it constantly. I feel as if I can now look beyond what a person is saying and see their perspective.” His comments revealed growth in his listening skills and a keen sense of how it will be helpful to him in the future. Mac now sees the importance of understanding the views of others. Gus conveyed a similar sentiment regarding his improved listening skills following his engineering internship. “I guess, I tend to listen to people more instead of cutting them off…I listen to their point of view to see how we could work together on it.”

As Mac and Gus observed, an increased appreciation for the perspective of others is a central aspect in gaining understanding as a professional. However, communication should not
flow in only one direction in order to be effective in the workplace. There needs to be a balance.

Robert experienced how information and thoughts should move in both directions. He related:

I just kind of learned to work with the people up and down the chain. You kind of have to adjust your behavior in the way you talk and understanding other people's viewpoints when you're trying to get something done. It's one thing to understand…trying to communicate my viewpoint, but trying to understand and trying to figure out a way to make the point…see eye to eye.

Robert revealed an increased appreciation for the difficulty in navigating communication methods at work, but he also showed a growth in this skillset.

ConFLICT RESOLUTION

Often times, the WIL students learned the value of communication the hard way, through examples of poor communication. Several respondents shared tales of how workplace conflicts were born of misunderstandings. Bill offered a story from his engineering internship. There were situations where he “disagreed with people that were very high above” him, and he thought that he “was right at times.” He learned that disagreements were not always personal. Bill reflected, “It taught me, even though it's frustrating, a lot of the times it's just a miscommunication and nothing more than that.”

Jennifer’s work experiences also showed her the problems that stem from miscommunication. She recalled one very frustrating incident in which she had a disagreement with an engineering manager. After being initially angry over the situation, she eventually realized the root cause of the incident:

Communication is really important…definitely communication. I would say the only kind of conflicts I had with people were just solely miscommunications. If I wasn't
working well with someone it's because we either weren't meeting enough, or we were just talking on different planes.

Faith’s accountancy internship required her to perform audits on the company’s various manufacturing facilities. This presented an environment that was poised for potential conflicts and miscommunications. She reflected on a particular audit at one of the plants in which she “felt really uncomfortable” having to deal with the situation in particular, but it turned out to be a good learning experience. Faith recalled, “We talked to the guy and it all got cleared up…if you're not careful about communicating and understanding… the way that information travels, you can create a problem.”

It is apparent from these stories that the students’ experience with miscommunication oftentimes created conflict. The tension of those situations provided the participants with a clearer conception of why effective communication is important for success in the professional world.

Presentation Skills

The necessity of strong presentation skills was another prevalent observation from several of the WIL students. Table 7 presents a summary of comments from several respondents concerning their experience in presenting in the workplace.

Table 7
Communication: Presentation Skills

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elizabeth</td>
<td>Co-op Report</td>
<td>Part of the reason I took this co-op was to practice speaking in front of people…I think I met my goal of improving my public speaking skills and improved other skills that I had not originally planned on working on.</td>
</tr>
<tr>
<td>Glenn</td>
<td>Co-op Report</td>
<td>The necessity of being organized and clear when presenting your observations and results is a skill that I have definitely improved on while working here.</td>
</tr>
<tr>
<td>Name</td>
<td>Interview</td>
<td>Statement</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Austin</td>
<td>Interview</td>
<td>I think that my presentation skills were definitely honed like they could never have been before because of that internship.</td>
</tr>
<tr>
<td>Eli</td>
<td>Interview</td>
<td>Another major thing was presentation and communication skills because for each internship, it was a little different for each company, but it always ends with a presentation on your projects...It's a really valuable skill to be able to take the actual work that you did and translate into a language that management cares about...dollars and cents.</td>
</tr>
<tr>
<td>Faith</td>
<td>Interview</td>
<td>I get stressed hives when I present. I have awful anxiety about speaking in front of people. That was really, really hard for me, but good for me as well. I think I developed speaking a little bit more eloquently, not amazing, but I felt more comfortable by the end of it.</td>
</tr>
<tr>
<td>Jack</td>
<td>Interview</td>
<td>I'm not afraid of public speaking, but it's definitely different when you're presenting to a CEO or an active president, especially when you're only 20 or 21. You're young and you're trying to definitely act super professional to present to these people. I mean it definitely did help.</td>
</tr>
<tr>
<td>Maria</td>
<td>Interview</td>
<td>I have actually never taken a public speaking class, so I think that having a very large legitimate public speaking experience was really great for me.</td>
</tr>
<tr>
<td>Sharon</td>
<td>Interview</td>
<td>I'm not a very good public speaker and I ended up having to do a presentation at the end that I really worked on. Apparently I did very, very well, so I guess I have a good work ethic. I don't know, because that's what I learned.</td>
</tr>
<tr>
<td>Sidney</td>
<td>Interview</td>
<td>I also got a lot of presenting. I did a lot of that and training and stuff, and I learned that that's something that I also thoroughly enjoy and I'm pretty good at it.</td>
</tr>
</tbody>
</table>

The preceding table demonstrates the impact that making professional presentations had on the students. For many, this experience presented an intense challenge for them. Maria shared a story as she prepared for her final internship presentation. She spent the week before the presentation stressing out and preparing. Maria’s mentor advised her that practice was important in order to “get comfortable” and “look fluid” during the presentation. The effort paid off when she “did really well” and received positive feedback afterwards.
Much like Maria, Jason’s engineering mentor at the automotive manufacturing plant also encouraged him and gave him some advice prior to his presentation. He was nervous and really wanted to impress the vice president of the organization. Jason’s manager told him to “relax” and approach the presentation more like a “one-on-one conversation.” That advice put Jason at ease and helped him do “really well” with the presentation.

Obviously, these presentations were stressful for many of the students, but they found encouragement and advice from their mentors and supervisors. They also discovered an ability within themselves to make presentations at a professional level. These comments indicated that this experience provided the students with confidence that they could carry forward and apply to future presentations in their careers. Each presentation increased their self-assurance and broadened their experience-base.

**Persuasiveness**

The increased confidence in their communication and presentation skills directly built upon a concept that several respondents identified as important. The ability to be persuasive was identified as being beneficial to professional success. Caroline wrote about this in her co-op report. She felt that in order “to be effective and add value, one must be able to accomplish tasks with the help and agreement of others.” Her work placements helped her “take more initiative, become more assertive, and communicate with others to encourage their agreement” with her efforts on projects.

Caroline experienced the need to be persuasive in order to gain buy-in to one’s proposals and projects. She learned that this required a level of confidence and adeptness in communicating with others. In her interview, Caroline once again remarked on the value of persuasion. She admitted that she did not realize “how important it is to be persuasive and to be
able to persuade someone.” Caroline saw that as a “crucial” part of leadership in that one has to be able to communicate well across departments in order to gain “buy-in” for important and necessary solutions.

Gus’s engineering internship also taught him the need to present one’s ideas in a persuasive way. He noted how patience could be a key attribute in trying to convince someone to accept your proposal.

I let them speak and then presented my viewpoint. I just tried to see if they could wrap their mind around it, and then the next day if they were the same way, I kind of said it in a different way just to see if they could understand how it might be a more beneficial way.

Gus learned the importance of reading his audience to gauge how his message was received. Measuring the effectiveness of a message is certainly an important component of successful communication.

Jennifer O. recalled a similar story during one of her internship projects. She was in charge of an ergonomic team tasked with updating information and documenting improvements. In the process she found that “one of the machine operators was just not having it. She did not want to do it.” That was a challenge for Jennifer, but she “definitely learned…you just have to communicate to them.” She explained, “if I tell her why I think we need to do it and why it’s beneficial, then hopefully she'll understand.” In the end, Jennifer was successful on the project, but “it took forever.”

The stories from these students showed how the participants came to understand the need to pay attention to your audience and to also be persistent when presenting a message. In future
challenges, these students can build on these lessons when trying to implement new ideas in their workplace.

**Responsibility**

In examining the WIL placements of the research subjects, there was a strong connection with the experience that the students gained and a better appreciation for responsibility. The projects and assignments that were given to the students afforded an opportunity for them to actually see what accountability meant in a professional environment. The relationship between the participants’ work experience and the element of responsibility consisted primarily of concepts like the promotion of learning and growth, experiencing leadership roles, handling pressure and consequences, and earning respect.

**Promoting Learning & Growth**

In relation to this topic, numerous respondents mentioned how their work responsibilities related to their growth and learning. Elizabeth completed a co-op with a global manufacturing firm and was surprised by the amount of responsibility that she was given. She marveled, “They gave the co-ops I worked with much more responsibility than any other company I have worked for, and it provided an excellent environment for co-ops to learn, grow, and thrive in.” Elizabeth observed that this particular company trusted the students enough to grant them significant levels of work even though they were still students. For the company, it provided great value to their operations, but also allowed the students to try on the role of a practicing professional.

McCharen’s co-op work within a biomedical engineering firm garnered her similar observations about her responsibilities. The engineers depended “heavily on co-ops” which gave students “the experience of being an entry level engineer and having full responsibilities for the
task” they were given. McCharen was encouraged “to explore different areas of engineering and to find something she was “interested in and go after it.” She explained, “If there is a certain type of engineering you think you might want to do, they will assign you a project with that group so you can get your toes wet and see what it is like.” Much like Elizabeth’s work placement, McCharen’s employer encouraged her to explore professional roles and some of the pathways that were available to her. Those challenging project assignments yielded invaluable insight and knowledge for her.

Sidney’s WIL experiences greatly expanded her knowledge base and gave her a chance to dive deeper into subjects of interest to her as well.

My projects have expanded from learning, to now I am taking on small portions of assignments to work independent from my mentor, and report my findings back to him.

Having extended my co-op for another term, I am grateful for the opportunity to dive even deeper to obtain that next level of granularity when it comes to manufacturing.

The ability to have extended experiential learning opportunities through WIL placements is hard to replicate in any other method of learning. Each co-op project or job rotation provided additional responsibility and expanded Sidney’s base of knowledge. Sidney observed that the job placements helped with her progression, as she stated, “accountability definitely grew and I can hold myself personally accountable.”

Handling Pressure & Consequences

With responsibility and accountability comes pressure and consequences for one’s own performance. Several respondents relayed stories about their experiences with real-world consequences associated with work assignments. For Armstrong, his internships revealed an immediacy to those benefits and repercussions. He “was a lot more careful about not making
careless mistakes on work” that he submitted. He was certain to ask others for assistance even if he “didn't think” that he “needed it.”

The difference between the consequences of work assignments in school versus projects at work, were crystallized for Curtis during his co-op rotations. He confessed, “It hits you once you get into the real world, and you have all this time-consuming work that you think you can get done at the last minute…That's not necessarily the case in the real world.” Work began to “stack up” on Curtis, and he started to understand “the consequences of that lack of time management.”

Marissa’s internship in an accounting department also demonstrated to her how the stakes between college and the professional world were quite different. She observed that professionals, “All understand the work needs to get done regardless, and you can't just turn in a little bit of something. You can't just turn in nothing. There is an expectation that you do the work.”

Prime’s experience at a major engine manufacturing facility taught him the seriousness of those professional expectations. Once he had to shut-down a production line due to a concern with a quality issue, the other employees in the facility made the consequences abundantly clear to him. Prime stated, “That was something I'll never forget. Having the production managers come up afterwards and say…You did what you had to, but you cost us a lot. Then I figured out how to not make mistakes again.” In that scenario, the mistake resulted in real dollars in lost production. An error that cost the company money. That decision reverberated throughout the organization. That is an experience that will stick with Prime throughout his career and most likely inform future decisions as well.

*Experiencing Leadership Roles*
In some of the situations involving realizations about consequences, many of the students had been given a chance to demonstrate authority or leadership. Certainly those types of roles involved accepting responsibility for decisions, but there were also other learning opportunities presented through leadership positions. The various internships that Robert completed as a business student moved him further along in his developmental process. He had “a lot of autonomy,” and he was a project leader. Those assignments required him to learn how “to keep track” of his responsibilities and to understand what those responsibilities entailed. Accepting that “accountability” definitely challenged Robert “to be more independent.”

For Robert, his experiences pushed him toward independence and with that came a sense of self confidence. Eli’s co-op employer gave him opportunities to also lead engineering projects and demonstrate leadership in that role. He denoted an increase in self-assurance. Eli initially found this leadership role “really challenging” and “sort of intimidating at first,” but he learned that he liked “getting the challenge, getting to lead, getting a chance to take responsibility for a project and see it all the way through.”

Sidney’s co-op rotations provided her with ever increasing responsibilities. As she grew in experience, her employer allowed her to lead efforts and begin to manage other’s work on projects. One assignment had her handling the Kaizen newspaper which presented her with the “challenge of managing how co-workers work through problems.” Sidney had to make sure they were “dedicating time to other’s issues,” and she also had to “act as a liaison to assist them whenever they hit a gap.”

Managing others and leading projects provided valuable spaces for these WIL students to venture into new territory and explore professional roles. This helped the individuals visualize
the actualities of professional leadership. As these students perceived, it allowed them to grow in independence and confidence as pre-professionals.

Earning Respect

“I felt much more trust from everyone.” This comment was shared by Clark regarding the responsibilities that he had during his employment. The responsibilities of workplace consequences and experiencing leadership offered several of the research subjects, like Clark, an avenue to gain respect from others. Though some of the WIL project assignments were challenging to the students, they appreciated the respect that they earned once the work was completed. Elizabeth’s unique co-op assignment while quite demanding was also very rewarding.

In spite of the frustrations that I have had to overcome during this co-op, especially in Puerto Rico, I am glad I was able to have this experience. Being a team lead was a demanding and sometimes wearisome job, but I loved it. Having people look up to me with respect and listen to me as if I was a real engineer with status in the company meant a lot to me.

Jennifer M.’s summer internship also revealed to her that she liked earning the respect of other professionals. The feeling of appreciation from her co-workers served as a point of motivation for her to continue to assume more work and succeed in her responsibilities. Jennifer learned how much she liked “earning respect because that was a big deal as an engineer.” This made her very eager to show her supervisor that she was prepared for the challenge.

Summary

The second theme of Experience and Understanding showed how these WIL students learned and developed through their work placements. This section explored the competencies
and skills gained by many of the participants. Communication was highlighted as one of the more significant benefits of the WIL experience. Finally, the responsibilities that the students were afforded were illustrated. These demands offered growth opportunities and a chance to experience leadership roles and earn respect.

**Theme III: Interpersonal Perspective**

“I believe I have gained interpersonal skills and knowledge of how to work in a corporate setting more than anything.” This was a comment provided by Caroline in her co-op report. For her, the WIL experience provided an opportunity to learn helpful engineering skills, but an essential part of her work term was learning the interpersonal perspective of the professional world. This sentiment was prevalent for many (96%) of the research subjects. Respondents often mentioned how their relationships and interactions with others were an integral part of their work experiences. The primary elements of the students’ interpersonal perspective highlighted concepts relating to relationships, collaboration and teamwork, and mentors and role models.

**Relationships**

The personal interactions that WIL students were able to experience had a lasting impact on many of the participants. A majority of the research subjects mentioned stories relating to how these relationships influenced them in their jobs, and how they felt those experiences could possibly shape their future. The students’ observations touched on how these relationships helped them assimilate and offered them support. They also spoke of their perceived importance of networking and an understanding of how to navigate professional relationships.

**Help in Assimilation**

“The people were all friendly and welcoming, and I felt as though I belonged from day one.” Elizabeth’s comments revealed how her introduction to her new work-site was aided by
the warm welcome that she received from the employees. Mac shared a similar experience, “It wasn't until I started asking about their personal lives, did I feel comfortable voicing my observations and questions.” Mac and Elizabeth learned that establishing connections with others in the office could aid in smoothing out the transition phase for new interns or co-ops. As illustrated in the previous section, interacting with others also helped in understanding and learning a process or operation in a new environment.

Austin’s ability to adjust to his co-op in an unfamiliar city was aided by an informal get together that he hosted at this apartment. He invited the other co-op students to come over and they ended up playing board games until late into the evening. He felt that it was an important bonding session for the group. Austin recalled, “I think that night really brought us pretty close together like that first week. That was pretty instrumental…That definitely made things easier to be in a new city and really, make connections and thrive.”

Fredford was very intentional in trying to establish relationships with his new co-workers as well. One thing that he tried to do was “form a little bit of a relationship with each one of them and just try to learn their names as soon as possible.” He endeavored to really “take an interest in their life and have a conversation with them.” Fredford believed that those connections really helped “the productivity of a company and the people working together.” Fredford recognized the importance of establishing a personal rapport with his co-workers. He knew that his network with others in the office enabled him to be a more effective employee when trying to get work accomplished.

For Jennifer P. the relationships she encountered in her job also provided an opportunity to meet people from different backgrounds. This opened her up to other perspectives and cultures that she would not have experienced otherwise. Jennifer P. relayed that her WIL
participation definitely opened her up “to a new culture of people.” Eventually, she became “really good friends with a lot of the people that didn't go to college or stuff like that. So, that was kind of a humbling experience.” Those interactions that Jennifer P. had with her co-workers helped her assimilate to the new environment, and it also served to broaden her perspective in general.

Validation, Support, & Respect

Previous discussions examined how WIL students were able to gain respect from their experiences in completing or leading work projects. Relationships with co-workers were also an instrumental part of earning that respect. Dan L. gained valuable insight into the association between relationships and respect for everyone in the workplace. He observed that “it takes a lot longer to build relationships” and “no matter how low on the totem pole and they're just as valuable.” He relayed a story about meeting a member of the janitorial staff during his work placement. He said, “I tried to make a point to speak to her because you just saw how many people would walk by…They just go along with their day, and she's just as important to the operation every day.” This seemed to be an important lesson that Dan L. learned not just about gaining respect but also about giving it to others.

Prime had to learn a similar lesson the hard way during his co-op rotation. He was met with suspicion by his co-workers due to the fact that his father was the former manager. He felt their suspicion and met their views by placing a chip on his shoulder. He reflected on how the experience affected his approach.

It made me appreciate being aware of other people a lot more…made me appreciate the need to respect others. Not that I ever tried to be disrespectful. More than the fact that while I was doing work, there were a lot of things I did that got viewed as disrespectful.
Being aware and figuring out …how to come across as you're helping or you're trying to help.

Curtis’ co-op experiences also taught him the value of respect, and how crucial that is to the success of an organization. He offered his thoughts on the topic, “So you're always going to have to work with and around other people. Respect breeds good working relationships, and those good relationships breed good quality work.”

While giving and earning respect were a valuable lesson for some, other relationships were crucial in helping many of the participants find support and validation in their new jobs. Elizabeth’s co-op report gushed about her views of her colleagues and the support that they offered her. She wrote about meeting many “wonderful people.” One of the most memorable was the maintenance manager. He made her feel like her opinion “truly mattered” not because she “was the project lead designated by corporate” but because she was “an intelligent engineering woman with good ideas.”

For students like Elizabeth, the positive affirmation and supporting relationships that others provide go a long way in boosting the confidence of young professionals. This helped these WIL students as they progressed through their experiences and challenges in a new workplace. Marissa’s internship in accounting offered her a very healthy and supporting setting as well. She beamed that her fellow employees, “all knew me by name even though I was an intern. They would just ask and see how it's going or if they could help with anything.” She certainly felt that she was in a climate that was conducive for learning and growing thanks to those relationships.

*Professional Relationships*
Some of the participants realized, the workplace environment can be quite distinct from campus life. The dynamics of relationships in the professional realm bears some unique qualities. Many of the respondents took note of those differences during their employment. Edward’s comments touched on this point, “It takes a different form of interaction in the workplace and with people who are older than I am. The way I interact with my college friends is not the way to interact in the professional setting.” As Edward noted, the interactions in both settings varied for him. One of the key features that he touched upon related to the generational differences that were found in the modern workplace. Today’s office environment typically consists of individuals from multiple generations. One can find Baby Boomers, Gen X’ers, and Millennials all immersed in the same office space contributing their own individual and generational peculiarities to the mix. Adam spoke of the gap between the disparate groups, “I'd say there's a big divide between, I guess…seniors in a company and I guess new employees or new members to that field.” At times that division seemed stifling or lonely to some to the students. Mac reflected on how that affected him, “I did long for more interaction with people my age. Yeah, that was true.”

Whether it is generational or just individual uniqueness, one can find wide varieties of personalities in the professional world. Keith discovered the value in observing the approach of others. He observed the importance in, “Just reading people and knowing how to interact with them. You might have ten different people in your office and you should talk to ten different people in ten different ways.” Keith realized the necessity in navigating those professional relationship for success. Other WIL participants also noted the importance of interpersonal interactions when trying to accomplish a goal.
Jason had a very straightforward viewpoint. He learned “that relationships are the grease that makes things run…Communication is key, but influence is really what gets you places.” Jason asserted that if people “know your brand and know that you'll do stuff for them” then “you can get stuff done a lot easier.” However, this type of interaction required a “tolerance for some weird stuff that happens.” Jason stated that one has to “be fake sometimes, for lack of a better word, to get influence with people.” He explained, “You've got to act like you like them sometimes even if you really don't… but it really was worth the time faking it for a little while. So, I definitely built up the bullshit meter.” Jason’s very candid comments on navigating professional interactions provided one very real approach to operations in the office. At times co-workers have to feign interest or play along with personality quirks to make progress on a project or task. For some students this was a valuable lesson and an approach that seemed like a necessary evil based on their own personality preferences.

Nadia’s work experience allowed her to see things from the opposite viewpoint than that of Jason’s. She was exposed to a peek at what it is like when people only want to interact with others in order to achieve their goals. Nadia bemoaned, “People sometimes don't care if you don't have things to offer them…If you don't have a relationship with someone to where you give each other a symbiotic type connection then people don't really care that much.” For some WIL students they viewed this dynamic as a practicality of the job while others, like Nadia, lamented the harsh reality that professional relationships presented at times.

Respondents like Jennifer M. had a more optimistic approach to relationships with co-workers. In her experience, co-workers “spend so much time together that you actually do become friends or you could become total enemies depending on who you're around.” That realization affected how Jennifer M. treated her colleagues. She chose to go the “extra mile right
off the bat”, even if others were “weirded out” by her efforts. Jennifer M. beamed, “Even if it's just that they are a little bit happier and then they treat somebody better down the line that you don't even see, then that's totally worth it. It taught me a lot about work relationships.”

Robert’s manufacturing internships provided him with experience in a variety of industries. Those positions afforded him a chance to work with many different types of people and to also live in a couple of different locations. He was able to see the inner-workings of an organization while being responsible for leading projects on a manufacturing floor. He noted the importance of political alliances in achieving success. Robert added, “Understanding the politics of working relationships and how to let people know you're on their side and how to get them on your side. It's definitely challenging, but it's fun. I enjoy it and I'm relatively good at it.”

Nicole’s internships offered her a variety of positive and negative perspectives on office politics. The events of her work placements provided her with a very pragmatic view towards the nature of professional relationships. She explained, “It taught me that you don't have to be best friends with your coworkers, but you do have to get along. You need to be cordial and set your personal emotions aside for the better of the company.”

**Networking**

While the workplace offered challenges in dealing with interpersonal connections there were undoubtedly advantages to some of those relationships. Several students expressed their views of the networking opportunities that their WIL placement provided. Jennifer P. summarized this concept best by saying, “You know, as they say, it's not the grades you make is the hands you shake.” Jennifer P. observed that the impressions that she made on other professionals could be important to how she was perceived. She also felt that making in-roads with her bosses was important but not at the expense of presenting herself authentically.
Other respondents also believed that those connections would provide great benefits in their future career pursuits. Elizabeth recognized that “A big part of co-oping is that networking experience you get, and I guess how you use them.” The ability to establish relationships with successful professionals in the industry can certainly be a boost to one’s future career. For Elizabeth, the respect that she gained from her managers might pay off in any number of ways down the road. She had people at the end of her co-op say, “You did a really great job. If you ever need anything just let me know. You have my email, you have my phone number, you can find me on LinkedIn…Stay in touch!”

Faith’s year-long accounting internship provided not only a chance to network but also to maintain those relationships. She described her experience since returning from the internship.

I did a conference with the company I worked with, and I spoke on a millennial panel at their conference and so it's opened more doors. I'm still in touch with the recruiter that comes here. You build your network and that word is like a buzzword for people my age. I'm getting to network and know people, even if it's not exactly where you want to be, it does not mean that you should not take the opportunity if it's offered.

While the potential for future benefits is a very attractive feature of networking, WIL participants are also keenly interested in obtaining job references. Several students noted the importance of having a respected professional vouch for their success during their WIL placement. In a competitive job market, these students have realized that professional references could be the differences between gainful employment and another missed opportunity. Table 8 provides a sampling of comments from research participants regarding their thoughts on gaining job references from their professional connections.

Table 8
*Relationships: Job References*
<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armstrong</td>
<td>Interview</td>
<td>The people that you work with on projects that are done successfully, those are immediately points of like networking points of networking for, for you once you leave that job, because that's a direct reference from them. If you use them as a job reference...I've also got a really good asset in him in the future if I need help getting jobs in aerospace or something like that.</td>
</tr>
<tr>
<td>Chandler</td>
<td>Interview</td>
<td>Extremely valuable...I received a letter of recommendation from our CEO bolstering or confirming what I have on my resume, and what I have for a cover letter.</td>
</tr>
<tr>
<td>Jack</td>
<td>Interview</td>
<td>Connections, just getting to talk with some of these people and then just performing well in front of them. Then them coming back to you and being like, &quot;Hey, listen. If you need a recommendation or anything like that, don't hesitate to call or if you want a job, you've got it.&quot;</td>
</tr>
<tr>
<td>Jason</td>
<td>Interview</td>
<td>I would say I got a lot of a connections and experience. I met a lot of great guys down there. I mean, I was getting handed business cards out the wazoo my last day, just like, &quot;Here, I'll be happy to be a reference.&quot; That kind of thing can...I know they're going places as well...So, I felt like I made a lot of connections that will hopefully prove beneficial to me a here in the future.</td>
</tr>
<tr>
<td>McKenzie</td>
<td>Interview</td>
<td>Making those connections is what's going to help me further down the road and it was nice being someplace where I made so many of those. I know that if I called one of them for a reference letter that they would do that for me, which is very nice and I feel like not a lot of people get that.</td>
</tr>
</tbody>
</table>

Elizabeth also spoke of how her contact in a previous internship helped her secure another WIL position at another division within the corporation. She recalled, “Even before I started, I was ahead of everyone else because they helped me already, which is kind of nice. I mean, it's not fair to everybody else, but it's nice to have those connections.” While Elizabeth might feel that the competitive advantage is unfair, it is certainly a widely accepted nature of the professional world. For students like Chandler, a letter of support from a corporate CEO could be a career boost that sets the individual off on a great career trajectory. As Jack pointed out, it
is all dependent on the student performing well in the job, so in order to receive the benefit the participant must be able to succeed in the tasks that they are given.

**Collaboration & Teamwork**

As mentioned previously, relationships and interpersonal interactions are crucial to getting things done in the workplace. Certainly, teamwork and collaboration play a key part in the daily functions of a professional environment. Navigating team dynamics can be quite a challenge for seasoned professionals, and clearly this made an impact on the WIL students in this study. Many of the interview participants mentioned some aspect of their experience with teams or collaborations with others during their work placement. More specifically, the respondents talked about developing a comfort or appreciation for work teams. They also discussed how collaboration aided in problems solving. Finally, some of the students shared how team collaborations affected their open-mindedness.

**Comfort with Work Teams**

“I got a lot more comfortable with working in groups where normally I would prefer working by myself,” admitted Armstrong. His WIL experiences exposed Armstrong to what it was like to be part of a team in a work setting. Many individuals can recall horror stories from team assignments in college, and for Armstrong, he was no different. His experience with group work in school had turned him off to collaboration. He complained, “Just from experience with group projects in college, I mean 90% of the time I did 90% of the work. That typically made me not want to work in groups.” However, working with professional engineers “made it a whole lot easier to share work and then have personal responsibility” for assignments. That allowed Armstrong to “appreciate that more” so he is “more susceptible now for working in groups.”
Eli’s co-op in the oil and gas industry required that he be involved in several project teams. Through his experiences he was able to see how a team functioned in the workplace. One specific aspect of this arrangement began to frustrate him. He expressed his difficulty when, “working with people trying to get information or get somebody to do something for you that you can't do…You can't really get them to respond…you’ve got to deal with that frustration.” Eli’s frustration from a lack of responsiveness from a team member is often a regular fact of the daily struggle in the professional world. So, not only did he learn to work and complete projects independently as a co-op, but he was then challenged with the intricacies of interacting with co-workers for a common task.

Jack was also able to take part in group work during his engineering co-ops. He was able to observe the inner-workings of those teams and the outcomes of some of those projects. Based on his observations he discerned the way that teams should and should not function. He took note of the good and the bad examples.

I'd definitely say after going through those experiences and everything, I kind of got a better understanding of what it's like to lead a group…to lead an actual team successfully. I've seen teams led poorly in my internships and just seeing projects that haven't quite lived up to their expectation. So, I've definitely learned a lot of things about being a team player, being a communicator, and then being a leader.

Jason’s WIL experience in an automotive manufacturing plant showed him the need for autonomy on his engineering projects, but when discussing the topic of independence he actually turned the discussion towards collaboration. He highlighted how he came to realize the necessity of interdependence that professionals have with one another. He observed that he “could not do everything” by himself. The plant was “just so big and massive” and there was “no way that one
person” could “do everything.” Jason had to really learn where his “job ended and where someone else's began.”

For Eli, he was still struggling with the frustration of moving from independence to interdependence with his team members. At times, that could be frustrating. For Jason, the sheer magnitude of the automotive operation made it readily apparent that the success of the organization could only be accomplished from a team standpoint. This gave Jason a greater level of understanding and appreciation for the need for collaboration professionally.

Aided Problem Solving

“You just have to find what works best, but it also shows you how much quicker you can get things done when you work with your team members.” Dan L. provided these remarks concerning his experience in working with teams during his internship. He observed that group dynamics are not always ideal, much like some of the other WIL participants. Despite the occasional friction in the team, Dan began to understand that problem solving through collaboration with others could be more effective and efficient than tackling an issue solo. Gus also struggled to overcome his own hubris working on engineering projects during his engineering internship. He saw that communication with others and a team approach was much more beneficial in addressing challenges. He recalled his experience, “Probably going back to the communication thing, just figuring that out…Asking people how they could help me do this and just overcoming my pride to get stuff done.”

Caroline had a similar story of moving towards collaboration during her co-op placement with an oil and gas corporation. She was hitting “roadblock after roadblock” at work and she finally “explained everything in detail” to her work director and another engineer. They were able to help her with the issue. Caroline remarked, “That was really nice to just see that my co-
workers cared, and how much the company cared about teamwork in general.” Caroline was used to relying on her outstanding abilities and problem solving skills, but she was able to learn the advantages of seeking assistance from a group of other professionals that could bring their experience and support to bear in the situation. Judging from her comments, she observed and appreciated the culture of teamwork that was evident within the organization.

Verne also had a positive experience while serving as part of a work group during his co-op in aerospace. He was asked to take part in a problem solving exercise that was somewhat transformational in his view of himself and where he fit into a team structure. The organization “brought in all the interns,” placed them into teams, and tasked them with developing a solution to a problem. This was one of Verne’s “favorite experiences” because he “got to work on a team.” He was able to “play a position” where he was “really contributing.” Verne was in a support role for his teammates, and he realized that he “really enjoyed it and it was very fulfilling.”

*Open-mindedness*

“Just because you have an idea and you want to do something, the way you want to do it does not mean that that's the only way”, Faith asserted. Her year-long accounting internship exposed her to numerous manufacturing facilities and a variety of cultures in each location. Faith experiences certainly provided her with a sense of open-mindedness through her collaborations. She continued, “There are so many ways to get from point A to point B that people don't realize…so being open to like when you do have people suggesting other ideas.” Faith’s group projects showed her that there are multiple ways to approach a problem. She realized that others might have differing opinions, but that those opposing ideas did not have to
be a personal attack. This presented a growth in her level of maturity and understanding that Faith could integrate and employ in her future career. She further observed:

I think just having a good mindset with the people you work with, and that just because they're not the same as you, just because I have a different opinion…It's always good to hear people out…Don't shut somebody down just because you've had problems with them in the past…You know, make an effort, regardless of whether or not you like them as a person, make it professional and hear them out if they have a good idea about something because it honestly could be a lot better than yours even if you don't like the way they conduct themselves and their personal life.

Tony also learned a great deal about being open to others’ ideas during his internship. He came to appreciate this receptive approach based on how the employees at his internship responded to him. He proposed, “Be open to new ideas.” Tony was surprised that despite the fact that he “was an intern” and “knew practically nothing” when he first started, they immediately were open to his input at work. That environment inspired Tony. He asserted, “It was like knowing that window was open to ideas is hugely important…You have so many different solutions to the same problem, so you need to listen to them all before you decide.” The open-mindedness of his co-workers and managers made an important impact on Tony. Being taken seriously as an intern, opened his eyes to the need to listen to others when working together on a project.

Charlotte’s co-op report provided a nice summary of her perspective on work teams and the skills that she picked up in her work placement.

I have learned a lot about team playing skills. Every person on a team always has something to contribute no matter how small. The best results are from great teamwork,
hence, it is important to respect and embrace team members’ ideas. This skill will help me at school because majority of my engineering classes will involve a great deal of teamwork.

The teamwork skills and openness to collaboration are lessons that she planned to apply even in her academic approach as she returned to campus. Additionally, as she continues to integrate that approach, she can also enhance her collaborative abilities with each new group project, thus creating a greater and greater team mindset as she progresses throughout her career.

**Mentors & Role Models**

In analyzing all of the WIL student interviews and co-op reports, the topic of mentors and role models was mentioned consistently. In work experiences like these, one would expect there to be a significant mention of how practicing professionals impacted the respondents during their work term. Many students discussed their thoughts and feelings about their mentors and the role that they played in the students’ development or growth. While the prevalence of this topic might not be surprising to find, it did seem important to investigate the nature of those relationships or even the lack thereof. Some of the primary elements of this subject that were discussed by respondents dealt with receiving guidance or feedback, emulating behavior, and some of the less desirable mentoring scenarios.

**Guidance & Feedback**

“I did meet some very helpful mentors while working. My immediate supervisor and the process engineer both took me under their wings and helped me out if I had any questions or needed to be pointed in the right direction on a project.” Ben’s engineering co-op job not only garnered him great technical experience, but it also exposed him to helpful mentors that offered guidance and feedback on Ben’s work. This was an experience shared by many of the research
participants. Table 9 offers a detailed view of comments that many of the students made about their mentors during their work placements.

Table 9
*Mentors & Role Models: Guidance & Feedback*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caroline</td>
<td>Interview</td>
<td>They assigned us to a mentor outside of our area actually...Someone who is in the refinery and I got to hear about some of their career path. What they wanted to do later on down the line and what they did coming in and how they learned from that experience.</td>
</tr>
<tr>
<td>Eli</td>
<td>Interview</td>
<td>Some of the younger engineers there, I would sort of ask them for advice, you know, as a young engineer in industry. They said to try different things. Don't just go do one internship and just go with it. Then you will find yourself in five years like, &quot;Is this really what I want to be doing?&quot;</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Interview</td>
<td>I really attribute a lot of my good qualities to what a good mentor I had that first time because, like I said, I'm not very confident. I would go and I would have a problem and I would just call him...and he was really good about like building my confidence and helping me out. So, it's good to have good mentors.</td>
</tr>
<tr>
<td>Jason</td>
<td>Interview</td>
<td>My manager is like, &quot;You're gonna drown if you keep doing this, just don't drink from the fire hydrant!&quot; That was something else that stuck with me. There is no need to just squeeze it so hard to. I would not have had as much fun as I did if I had just overstressed about it.</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>Interview</td>
<td>But my peer mentor...it was the best experience. He knew so much. I just learned so much from him and anytime I had a question he was so helpful. It was just great that I found a mentor...but just that he was willing to help me and he was so down to earth and anytime I had a question or he just told me life advice too, which was great.</td>
</tr>
<tr>
<td>Jennifer P.</td>
<td>Interview</td>
<td>Getting a lot of feedback from them on how I performed in like constructive criticism gave me a lot of confidence because it showed that they believed in me, so obviously I need to believe in myself.</td>
</tr>
<tr>
<td>Mac</td>
<td>Interview</td>
<td>There was a one time where my boss sat me down and said, &quot;Mac scheduled hours are 8:00 to 5:00, not 9:00 to 6:00. You need to come in on time.&quot; I was like, &quot;But, no one is waiting for my stuff.&quot; He was like, &quot;It doesn't matter. Those are your hours. It's a good thing your an intern because this is a learning experience.&quot;</td>
</tr>
<tr>
<td>Name</td>
<td>Type</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>---------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Marissa</td>
<td>Interview</td>
<td>They didn't just give me an assignment and say, &quot;Oh, here now you get to work on this and no one's going to help you.&quot; It was, everyone was willing to help. I was assigned a specific mentor, but I feel like a lot of the other people in my department were also mentors in a way that they helped me work through projects.</td>
</tr>
<tr>
<td>McCharen</td>
<td>Co-op Report</td>
<td>They taught me to be resilient, never give up and that you’re smart than you think. It’s good to share your thoughts so speak up more.</td>
</tr>
<tr>
<td>McKenzie</td>
<td>Interview</td>
<td>He was the person that the business, sales reps would come in and take him out to lunch and stuff, so sometimes he'd let me tag along. It was fun to just like observe that because that was kind of what turned me on to the more business side, because he was doing both, you know...So, it was cool being his little sidekick.</td>
</tr>
<tr>
<td>Nicole</td>
<td>Interview</td>
<td>It was one of my mentor, she was the director of logistics, and she called me into her office and was like, &quot;Ashley, I think you've done a great job and I really enjoyed you working here, but I want you to in the future be more assertive and not be so sweet because you're smart and you do a good job and need to recognize that.&quot;</td>
</tr>
<tr>
<td>Penn</td>
<td>Co-op Report</td>
<td>He pointed me in the right direction and explained many things to me that I had no prior experience doing. He was instrumental in making sure that I had a pleasant and successful work experience.</td>
</tr>
<tr>
<td>Sidney</td>
<td>Co-op Report</td>
<td>My mentor has really been pushing me to use my broad range of engineering skills as well as pull from my business tool book. I have gained a deeper understanding of the products we are working with, which has also allowed me to be more of an active participant in meetings as well as events.</td>
</tr>
<tr>
<td>Stuart</td>
<td>Co-op Report</td>
<td>I have received plenty of guidance from a variety of people around the office over the last few months. While I do have confidence in my own opinions and knowledge...Sometimes when I get to a dead-end with my project I go to my boss or to our supply chain manager to receive direction on what the next step is. They've been very helpful and patient with me which has made this project much more manageable.</td>
</tr>
</tbody>
</table>

These quotes from the participants revealed the variety of ways that mentors influenced and assisted the WIL students in the workplace. In some instances advice was useful for technical issues or sometimes the guidance was directed at professionalism. Instilling confidence was a commonly mentioned element as well. Caroline’s observations touched on...
these various aspects of advice that she received. Along the way, she “had multiple helpful mentors.” They assisted her “by suggesting more resources to help with” her projects while encouraging her “to participate in events or set up time with others to learn more about people’s roles in the company.” They also inspired her “to be assertive and not be afraid to take initiative.”

Problem solving techniques were another common area of guidance from mentors. Christian’s engineering mentor gave him direction on addressing issues. He taught Christian “to have a proposed solution before just bringing up a problem.” Another engineering mentor instructed Christian on the “importance of recording information.”

Edward wrote in his co-op report about the problem solving advice that he absorbed from his mentor.

My boss was patient and let me try to work it out. He then would show me an easier way to do something. He helped me learn that the answer to a problem does not have to be a crazy device, and rather, the easier that the design is, the easier it will be for a worker to use it. As I have gotten more projects, I have been taking a much more relaxed approach to the concept design of projects, and I have gotten more realistic ideas out on the table.

*Emulating Role Models*

“I noticed this mentorship with other employees as well. The collaborative environment helped the pulp mill succeed as a whole. I also witnessed different leadership styles.” Jennifer O.’s comments touched on the next topic related to mentoring. Many of the positive mentoring examples that students shared were from less intentional methods, and came more through observations. Often times instead of the mentors directly telling the WIL students what to do, there were many occasions where the participants saw certain behaviors that they wanted to
emulate. As Jennifer O. mentioned, leadership and management styles were one of the more often cited areas where the WIL participants observed behaviors of their mentors or role-models. She “got to see a lot of leaders and how people handle themselves in situations, so that was really important.” She observed “how different people learned” and “how a good meeting should run.”

Calvin also “got to contrast the managing style” of his previous boss and his new supervisor. He noted that “each brought unique elements to the workplace.” One employed a “hands on” approach, while the other “was a more traditional boss.” Calvin “learned a lot about overcoming disagreements and tackling problems by watching the way” they handled situations that arose. Calvin asserted, “Personally, the most important lessons I learned this semester apply less to making plastic specifically and more to being a good employee and a good boss, both of which I hope to do one day.”

McCharen also was able to observe a variety of management styles. She got a varied view “of different kinds of techniques of how to manage people.” McCharen observed that the managers that were focused on team building “seemed better.” She observed one of the managers that seemed to have qualities similar to her own. McCharen commented, “She was very quiet person but got all of her work done…That kind of made me see that you can still…have that quiet confidence and be respected instead of just kind of being loud and in everyone's face.”

Many of the WIL students watched their managers or mentors to see how they conducted themselves, and how they motivated others. In many cases, the students noticed not only management styles, but also different approaches to being a leader. Jennifer P. touched on her experience. She saw many different leaders in a variety of positions throughout her experience, and she “put all of them like up on a pedestal.” She used them as “role models and they do really
well by being a people person yet being professional and I guess just leading people.” Jennifer P. talked about putting some of her leaders “up on a pedestal.” Her comments displayed a good deal of respect and reverence that she held for those individuals.

Those examples not only impacted students’ thoughts on leadership, but also some of their observations on personal conduct and work-life balance. Dan L. shared his insight from watching several leaders during his work placement. He found it a lot easier to “look upwards” to see those examples, and how they conducted themselves and to “see how they interact with their family while they’re working.” It showed Dan that he “didn't want to be a workaholic,” and that he “really values family time.” Dan L. realized that he could look “upwards” and see leaders that he wanted to emulate in a variety of ways. This concept of emulation was a topic repeated by numerous respondents throughout their reflections.

Austin discussed a manager that influenced him in a similar way. He noted, “So, that he said has helped him succeed the most in life. And I really wanted to emulate that.” Austin observed how the manager treated others and conducted himself at work and this example certainly was impactful. Nick also offered his thoughts regarding a strong role model that he had during his internship. He added, “Having the respect of your team, whichever way you go about it, I think it's something that is critical and something that I definitely want to emulate from her.”

An analysis of the student comments provided here indicated how influential those mentors were for the WIL students during their work. Many of those lessons were taken-to-heart by the participants and integrated into work assignments. It also appeared that those lessons and examples could continue to influence the students’ professional careers in the future.

*Lack of Mentors or Poor Examples*
While the previous sections illustrated wonderful examples of mentorship and guidance for WIL students, what happens when things do not go so well? Unfortunately, not all respondents had the same level of support. In some cases, there was no mentor present to guide the student through their work experience. Perhaps even worse, the mentor or role model that was in place was a very poor example for the participant to emulate. While 55% of respondents shared positive stories about their mentors, 26% offered examples that were not as encouraging. The following table (Table 10) highlights specific concerns that students provided regarding mentors or managers during their WIL experience.

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christian</td>
<td>Co-op Report</td>
<td>There were problems where I was confused which boss to report to, and none of those bosses were in town. I would have also liked my project to have been ready for me before I got into New Jersey. It was a whole week before they knew what to assign me to.</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Co-op Report</td>
<td>The company could greatly improve their co-op program by assigning the co-ops' supervisors or managers more closely related to their projects. Mine barely had a clue what EAM was, which made it hard to work with him at times.</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>Co-op Report</td>
<td>I basically worked with my peer mentor for everything and only saw him in meetings. He would occasionally ask me to do things, but for the most part, I did not work with him. As a recommendation, I would have appreciated weekly or bi-weekly meetings with my supervisor just to update him on what I was working on. I also would have appreciated him giving me at least one project.</td>
</tr>
<tr>
<td>Keith</td>
<td>Interview</td>
<td>Just poor leadership within the company...I mean if the director just laughs in your face and says that business school is not the way to go then that's going to go down through the ranks. That was one of the main reasons I was not interested in staying at the firm. Even the CEO is kind of a rash person.</td>
</tr>
<tr>
<td>Marissa</td>
<td>Interview</td>
<td>There were some people that were above me that I didn't have a lot of respect for in how they treated people sometimes...Some of the things they would say or how they would act, I think, came across more callous and maybe they</td>
</tr>
</tbody>
</table>
just didn’t understand how they were speaking was how it was coming off.

<table>
<thead>
<tr>
<th>Name</th>
<th>Type</th>
<th>Quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCharen</td>
<td>Interview</td>
<td>I don’t know why our manager doesn’t incorporate team building a little bit more into this because we kind of felt like orphans for a little bit.</td>
</tr>
<tr>
<td>Rico</td>
<td>Interview</td>
<td>His relationships with the direct reports were very fierce and competitive, you know, everybody was...They were aware that he could rip you to shreds at any point and you had to prepare for it. You stayed on your toes.</td>
</tr>
<tr>
<td>Sidney</td>
<td>Co-op Report</td>
<td>While I’ve had many positive experiences here at my co-op, I will say my most negative experience has been working with my mentor. It’s in my opinion that he is not adequate in handling students, and shouldn’t be allowed to mentor others, as he’s quick to point out flaws and make large assumptions about ones. He doesn’t demonstrate professionalism and is extremely rigid in nature.</td>
</tr>
<tr>
<td>Tony</td>
<td>Interview</td>
<td>I noticed that annoyance was a major problem in the higher ups was that they tended to get annoyed very quickly and easily because there were a lot of repetitive problems. Those repetitive problems got on their nerves a lot because they kept telling them about them and then they wouldn’t do it. I’m like, you know, if it’s not working the way you’re doing then you should try to something different.</td>
</tr>
<tr>
<td>Verne</td>
<td>Interview</td>
<td>Me and the other intern talked about how we never really felt we had direction or anything. At the end of it the program manager came in and asked us our thoughts on the internship. We pitched that maybe it would be helpful to have it be a little bit more structured and maybe present problems for projects earlier on. At that point he basically doubled down on what they did and said, “I don’t like when people do structured internships. I don’t think you get a lot of value out of it.” So, we definitely had a bad taste in her mouth to begin that meeting. And to have it finish that way, it was really difficult.</td>
</tr>
</tbody>
</table>

When reviewing the comments, a few specific issues arose. In some cases, like that of Christian, Verne, or Jennifer O., there was confusion, disorganization, or a lack of direction from the mentor. Not surprisingly, this seemed to be frustrating for the participants. Like most individuals, many of the WIL students appeared to have preferred guidance, and appreciated feedback so that they would be clear on expectations and performance.
Other examples like those of Sidney, Rico, Keith, and Marissa, offered a glimpse of leaders performing poorly and modeling bad behavior as a leader. In some cases like that of Keith, the manager was dismissive, or in Rico’s situation, the leader was essentially ruling by fear. Interestingly, the students seemed to have noted this instinctually. Perhaps when role models behave so poorly that they defy the bounds of common decency then there is no denying the innate sense that something is amiss. Tony’s comments provided one with hope that the students in these circumstances could learn from even the worst of examples, and apply a better approach than what they saw modeled in those cases.

**Summary**

The third theme covers the topic of *Interpersonal Perspective*. The analysis of the data sources revealed issues that students experienced in the WIL placement in regard to interactions with others. The elements discussed in this theme touched upon relationships with co-workers during the participants’ work placement. The lessons and benefits of collaboration and teamwork were also delineated. Finally, the critical influence of WIL mentors and role models was examined as well.

**Theme IV: Personal Identity**

One’s sense of self or personal identity is a complex creation developed over the course of one’s lifespan. This concept of individual identity is influenced by a multitude of experiences and factors. The experiences and perspectives that students obtain through WIL programs can have a lasting impact on an individual’s personal development. The fourth theme that was illuminated by the research findings touched on the concept of *Personal Identity*. One of the primary elements in this theme explored maturity gains that were observed by participants. In
addition, WIL programs provided students with a deeper level of self-awareness. Finally, self-confidence is presented as another aspect of personal growth during these work placements.

**Independence**

“I think one of the biggest challenges I had during this co-op was not necessarily a work challenge but more of a personal challenge.” McCharen’s comments on her engineering work placements revealed that WIL experiences not only provided participants with professional knowledge, but they also presented opportunities for personal growth. Undertaking a new job and perhaps moving to a new city certainly challenged student’s habits, beliefs, and coping skills. The following sections present several elements of data that were shown to connect to independence. Students revealed thoughts on: maturity, “adulting,” and self-motivation.

**Maturity**

Issues relating to maturity were one of the more common elements of WIL experiences that students highlighted. Several respondents offered comments or writings that delved into the subject. Mac’s reflections from his co-op report offered his thoughts on how his co-op placement affected his own maturity level. He wrote, “The internship has challenged my discipline, schedule, and morals. In it I have seen failure, error, and many small triumphs. I have matured an incredible amount over the past year, preparing me for my future career.” Mac’s comments illustrated how challenges and successes influenced his growth.

Rico’s accounting internship was also rewarding and eventually it revealed to him the demands of the professional life required some personal changes. He realized that he had a lot of “growing up to do.” That was “apparent” to him after his work placement. Rico began to understand that it took a “commitment outside of work so that you are your best self when you're working.” He also learned that “eight hours of sleep is important.”
Maria’s comments about handling difficult issues at work also hinted at her growth in emotional maturity. She remarked, “It taught me that they're important and that you should definitely feel them, but you can't put it in front of your work. So, no matter how you're feeling, you still have to just get your work done.” Her words invoked a sense of understanding and accountability for one’s personal conduct and the influence that it can have on professional success.

Nick’s business internship abroad also helped him make the connection between maturity and accountability. He reflected on the benefits of his work as, “Just the maturity aspect I think is pretty big too…like not specifically from taking any skills learned in the internship, but from having that responsibility. It just made me more aware and made me more mature.”

For Jack, his engineering work experience placed him in an environment with co-workers that were older than him. Their advanced maturity level seemed to have worn off on him. I would definitely say it matured me because…I’ve always been more mature than most people my age, but after going into a professional experience with people who are in their forties, fifties, sixties, and getting to talk with them about their experiences and things like that, I'd definitely come out with a different viewpoint of what it means to really be more mature and how it looks to act more like an adult and everything. So, it definitely helped. I would say it definitely helped me grow more as an adult, as a man and everything.

Frank’s summer internship was often hectic and fast-paced. The demands of this environment fostered additional growth and motivation for him as he returned to school and prepared for his future. The experience made him “grow up.” He explained, “That's the simplest answer…You have to grow up in those situations or fail. So, I grew up.”
“Adulting”

Typically for many college students, arriving on a college campus is the first time for a student to be fully immersed in their own environment without the presence of their parents. Quite often, that can be a challenge in adjusting. Normally, the campus living arrangements for those students involves a roommate. For a WIL participant, work placements required stepping even further away from campus support groups and friend-networks. Several research participants remarked on the challenges or opportunities that those situations involved. Table 11 provides descriptive comments about their thoughts and feelings while living away from campus during their WIL placements. These comments touched on a variety of issues that occurred as many of the respondents were faced with accepting responsibilities that they had not undertaken on their own before.

Table 11
*Independence: “Adulting”*

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caroline</td>
<td>Interview</td>
<td>I’m terms of personal growth...It was definitely different living in a city in which I did not know anybody else really. So, for that it was pretty much like becoming an adult, living on my own, and dealing with that. That was, I guess, the personal side of learnings from the internship.</td>
</tr>
<tr>
<td>Elizabeth</td>
<td>Interview</td>
<td>I was away from my security blanket...Consistently for all of my co-ops I have had horrific, catastrophic car problems that I've had to learn to deal with by myself because usually I break down on the side of the road and I call my dad crying...but whenever you're in Kentucky you can't really say, &quot;Hey dad, I've got a flat tire.&quot; You do it yourself...So just the experience I guess, and traveling was nice getting that independence and learning to do stuff by myself.</td>
</tr>
<tr>
<td>Hank</td>
<td>Interview</td>
<td>Well, it was probably the first time I really lived on my own. I mean, college you don't really live on your own because you have roommates...but it was probably the first time I was really on my own and had to get my work done...just learning how to manage money a lot more on my own. The first time I was financially independent too.</td>
</tr>
</tbody>
</table>
Jennifer O.  Interview  I learned a lot....I'd never been to Arizona. I've never really been to South Carolina...It's very different to live on your own versus in a dorm...I'm from is pretty small town and then I ended up in Tucson...so I think I learned a lot just living on my own and what I choose to do with my time.

Jennifer P.  Interview  I had never been to the city, Pueblo, that I lived in. I just showed up there in May with all of my belongings and ended up having the best summer of my life. I think it's definitely gonna be a trend in my life. I plan on moving around a lot...wherever my company chooses to send me. I think that's the best way to get to the top...I'm definitely becoming really independent.

Mac  Interview  So in terms of what is adulting, still not a clue, no freaking idea. what it did help though is that I turned 21 at the beginning of the internship and throughout the year I started being more independent on what I do with my free time...So, I guess being independent in a place you don't really know...That was cool.

Maria  Interview  Personally, I think it was a bit stunted this summer because I was only in Memphis and all my friends were here. I would end up coming back a lot of weekends and I think if I go back next summer I won't do that. I'll try and stay there and like be present in Memphis.

Marissa  Interview  I think for me, there's always been some sense of control from my parents over me because of strictly a financial basis...So, the sense of independence I got from this internship was almost entirely around being financially independent and even though that might not seem huge and you know, money comes and goes, but the amount of self confidence that I got from being able to earn my own money and spend it in ways that I thought were valuable was huge.

McCharen  Interview  Moving across the country was kind of a big deal, you know? It was the best experience I could've asked for, but it was really challenging to be three time zones behind my mom...definitely learned a lot of independence...about dealing with stuff at work, making new friends, going out and having a social life with a ton of people you don't know...learning a lot of independence and confidence from that was different and it's just being thrown into the sharks, going out there, and knowing no one.

McKenzie  Interview  Living on my own was...it was a new experience, you know, going to dinner by yourself, going shopping by yourself...stuff like that.
Nick Interview I didn’t know a single person when I went to Singapore and I’ve never been to Asia. So that was completely wild to me. Just being there pretty much by myself at first, my parents helped me move in the first week, but that was it. After the weekend, I was on my own...I’m not going to have a problem being on my own after this because I was pretty much thrown on my own for this whole six months while I was there.

Penn Interview I had trouble with was I guess getting to work on time because...I've never had that far of a distance to travel every morning. I've never lived in a city that big...So it was always a variable for me.

Rico Interview Well, obviously the living situation was a huge test...So, that was a literal independence there. I was making very good money too, so I had to learn to manage that, which I did, which was good... It was my first real experience of living on my own independently...I mean it was truly like I have home and then I have work and then that's pretty much it.

Sidney Interview I've always been pretty independent, but it definitely helped me with school. Your schedule kind of flexes between what you do. It was super nice for me to have an 8:00 to 5:00 job. I love my parents but I didn't have to rely on them for anything, so it definitely helps with management of time.

James’ co-op experience with a global electronics manufacturer challenged him in ways that he had not anticipated even outside of his work assignments. In fact, those assignments took him to places he had never been before, literally. For example, he got to travel internationally. James described the benefit of those challenges:

I'd never booked a hotel before. I'd never booked a flight for myself before. Those things were all first for me and now I'm paying bills and just a lot of good life skills to have later down the road. I feel a lot more prepared for a real job than I did before. Now, I feel like I am actually ready to go out and be on my own.

The sentiments shared by James were a good representation of the experiences that many of the participants had while they were in the WIL program. James was faced with taking on responsibilities that were typically left to his parents. He had to pay his own bills. Like James,
students like Marissa and Hank spoke about being able to manage their own finances for the first time. Travel was often a new adventure for many of the respondents. James was tasked with going to a foreign country for his project, which brought in an element of international travel. Nick was also required to not only travel abroad but to live there for several months. As he mentioned, his parents helped him move, but after that he was on his own. From reading his comments, one could detect a new level of self-confidence from thriving in that experience. Other students like McCharen, Jennifer O., and Elizabeth talked about being away from their homes and families. McCharen and Jennifer O. moved across the country and had to adjust to the idea of being so far removed. Elizabeth discussed the difficulties of dealing with emergencies by herself when there were no parents close by to rush to her aid.

Not all of the students felt like they had acquired new “adulting” skills. Mac and Maria seemed to regret not being pushed or challenged more from an independence standpoint while they were in their WIL placement. Each case was unique based on the student and the circumstances. For some, it felt like a missed opportunity to grow. For many, it was an experience that pushed the participants outside of their comfort zones toward a greater level of independence.

Self-Motivation

“I think all of my internships have been fortunately moments of growth and they developed one after the other. So, I think it's been kind of movement, maybe. Now, I feel very much like self-driven.” Dan B. completed several internships at a variety of locations. In reading his interview transcript, one could see that his experiences ranged from fulfilling to disappointing. At times, he was engaged in his work, and at other points he was uninterested. However, Dan B.’s comments revealed a student whose experiences provided a chance for
reflection and growth in terms of self-motivation. WIL programs offer a chance to gain more personal independence outside of the workplace, and those lessons can translate to how students approach their jobs.

While living on her own required an increase in self-sufficiency, by Caroline’s second co-op rotation she was employing her new-found maturity in her project work. In her assignments she “had to become self-sufficient in order to get things done.” She learned how to manage her own workload. Caroline began keeping “a worklist to make sure” that she was managing all of her time. She had to evaluate available resources, and she learned to ask questions or seek advice when necessary. That helped her “become a little bit more independent in some things.” During Caroline’s second co-op rotation with the same company, they began giving her more freedom, and she felt more prepared to self-manage her work.

Curtis also completed multiple co-op placements which provided him with gains in independence that reflected in his ability to self-manage his workload also. He noticed “a definite independence thing there, and also kind of the time management thing.” Curtis understood that “now, you’re responsible for yourself…get it done.” He acquired the skills to manage himself while “being independent and making sure” that he put forth the time and the effort to “stay on task.”

Armstrong took part in engineering internships at two different manufacturers. He learned an approach to taking initiative in regard to his projects. Waiting for “work to fall in my lap” was revealed to be a poor approach for Armstrong. In the “latter parts of both internships,” he became familiar with places that he could go to proactively find assignments and work that needed to be addressed.
Eli was another respondent that finished multiple engineering co-op rotations. While he learned that there were times to ask questions, he also realized that some work assignments required self-learning in order to find a solution. Eli employed a good deal of “self-learning” on how to “approach problems, how to use the tools, how to understand…what was going on in the process.” He noted that “it's important to ask people for help in an internship, but it's also a really valuable skill to learn how to independently ask the right questions…you sort of have to work through on your own some things.” Eli found that it was really important to understand issues “on a personal level,” and to engage in “self-learning” in order to grow individually and professionally.

Faith’s year-long internship in accounting required her to apply her principles of personal independence to work assignments. This meant that Faith and her work partner had to become self-directed in a sense. She recalled:

We did have to do a lot of stuff ourselves…They really did push us to figure it out…and it was good because I felt like we did have a couple of weeks of like, “What do we do?” Once we got on a good track, it felt better and I feel like the better we were producing…They definitely gave us more and more freedom as we went along…they did challenge us to be very independent.

As many students learn in the transition to college and adulthood, independence can be a mixed blessing. Often, adjusting to new-found freedom can be overwhelming and hard to handle at times. In those situations, it can become crucial to acquire a measure of self-discipline. McCharen’s WIL placements imparted to her the need for discipline in her personal life and also in her work. Her work terms underscored the importance of “being disciplined” and
“establishing deadlines.” She also developed a deeper grasp of her “own time management strengths and weaknesses.”

Like McCharen, many of the research participants gained a better understanding of independence through the challenges of work and also living on their own. These experiences provided students with lessons in self-motivation and taking the initiative to achieve success in their work assignments.

**Self-Awareness**

As the previous section illustrated, challenges of independence can lead to personal growth in a number of ways. These types of experiences offer students insight into specific aspects of their personal identity. Accomplishments or even failure in WIL programs can reveal valuable understanding about one’s own nature. This type of self-awareness was another key element that was uncovered through the analysis of the research data. Many of the participants discussed aspects of their WIL experience that indicated a deeper understanding of themselves. In particular, concepts relating to personal priorities, strengths, and weaknesses were observed as important topics perceived by the respondents.

**Priorities**

“I came out of that year probably with the most self-awareness I think of any other year I've had,” said Mac. His year-long engineering co-op with an electronics manufacturer offered him time to reflect of himself and his pathway in life. Like Mac, several of the students reflected on how their WIL placement affected their thoughts on issues such as work-life balance and other priorities that were important to the participants.

Verne’s interview revealed his reflections on his personal and professional priorities which were clarified during his co-op placement. His work term helped him understand that
there were “two desires” in him. Verne shared, “One is to be put in positions where I am the fall
man and two is an aversion to risk and failure, and so, as these two battle out.” Personally, his
WIL participation helped him to realize and re-evaluate what he found “most important” and
where Verne was going to “find the most worth” out of his experiences. He recalled, “I think it
has definitely just kind of led me to have a lot of introspection about who I am and what I want.”

Like Verne, Eli’s engineering co-op experiences offered him a glimpse into the world of
work, and he realized how his career ranked in his set of personal priorities. “I guess another one
of my takeaways is that I value life outside of work, work-life balance… I want a challenge at
work, but when the workday's over, I want to be able to go home and enjoy it.”

McCharen’s experience also showed her the importance of balance, and how that could
affect one’s success but also impact their physical health. She observed, “I'm very bad at
overworking myself…skipping lunch is not a good thing…I definitely realized the importance of
taking a break from work, and that you don't have to push yourself to the breaking point.”

Faith was almost surprised by what her accountancy internship revealed to her on a
personal level. She gained a deeper appreciation for how she valued her connection with her
family and friends.

I thought that I was a lot stronger than I was. I think traveling a lot like made me miss
my friends and family so much more than I thought I would…I think that taught me a lot
about like deep-down I actually do care a lot more than maybe I thought that I did.

Sidney’s co-op placements allowed her a chance to get involved with youth sports and
other community activities during her time away from campus. This was a practice that she
wanted to continue in the future. She was able to “coach a lot of soccer which was so much
fun.” Sidney also got involved in the community and that was something she “enjoyed” and
“brought back” with her after her WIL placements. “I kind of always just did school and that was enough, but I've learned that I have a lot of fun doing other things. So I've joined a couple of organizations on campus since I've been back,” said Sidney.

Nicole’s observations from her internships involved another important personal lesson. She had difficulties and a few conflicts during her work-terms. Those conflicts showed her that it was important to stand up for herself and speak out for what she wanted.

I learned that the biggest takeaway was that I can't apologize for everything I do. I need to take ownership for my actions and stop trying to be too sweet. I think I learned that people don't always look out for what's best for me. People look out for what's best for themselves.

Unfortunately, at times WIL placements revealed the harsh realities of the world to students. Sometimes the lessons learned were painful and other times they were enlightening. Hopefully for these students, their experiences were empowering for them on their journey of self-awareness.

Strengths & Weaknesses

“I have found this semester to be full of learning opportunities and growth both professionally and personally…I will continue to work to improve myself by identifying my weaknesses and working to overcome them with my strengths.” This excerpt came from Calvin’s co-op report. His reflection on his experience during work exposed him to his strengths and his weaknesses. This was a similar situation lived out by many of the research participants. Table 12 offers a snapshot of insights that students shared about their own strengths and weaknesses.

Table 12
Self-Awareness: Strengths & Weaknesses
<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armstrong</td>
<td>Interview</td>
<td>I am the most lazy when I do not have direct work to do it. There were some times where...I was waiting on another department to provide me the material I needed to continue my project, and so I would sit there.</td>
</tr>
<tr>
<td>Bill</td>
<td>Interview</td>
<td>It also showed me some things that I'm not as strong at, but the good thing is now I'm in school so I still have a little bit of time to work on that before I go out into the real world.</td>
</tr>
<tr>
<td>Caroline</td>
<td>Interview</td>
<td>I'm very hesitant to ask questions at first and I think my personality is to where I sit back and listen.  I try to absorb everything before I give an answer or having relevant questions...I'm still trying to improve upon...leadership and efficiency. I noticed that a lot of the successful engineers, they show strong leadership...I'm trying to gain those skills on my own as well. And then efficiency, I tend to take a longer time on some of the assignments...So that's something that I've been working to improve on lately.</td>
</tr>
<tr>
<td>Chandler</td>
<td>Interview</td>
<td>I do have strong skills with just talking to people...being able to talk to a brick wall the CEO said...I don't think it developed that more than just showed me what I had</td>
</tr>
<tr>
<td>Curtis</td>
<td>Interview</td>
<td>I learned about myself looking deep here that I have a lot of room to grow in like time management and organization that hit me hard...I realized that I wasn't necessarily there...I think it highlighted some of my strengths for sure and seeing what I'm good at...I see myself having good problem solving skills.</td>
</tr>
<tr>
<td>Dan B.</td>
<td>Interview</td>
<td>I don't think I'm really good at pushing. I feel like I'm not good at pushing myself.</td>
</tr>
<tr>
<td>Jennifer P.</td>
<td>Interview</td>
<td>I feel like I've become a lot more outgoing and I've learned that I can pretty much connect with most people...I've definitely noticed that I can be lazy at sometimes and then be really into it at other times. But it's just kind of like all about the motivation</td>
</tr>
<tr>
<td>Keith</td>
<td>Interview</td>
<td>I learned feedback things that I need work on. As far as when I started the internship, I needed to work on communication. Towards the end I think that I got that one down.</td>
</tr>
<tr>
<td>Mac</td>
<td>Co-op Report</td>
<td>We often are not who we believe ourselves to be, and need constant opportunities to live up to our own expectations. Everybody is faced with laziness, and it is a constant struggle to deny the temptation to accept poor quality, deny extra work, or promote mediocrity.</td>
</tr>
<tr>
<td>Nadia</td>
<td>Interview</td>
<td>So I feel like I learned about myself that I have to be more open to doing things that I'm not used to...I feel like I always have to be like on the edge of figuring out what I should be doing to maximize my time</td>
</tr>
</tbody>
</table>

209
<table>
<thead>
<tr>
<th>Prime Interview</th>
<th>The internships have definitely made me realize that that is the kind of person that I am. I love new challenges, and as soon as they become stale, it's hard for me to stay locked in and stay focused.</th>
</tr>
</thead>
</table>

I had no idea how to do this statistical analysis that they were working on. I didn't understand how to do the gauge R and R's. I didn't understand what a production part approval process was. I didn't understand any of these things. I had a lot of learning to do in tolerancing.

Through these observations, students were able to identify areas of concern and then they found ways to address weaknesses and build on their strengths as well. Often, the respondents developed very specific plans of action to alleviate the concerns that they discovered. Calvin wrote in his co-op report, “To mitigate these personal failings, I have created reminders to keep myself on topic.” Specifically, he began using “notes and timers” to keep himself “focused on the project” that he was working on “during certain parts of the day.” Calvin viewed his co-op as a “success” as a result of the observations that he had about his own strengths and weaknesses. He wrote, “I have learned a great deal about myself, engineering, and working in industry. These lessons will help as I move forward into my schooling and future career.”

While WIL programs offered challenges that brought success and failure, those events provided students with an important self-awareness. It revealed who they were in some sense by highlighting their abilities and their frailties. A solid awareness of oneself can provide an invaluable perspective, as Sidney expressed in her co-op report. She asserted that given the opportunity to “redo” her work experience, Sidney “wouldn’t change a thing.” She wrote, “All the events that I have been a part of…they have all had a positive impact on my future...I have gained so much insight to the type of person I am and want to be professionally.”

*Self-Confidence*
A thorough understanding of oneself is an important step in the process of gaining self-confidence. As a WIL student, having success in the working world could certainly boost self-assurance and affirms one’s abilities. A majority of the students shared comments related to the subject of self-confidence and their perception of how that was connected to or affected by their work placements. In reviewing the data sources, several elements were apparent, such as: “measuring up,” a sense of accomplishment, and a sense of direction.

“Measuring Up”

Being thrown into a new environment can be a challenge for anyone, but for WIL students who are taking their first few steps into the professional environment this experience can make one feel a bit self-conscious. Fears begin to creep in to one’s mind causing one to doubt their own abilities. Students might start to question whether or not they belong in the workplace and compare themselves to their peers or others around them. Many times, WIL participants feel that they do not quite measure-up to their fellow co-ops or interns. Thankfully, in many cases students find success in their work placements and begin to feel assured that they can compete with others. Austin shared his experience with this after coming “from a small high school.” He realized that he could compete, and eventually, Austin considered himself in the “cream-of-the-crop” of the group of interns with which he worked. He asserted, “it really sort of put it in perspective to me…I know that I can get into industry and just perform and do a great job with whatever role I'm given. So, it made me feel comfortable about my future.”

Hank completed a very competitive engineering internship experience with an innovative company in automobile manufacturing. Ultimately, his success in his work led to gains in confidence as well. Hank commented, “I know I can work for a company of that caliber now and not be scared that I didn't go to Harvard engineering school or whatever…It definitely is a
big confidence booster.” Jack’s co-op rotations also provided him with a measure of self-assurance, and seemed to amaze himself at how far he had progressed. He declared, “it kind of gave me confidence both personally and professionally…because personally I got confidence in myself to go and do projects that I didn’t think I could do.”

During James’ engineering co-op, he was not quite sure how he was stacking up in his work until he finally received his performance evaluation. He remembered that when he got his performance evaluation he “wasn't really sure” how he was doing. “I got a good performance evaluation back and I guess that it's given me confidence that I do have what it takes to succeed in a project management and manufacturing engineering role,” James concluded.

Keith successfully completed several internships in the financial industry and those experiences paid dividends in the form of knowledge gained, and how he viewed his abilities to compete.

I guess increased my self-worth now. I mean when you go in you say, “Okay, I think X, Y, and Z about the industry.” When you come out you have a completely different opinion. You know what actually goes on. You know the intricacies. So, when it comes down to like my professional opinion of myself, definitely enhanced. Not only professionally but personally.

Finally, McCharen accepted a co-op position with a bio-medical engineering firm. She had to travel across the country for the job. This move caused a bit of worry for her in her new location, but also in how she was going to compete with students from other more well-known engineering schools. “I gained a lot more confidence in myself in both ways. Going into the co-op I was very nervous,” McCharen recalled. She found herself surrounded by interns from the “top engineering schools in the nation.” McCharen eventually realized that she “actually knew
more than they did and found out later” that her manager hired her because she had “much more experience” than the other students. “I gained confidence that I'm actually smart. I can actually compete against people,” beamed McCharen.

**Sense of Accomplishment & Capabilities**

“I feel like I can do things. Like I'm capable, even if I don't know how to do them, I can do them…it's going to take some research.” Verne’s engineering co-ops were challenging, but after completing the work he began to understand how to approach new challenges. He also felt more confident in his capability to research and solve a problem. Dan B.’s WIL placements also established a firm assurance in his capabilities. He remarked that the internships were, “kind of like a nice pat on the back.” Dan declared, “I feel confident that if I went into a job I can learn it and do it with competence, and with passion. It kind of depends on the job, but it's like I feel very sound in my capabilities.”

Nicole’s internships with two distribution centers offered her an increase in confidence in her abilities and also a measure of self-respect. “I think that after the internship, I came out viewing myself as more capable than I gave myself credit for, largely due to the conversations I had with one of my bosses and mentors,” she observed.

Similarly, Nick’s business internship afforded him a level of self-respect that he had not previously held. The after-effects of his experience were also integrated in the way that he began approaching his schoolwork. He offered, “Well, I definitely have more respect for myself…just being able to complete a year long process, and then, I've gained more respect for myself coming back to school.” Nick initially found it “hard at first to come back after working and then switch to studying.” Returning to the challenges and “distractions” of campus life proved to be “one of
the harder adjustments” for him. “I respect myself for being able to do that and doing pretty well,” Nick stated.

Tony’s engineering internship resulted in a sense of admiration and respect from his father, and also a sense of accomplishment for himself as well. Pleasing his father appeared to be an important milestone for him, and it was certainly an achievement that brought him joy. It made me feel really good, really happy, and proud. My father was equally impressed as well…So, you know, making him pleased, is probably one of my favorite things to do just because it, you know, not everything pleases him. He loves to laugh and everything, but it's kind of hard to actually please him. So, when I can please him, it always feels good for sure.

One of the projects at Armstrong’s engineering internship was quite time-consuming and required him to dedicate a good portion of his efforts to closing out the assignment with the assistance of other co-workers. He became frustrated with “all the loops” he “had to make…to make sure that the paint was okay with everybody.” Though the project did take “a long time,” Armstrong had “a much more fulfilling sense of accomplishment once it got submitted.”

The difficulties like the ones that Armstrong faced were frustrating in the moment, but for several of the respondents, it paid off with a sense of accomplishment in the end. The positive results instilled a sense of pride and an increased measure of confidence in one’s capability as a professional. That persistence and confidence could serve as a nice boost to WIL students in their future careers.

*Sense of Direction*

“It showed what I'm good at, what there is to do, and how I can take a path to do it,” beamed Chandler. Robert similarly stated in his interview, “I just think it's the general increase
in confidence about what path I'm heading on, what kind of path I want to head towards.” A lack of clarity or direction can often lead to uncertainty. Uncertainty is not conducive to building up one’s self-confidence. Within a WIL program, students can take part in work experiences that not only give them a sense of accomplishment, but it can also provide them with insight for the future. Chandler and Roberts’s comments showed indications of bolstered senses of their abilities. The quotes also revealed that they had a clearer understanding of their career options and which way their lives were heading. This clarity of direction and vision provides fertile soil for cultivating a strong foundation of self-confidence in students.

Curtis’s co-op positions gave him insight into multiple industries and manufacturing operations. The self-assurance from his own performance combined with his knowledge of the workplace revealed the type of career path that he saw for himself.

It does give me confidence…I can adjust not only from college to the working world…but from role to role as you move up…engineering roles turn into manager roles…So, it does give me some confidence that I'll be able to handle it when the time comes…I know it's something I can do. I've done it before and I'll always be ready for that next step.

Jason’s experience during his engineering internship with a large automotive manufacturer also revealed potential professional pathways to him. He asserted, “I certainly got more confident in my ability as a person, as well as I got an idea of what I wanted to do and where I wanted my career path to lead.”

Frank’s summer internship with a small sales and distribution business allowed him to have responsibilities in a variety of operational areas of the organization. His ability to find success and improve processes led to his increased confidence and a desire to continue to push
himself to larger companies. He realized, “If I can set up a good system at the small business, I can definitely thrive in a big business and make that even better than it already is. So, it just made me super excited to keep going!”

Like Frank, Jennifer M.’s marketing internship was with a small to mid-level business. Her exposure to the work and accomplishments during her experience instilled confidence in her and an ambition to reach for more in the future. “I really would like to have a lot of responsibility so I'm going to aim big with my ideas and my career goals…definitely going to be aiming big. I feel like I can handle it,” declared Jennifer.

Marissa’s observations of her co-workers careers and her own work achievements gave her ambition for the future and an increased courage to take risks in order to accomplish her goals. She came to “understand from hearing the stories” of her coworkers and “how they came to the positions” that they occupied. The details of their “journey” intrigued Marissa. For her it was “comforting to see that not everyone's path is a straight one.” She found herself “more willing to take risks” now that she understood the circumstances of her co-workers and their stories. “If I'm ever going to take a chance on doing something that I really want to pursue, now's really the time to do it…I'm more confident in pursuing what I actually want to pursue,” asserted Marissa.

For Marissa and other students, their WIL placements put them in a position to gain confidence in their abilities and insight into potential directions for their careers. For some participants, this ignited a burning ambition for future success and professional achievements.

**Summary**

The fourth thematic topic is associated with *Personal Identity*. The findings revealed how WIL programs offered students growth in elements connected to independence. The data
showed how students’ work experiences required them to step out of their comfort zones which resulted in a variety of growth opportunities. This section also highlighted how WIL placements gave students an increased sense of self-awareness and a stronger level of self-confidence as well. The following section details the fifth theme of Pre-professional Identity.

**Theme V: Pre-professional Identity**

The final theme revealed in the research findings involves the concept of Pre-professional Identity. As college students on the cusp of progressing into their careers, WIL programs afforded the participants a chance to look across the dividing line into the professional world. Their co-ops and internships transported them into their future and allowed them to begin distinguishing and cultivating the initial ingredients of their professional identities. Having gained a clearer view of their personal identities, the WIL students were then challenged with better understanding the working environment. From the data analysis, four elements of pre-professional identity were observed: navigating the professional world, gender issues, professionalism, and visualizing future careers.

**Navigating the Professional World**

Listening to and reading the accounts of the research participants at times gives one the feeling that the students were explorers or travelers in a foreign land. They offered their observations of local customs and practices. Respondents relayed their stories and lessons learned while figuring out how to navigate their new destination known as the professional world. It was apparent that many of the WIL students were keenly interested in obtaining this insight for use in the future when they would be tasked with returning permanently. For the majority of the participants their work placements yielded some examples or experiences in the professional setting that was notable and helpful to their career development. The central topics
discussed in this element involve understanding company culture, appropriate behavior, and making an impact. The following sections provide further detail on each of these elements of pre-professional identity.

**Company Culture**

“The plant has a lot of history and the culture reflects that, but not often in a good way,” Christian reported. WIL students are often very observant and can pick up on the culture of an organization during their work placement. Christian’s comments provided an example in which one of the research participants gleaned a lot from the culture of his co-op employer. The history and traditions of a workplace can be quite informative and impactful for a student. Several of the respondents observed that the culture indicated specific issues with a company or at times revealed positive information as well. Christian noted, “Many of the problems at the plant were due to people not willing to fix them until they had to. The culture has begun to improve though, and there has been some hope with the transformation coming up.”

In some ways, Sidney’s engineering co-op experience was similar to Christian’s in that the company appeared to have a history of unhealthy culture. Unlike Christian’s experience, Sidney did not register signs of potential for organizational change on the horizon. She lamented, “The corporate culture here regarding politeness when it comes to arriving at meetings is horrendous…it absolutely drives me up the wall…it sends a message you don’t value their time.” Sidney also found frustration with their professional conduct during meetings. She noted issues “with people not being respectful to those who are speaking, as it seems to be a constant power struggle to be the one voicing their opinion…the topic that is being discussed isn’t actually being heard!” Sidney recommended that the company should reintroduce the employees “to proper business etiquette.” She asserted that if the company leadership were to take that
approach then “many people would be happier and more would be accomplished in a timely manner.”

Thankfully, not all organizations had a poor culture and many WIL students like McCharen found an organization that offered support while also challenging growth in a positive way. When talking about her co-op employer, McCharen said, “The culture of the company is a very upbeat place to work that also has an intense, exciting, challenging air to it. I have made some very good friends and learned an incredible amount in my time here.”

During her summer internship in accounting, Marissa also enjoyed a supportive environment. She “discovered the importance of a company’s culture in its ability to keep employees.” Her employer highly encouraged “employees who have down time during their work hours to work on self-improvement.” Marissa observed many of her co-workers “earn various certifications.”

Lee’s engineering co-op term with an automotive manufacturing facility showed him a team-based facility that rallied around one another.

I was expecting unique and interesting challenges on the daily but I was very surprised how many problems could arise every day. In these daily struggles, I have found that there is a culture in the company. When times are hard for one department, we all try and swarm there to help them out.

In many organizations, competition is a central element of the environment. At times that might be a result of individuals seeking an edge to advance their careers, or it might come at the encouragement of the organization to nurture a culture of innovation. Eli’s co-op with a major petroleum producer illustrated to him the nature of a competitive corporation. Regarding the workplace culture, he “definitely felt a sense of competitiveness” that he “had heard existed in
the refining world.” Eli spoke with several entry-level engineers “about their experiences, there can be several drawbacks” to working in such an organization. “One of the challenges that I perceived included having difficulty gaining prioritization for my project work… I am used to working in smaller environments where you can really get to know everyone fairly quickly,” said Eli. He indicated his preference for a smaller environment, but “experiencing a different culture in that regard was definitely a learning experience.”

While Eli did find the environment to be very competitive, he also noted a very positive approach to employee safety which was instilled throughout the company.

In addition to these observations about the workplace culture here, the focus on safety was an aspect that really stood out to me in this place. Safety is stressed in every aspect of work for every employee on site. Unfortunately, in this past month, there was a significant process safety event here, resulting in four serious injuries (you can read about it in the news). Being around when an event like that occurs really puts things in perspective. Working in industry is dangerous, even for us engineers. It is often something that is taken for granted, but there are risks in a place like this that you can’t ever lose sight of as an engineer.

A strong focus on safety in industry often provides an indication of an organization’s health and culture. As Eli’s account revealed, safety programs and training were not simply requirements to be completed. Accidents could lead to tragic injuries or death for employees.

The lessons learned about safety culture in WIL placements were valuable insights. Jennifer O. shared her story in relation to safe environments at work. “I appreciated the culture of the mill because of the safety focus. Frequently, I was asked if I was uncomfortable or felt
unsafe with anything…They helped me feel comfortable with unfamiliar jobs,” Jennifer concluded.

Ben’s engineering co-op rotation also exhibited an organization that was focused on a safe work environment, but he noticed how that connected to a sense of support and cohesion. He wrote, “The culture of the company is a unique one. Everyone cared that you were safe and if you had questions they would answer the best they could or point you in the direction of someone that would know.” Ben found the environment to be “relaxed,” and they “encouraged a sense of comradery without it breaching into an unprofessional or inefficient manner.”

Along with safety, ethical behavior and inclusion are an important characteristics of a healthy company culture. Unfortunately, very few WIL students explicitly mentioned or provided observations for analysis on those topics. Prime’s co-op report offered his reflections on the ethical culture and inclusivity of his employer. He wrote, “The culture of the company is world class…The organization is regarded by many as one of the most ethical companies in the world…The culture is one of absolute inclusion, and the requirement of dignity for all people you meet.” Prime asserted that employees were expected to “maintain professionalism and follow a very stringent code of business ethics.”

The gleanings that participants were able to pull from their work experiences offered interesting insight into the variety of cultures experienced in the professional world. For many WIL students, those observations were important in seeing appropriate behavior as a professional, and also what type of work environment that they prefered. “The culture is a big thing. It changes throughout any company. I’ve definitely found the company that I like and that works for me…I’m glad that internships were able to show me that,” observed Jennifer O.

Appropriate Behavior
“I guess more than anything my co-ops have just helped me develop vitals skills necessary for survival in the professional world,” observed Elizabeth. In navigating the professional world, it is critical to not only understand company culture, but also to be clear on what expectations and acceptable behaviors exist in the workplace. WIL programs offered many of the research subjects a view of what behavioral norms and customs were appropriate.

Roger’s co-op report included his thoughts on the value of his experience in regard to providing him with this information. He maintained, “This internship has given me more experience working in the professional world in general…the more experience that I have the better prepared I will be for any future career coming out of school.”

Sidney’s engineering co-op allowed her to gauge appropriate conduct by seeing it modeled by some of her co-workers. She wrote:

   My time here so far has helped me make strides in my professional life, as I’m constantly maturing in how to conduct myself in different situations. I use every opportunity to observe how others conduct themselves, watch for the repercussions, and internalize how I can demonstrate the correct behavior. The company has really helped in growing my professionalism, as I was awfully green coming into this co-op with no prior internship experience.

   Austin relayed one story from his co-op placement that involved learning about inappropriate behavior at work. He was able to learn this lesson by obtaining feedback from his supervisor. The incident instilled in Austin the potential difference between workplace persona and private personalities. It taught him “that there are certain things you can't really say in the workplace environment.” Austin enjoyed “joking around” with his fellow employees, but his mentor advised him to be more careful with what he said. “It definitely made me watch what I
say in a professional environment…it taught me to really reign things in to those hours of what sort of personality you can reflect in the workplace,” said Austin.

Several participants observed how certain issues or situations could be landmines in the office. At times, they stumbled on history or tension that were pre-existing, or they just did not know how to approach specific situations in the traditionally accepted manner in the work environment. Caroline shared one such incident from her engineering co-op, in which she “learned to be a little more careful” with her words because things “can be easily misinterpreted.” Caroline found that it was “important to recognize” who has authority over certain territory or divisions “within the professional world.”

Like Caroline, Armstrong’s co-op experiences also exposed him to similar challenges in his project work. He found himself caught between two departments over the details of the assignment. Armstrong recalled, “One department's change did not sit well with another department so I had to be a mediator for the two…that one project ended up taking a whole week!” He found that there was a “weirdly like abstract quality, skill, or experience” with which one could approach work projects. Austin proposed that there was definitely a “different demeanor” in how one addressed “projects that are part of work” than one did “with school” assignments.

Those types of challenges as well as other valuable experiences were appreciated by several of the respondents. A few of the participants saw their work placement as a good preview of professional expectations through the safety of a WIL program. To them the stakes were lower, so they were free to learn by trial and error before assuming the full responsibility of a practicing professional. Curtis’ comments on his co-op work spoke to this. He likened his co-op experience as allowing him to dip his “foot in the water” and helped him “start to understand
what the work world is really going to be like” rather than only being “in school for four years.” Curtis believed that his WIL participation would “lessen the transition” and assist him in understanding what he was “about to get into” and “what's going to be expected” from him “at the next level.”

Fredford also spoke of the value that this type of preview provided to WIL students. He contended, “The more learning you do earlier in your life before you get out and have to fall on your face… the better things will go for you down the line.” Verne’s WIL experiences also offered him an opportunity to see the realities of workplace expectations and to develop an emerging sense of workplace savvy. He believed that his internships allowed him to have his “eyes open to the industry,” and assisted him in “shedding maybe a fraction of the naïveté.” Verne suggested, “I think just being a little bit more workforce savvy… that's the biggest thing because that's going to allow me to have a jump on my career.”

Jennifer P. completed three internships which garnered her some helpful experience. In her interview she discussed how it was clear to her the impact that those work placements had on her understanding of professional expectations and a level of work savvy.

My first day at my third internship versus my first day at my first internship, I noticed a huge difference in how I acted just based on how the other interns were acting… I just knew how things worked, and I had never even set foot in that company before… There's a learning curve to the professional world in general… I think that just comes from being an intern.

Returning to Elizabeth’s experience during from her multiple WIL placements, she conveyed a helpful summary on some of the specifics of how her experiences helped her
understand workplace acceptable behaviors, and also how it enabled her to begin crafting a professional version of herself.

I didn't know how to answer a professional phone call. I didn't know how to send a professional email…it was still just great experience to get that professional stuff…So like it's just a totally different ball game and you start to learn to play that ball game whenever you start going on co-ops because you start to learn the professional speech and emotions and ways of doing things. It's just something you can't learn in school…professionally, I think I did not know how to conduct myself 100%. I knew what to do on a very basic level…You need to go and do something like this to be able to know how you want to conduct yourself professionally because it's kind of like a trial run honestly. Like getting that chance to figure out how to interact with people…to be able to do stuff with their co-workers outside of work and it not be weird…how to conduct yourself like on a very small level like what to wear or how to stand or doing it every day is how I feel like you learn and create that professional version of yourself.

Elizabeth comments revealed how highly she valued the professional insights that were gained during her work placements.

*Making an Impact*

While understanding appropriate behavior and expectations are important, knowing how one can make an impact in an organization is also useful as one navigates their path through the professional world. The WIL opportunities provided students with a mechanism to observe specific practices and abilities that were useful in achieving success in the workplace. Table 13 offers a sampling of comments from respondents regarding their observations on how they learned to be impactful in their jobs.
<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caroline</td>
<td>Interview</td>
<td>It was a mainly...how to propose things to different people. I know with things going in between departments...If you don't use the right language when proposing it, it could come off as either very good or very bad. If you want someone to buy into your idea or into your new program, that's supposed to be a very good improvement even though they may not see it that way. It's like you've got to be able to persuade them to buy into it.</td>
</tr>
<tr>
<td>Christian</td>
<td>Co-op Report</td>
<td>I have stopped looking at manufacturing with an over-idealistic way of thinking that was leading me to keep looking for the perfect change. There are some moments where the perfect change cannot exist, but there is still the best change with the resources you have available.</td>
</tr>
<tr>
<td>Eloise</td>
<td>Co-op Report</td>
<td>The most important thing I picked up is to never say “that is not my job.&quot; You should be willing and excited to help in any way you can. It is obviously important to recognize your time management and not overload yourself. However, if you do everything you can to help a situation; you will be respected and well-liked among the company. It truly makes a difference to be a dedicated and hard working person.</td>
</tr>
<tr>
<td>Lee</td>
<td>Co-op Report</td>
<td>Engineering in general is not an easy profession to be in and I don’t want that to be forgotten for it is one of the main things that I have learned during this co-op. However to combat those troubles and to beat them down till they no longer exist is quite rewarding.</td>
</tr>
<tr>
<td>Penn</td>
<td>Co-op Report</td>
<td>From day one my personal goal was to always have great attitude whenever I was working. I was able to achieve this goal by always having a smile on my face while at work and doing my best to never complain and of course trying to learn and get as much out of the experience as I possibly could.</td>
</tr>
<tr>
<td>Prime</td>
<td>Interview</td>
<td>So there were special treatments. I was given one way or another, but I capitalized on every opportunity. The only reason I was still there, the only reason I was still working on that project is that I made sure I contributed. I helped him change the design. I help them solve issues...can't rest on your laurels...can't take anything for granted. One way or another, whether frustrated or happy about something or excited, you've just got to work. You've got to figure out how to function and get as much done as you can, as efficiently as you can.</td>
</tr>
</tbody>
</table>

This table illustrates a few of the insights that students gained while in their WIL positions. Students like Caroline realized the persuasive and almost entrepreneurial approach
that was needed in seeking approval for project proposals. She learned that engineers at times needed skills in marketing and sales to convince co-workers and managers to buy-in to recommendations.

Eloise recognized that hard work and dedication could help her be respected and impactful in her career. Similarly, Lee’s comments pointed toward a need for persistence in completing assignments. He underscored the challenge that the engineering profession presented, but he also offered that perseverance could provide great rewards once the task was completed. Prime also discussed his thoughts on making a contribution during his engineering co-op. His takeaway from his experience was also in line with Eloise and Lee’s thoughts on the subject. Prime spoke of the importance of endurance and persistence in project work. He noted that despite one’s emotional state of frustration or happiness, “You’ve just got to work.” Penn’s approach at his co-op placement was to try to positively influence the environment around him. He endeavored to maintain a great attitude and smiling while he was at work. No matter the avenue, some of the WIL students were able to recognize ways in which they could impact their organizations and the individuals around them by the approach that they took to their work.

**Gender Issues**

“It can hurt in terms of like the important stuff, like the projects and the responsibilities stuff. I feel you really have to prove yourself a little bit more than your male counterparts.” This comment from Elizabeth touched on some of the issues encountered by female WIL students during their work terms. There were incidents or perceptions of gender bias experienced by some of the female participants. Of the female students in the study (n=15), several respondents (5) shared issues of sexism that were encountered which impacted their work. Unfortunately, this type of behavior exists in the professional world, and it is important to examine the stories of
students experiencing gender bias. This section will explore the lived experiences of these women participants in more detail. Some of the central elements shared by the female respondents involved bias and respect, coping, confidence, and female mentors.

**Bias & Respect**

The experience of the female research participants was varied in terms of how they perceived their gender playing a role in their WIL placement. Some of the respondents did not seem to notice any disparate treatment, which did not necessarily mean that it was not present. Unfortunately, several others shared stories of bias and also concerns regarding a lack of respect from co-workers based on their gender. The following sections examine the experiences of some of the female students’ perspectives on this topic.

Elizabeth was able to work in multiple engineering co-op and internship positions with several different employers. This afforded her a wealth of professional experience and also an exposure to numerous interactions with co-workers and managers. She shared her reflections on her experience as a female engineering student in manufacturing:

You kind of want to make sure that you're on the same level as everyone. Especially being a woman in engineering, trying to equate yourself to everybody, and it’s kind of just the vibe that I was getting…I don't know if that's just because I was expecting it to be there, or just because I got the short end of the stick because I’m in body weld. I had a guy co-op with me…he got there like a week before me and he got all the better projects…He did get more responsibility than I did, and if I recall… I had more experience than him…I don't know, but I feel like part of those assignments are from gender biases.
Sidney also participated in multiple co-op rotations as an engineering student. Her experiences were also eye-opening in regard to gender issues in the workplace. She explained:

I had to do one-on-ones with the whole team, so all fourteen of the team members. One of the team members specifically made comments about how being a woman in engineering is going to be hard. I need to prepare to anticipate that. I should dress more conservatively than I would think to, because around a bunch of men you don't want to make them think that you're... you want to kind of take your femininity away from you so that they don't deal with that. Then he said, “There's a lot of older gentleman here that will discredit your opinion that had been here. He's like, “Just be prepared that some of the older engineers are going to be shaky or uneasy about working with, you know, a female and a young person, so you're kind of strike two to right now.”

It some strange way, it could be interpreted that this male co-worker was trying to be helpful and give advice to Sidney, but obviously the insinuation that she should be prepared to “take your femininity away” in hopes of appeasing the older, male engineers is an appalling thought. The sentiment that was relayed to Sidney was misguided at best, and clearly a disturbing thing to hear for a young female engineering student. Upon reflection, Sidney felt frustrated by the exchange and prepared to work harder than her male counterparts in order to succeed.

While Faith was not an engineering student, she did have a year-long accounting internship that required her to visit several manufacturing plants. She offered her recollections regarding gender issues during her internship:

I felt like there were a couple of times where... I wasn't taken as seriously as my counterpart because he was male. I obviously was always very serious about wanting to do the same thing that he was doing... and not feel like I was getting undermined.
In Faith’s experience, she also felt that she was working as hard, if not harder, than the other male intern, but she was nagged by the feeling that she was not being viewed the same due to her gender. When reading Faith’s comments, one can almost feel her struggling for the right way to phrase what she had experienced. It was unclear if this was frustration or an effort to be diplomatic. Either way, she clearly had concerns of potential gender bias in her internship.

McCharen was able to complete WIL experiences with a couple of different employers. She also felt a sense of gender bias during her employment. Similar to Elizabeth and Faith, McCharen felt that her male counterparts received preferential treatment in assignments. She recalled, “I did experience that…Wesley would get more opportunities than I would… whatever he came up with was kind of accepted right away. Whereas, if I came up with something then they would just kind of brush it off.” McCharen’s retelling of this story was drenched with frustration even months after the completion of her work experience. For her, the preference that the male intern was afforded was extremely unfair, and to make matters worse she felt that she was not given respect and that her opinions were de-valued.

Marissa’s accounting internship was in a corporate setting as opposed to a manufacturing or engineering firm. Unfortunately, she still experienced a disturbing interaction regarding gender and even sexual harassment from a visiting contractor. She had requested that they come in and raise the desk for her. While the contractors were present in her workspace, one of the men began making upsetting comments to Marissa. She recalled, “I felt so uncomfortable in my space that I left and went to go sit in another co-worker’s cube.” Once the contractors had finished their work and left the area, Marissa’s supervisor was informed of the incident and came to speak to Marissa immediately. The manager reassured Marissa that inappropriate behavior was not going to be allowed of anyone in the organization, which included contractors. Her
supervisor promised to address the incident immediately. As a new employee, Marissa recalled thinking, “that was very reassuring to me because I didn't know what I could or could not do in this situation and I felt like I couldn't say something because I didn't want to become a problem.” It is terrible that Marissa had to be subjected to this experience. Thankfully, the response from her employer was caring, respectful, and reassuring to Marissa.

There were very few comments volunteered from the male respondents regarding any issues connecting to the topic of gender. Mac provided the only observation on the subject from his perspective as a male co-op student. He commented, “I'd hoped people would grow out of… the way that they talk about women… It's one thing to admire, but it's another thing to obsess over it, and that was one of the problems I had with some people I worked with…” Mac trailed off at the end of his comment without indicating why. Perhaps, he felt that he had gone too far, or he did not want to disparage a co-worker or manager on the recording. Nevertheless, the insight that it did offer is that he observed male counterparts at work expressing inappropriate comments about female co-workers, presumably at a time when the female in question was not present. Again, additional detail is not provided and further speculation would not be merited.

Fortunately, not all of the female research participants experienced gender disparities related to their WIL placement. At least for McKenzie, she did not notice this during her co-op work with engineering colleagues, but there were some indications of gender incongruities in the manufacturing environment. She reflected, “It wasn't something that I really noticed. It was something that someone else would bring to my attention.” McKenzie was told that the workers were distracted when she was in the plant, but she did not seem to notice until it was pointed out to her. “I started realizing, but… no one ever said anything to me. Everyone's just really friendly… I never felt like belittled or anything,” observed McKenzie.
Jennifer O.’s reflections on her WIL placement indicated that she had a positive experience as well. She noted, “Everyone respected my opinion and...I never felt disvalued for that.” She did notice a “culture thing” while working in [the South]. Jennifer felt that these were “gentlemen in the South,” and they did not “curse” in front of her, and they “held doors” for her. However, Jennifer “never felt like anything” she said “wasn't valued.” Her view was that if she wanted “to be heard” then she needed “to talk.” For Jennifer, she felt respected at work. She did not seem to notice any gender specific influences, other than cultural approaches to gender interaction at the different locations in which she was employed.

Maria’s internship also appeared to have been mostly free of any type of problems based on gender. Although, she also experienced similar cultural behavior from a southern, male co-worker which at times was socially awkward, but not something that affected her professionally in the workplace. “He held the door every time we went somewhere...He would push it open then I’d have to squeeze by. It was so weird because I could definitely get the door for myself...that just kind of was really awkward,” said Maria. The experience did not seem to overtly affect Maria’s working environment, but the behavior did appear to be very awkward and unnecessary to her.

These stories relayed a perspective provided by the female research participants on issues related to gender in the workplace. A review of this information revealed a range of experiences from a setting where females felt supported or those where women were made to feel awkward or uncomfortable at times. It is important to observe this range in experiences of female students taking part in WIL programs to understand the different challenges that are presented. It is also helpful to note how the participants reflected upon and coped with these issues.

*Coping*
For college students, taking on their first exposure to professional responsibility through a WIL program can be challenging in its own right. Adding incidents of gender bias and sexism into the equation, makes the situation exponentially more difficult. Several of the female respondents shared their thoughts on how they approached these challenges. McCharen felt that her opinion was de-valued during her WIL placement. She observed her male counterpart receiving much more support and validation which she attributed to gender bias. McCharen relayed how she dealt with this type of environment. “I kind of always put on a smile because I didn't really like butting heads with people a lot. At my other employer, there was a lot more…stereotypical engineering where it was all Type A aggressive strong males,” She concluded. McCharen would sometimes “come to the conclusion before them, but they would only accept it if they came to the conclusion on their own.” She found that she “had to learn to kind of pick up and move on” and “not let it get to” her too much. “I kind of expected it a little bit just knowing the engineering field and knowing that it's kind of a male dominated, very aggressive type personality,” said McCharen. There were a few times that she “got pretty upset just because it had been kind of built up over four or five months” of “getting yelled at” and “not being heard.”

Sidney’s co-op environment presented more seasoned male engineers that were apparently biased against female counterparts. She had to learn how to navigate around that obstacle in order to be effective.

I would just bypass people that did that and go to people I knew. I made enough friends at the time I was there…that I had enough people on my side that it really didn't matter…I knew who to avoid and who to work with…I just kind of learned how to read
people more and you could just tell immediately up front if someone is willing to help… I'm not going to waste time and energy… I just moved on.

For Sidney, she realized that her energy was better spent on being productive and finding ways to achieve success through other supportive outlets. Faith’s comments mirrored Sidney’s approach in a way. She felt that it was “a problem with that person,” and she would not change her professional approach based on the poor behavior of others. “I’m not going to let your discrimination affect how I do my job,” Faith declared. She grasped that the bias had “nothing to do” with her personally. Faith concluded, “It's that person's opinion in general of women in the workplace. There's nothing you are going to say to change their mind… just be really focused on doing your job and doing your best regardless of your gender.”

Faith, like Sidney, realized that gender bias was a problem that rested with the other party. She felt that nothing that she could do would change the perspective of that co-worker. So, she decided to not change her approach to others based on the discrimination that she faced. She chose to rise above it.

Confidence

“As part of becoming a female engineer, I've tried to become more confident in myself,” said Elizabeth. When examining the stories of the female research subjects that experienced some level of gender bias, the concept of confidence was mentioned quite often. This project has mentioned the topic of self-confidence in a previous section, but undoubtedly there is an important connection for these young ladies in relation to their experiences. In many ways, it seemed to be another response or measure that would help them succeed against the biases that they could encounter. Elizabeth’s thoughts on the subject continue:
You have to make yourself be confident. It was very difficult if you're not naturally a confident person…it's hard to find that balance between becoming pretentious and becoming confident…and it is harder for girls because sometimes what a guy says is confident but if I say it, it's pretentious. So, just walking the fine line because all of my examples in the workplace…have been males and sometimes exhibiting the male mannerisms and the male personality can come off very different out of a female face, body and voice. So, it's really difficult and I have changed because of it…I do feel different than I did freshman year and I think that it's partly embodying those role models that I've had throughout these co-ops… growing as a person, to a women in the engineering world trying to figure out how to navigate that…it's a totally different ballgame whenever you go experience it yourself. Learning how to navigate…I mean it's made me a more confident person.

The comments offered here by Elizabeth are a very insightful summary of the struggles that many female WIL students face as they attempt to navigate the professional landscape that is often known to be more favorable to men.

Elizabeth’s response was quite interesting because it included such a multi-faceted, yet concise, description of the growth and conflict that she experienced during her WIL placements. This was likely a similar journey that many other female engineers could relate to as well. Elizabeth felt a need to adapt her personality to overcome gender obstacles at work, and she observed herself changing in that regard, even questioning if that was a good change. She also noted how confidence fit on males versus females. Almost as if, she noticed, it was acceptable for men to be confident but not women. Elizabeth tied these issues to identity at work, and how she was learning to navigate her role in the professional world. She also highlighted the impact
that role models played in inspiring and guiding her through these travails as a young, female engineering student.

McCharen also spoke about her experiences with gender bias during her WIL placement and how that related to self-confidence. She reflected upon what she learned:

If you do have confidence and try to hold your own, sometimes you have to be very aggressive about it that you know what you're talking about…They would kind of question where I came up with information…I just sometimes had to over explain myself a lot…I gained more confidence for sure. I'd say that's probably the most important thing. I'm very self-conscious, not a very confident person…in order to really succeed, I guess as a female engineer, you have to have confidence and kind of really know what you're talking about.

McCharen’s remarks once again conveyed her frustration with her ideas and work being questioned more than her male counterparts. Like Elizabeth, McCharen eluded to the fact the female engineers often must take an aggressive stance and display more confidence in supporting their assertions in the workplace.

McKenzie found support from one of the engineers at her co-op employer. He gave her advice on the need for confidence as a female engineer in the manufacturing environment. “I got a lot of one-on-one time with one of their senior manufacturing engineers, and I enjoyed that a lot because he gave me a lot of insight…on being a female in the field,” she said. He told McKenzie, “You've got to be headstrong. You've got to not be afraid to tell what your ideas are and tell them when they're wrong, just like any other man would be.” He advised McKenzie to maintain a sense of confidence and persistence, and tried to instill in her a belief that she can be
successful. Guidance like that from mentors were an important boost of affirmation for female WIL participants.

\textit{Female Role Models}

As mentioned in the previous section, role models were an invaluable support to female WIL students when faced with gender inequities in the workplace. In particular, the presence of female role models for these students provided an excellent source of inspiration and advice for participants. The following students spoke about their experiences with mentors as connected to the topic of gender. Some respondents found a vibrant network of female role models at the ready. Other participants struggled to find a female to connect with and relayed their stories of that challenge.

Caroline’s engineering co-op was with a large petroleum corporation. In reviewing her comments, it appeared that her employer was pro-active in developing a mentoring network for young, female engineers. She wrote, “It's a Women's Inclusion Network… the company did a very good job of promoting STEM fields out in the community with girls, and then they had a network for women within the corporation. Caroline’s employer was thoughtful and active in how they approached the issue of supporting female STEM professionals. That support network was apparent for Caroline and it was encouraging that she did not feel any concerns with gender bias at work.

Elizabeth’s co-op experience was a bit different than Caroline’s in the fact that she was not able to have a female mentor. Unfortunately, in many cases due to limited opportunities, the representation of females in management and leadership might not be prevalent which creates a potential void for female WIL students seeking a female mentor. In Elizabeth’s situation, she was able to be placed with a supportive male role model. Having a male mentor often created an
“interesting dynamic” because some would “hesitate to take” her “out to dinner or anything like that because then they're the creepy sixty-year-old dude taking a twenty-something-year-old or nineteen-year-old out to dinner.” It made it challenging to find good mentors who were “willing to not worry about that image.” Specifically, Elizabeth had one very helpful male mentor. “He was wonderful…I really attribute a lot of my good qualities to what a good mentor I had…he was really good about like building my confidence and helping me out,” she recalled.

During Faith’s accounting internship, she was actually able to develop a relationship with a female mentor. “She just told me to always… put in the extra time, always put in the extra effort,” Faith remembered. The role model advised Faith that she might have to put in the extra hours to “even be considered for the same thing that a male was doing…at the time it sucks, but at the end of the day you will come out a better worker.”

Faith’s mentor had clearly travelled ahead on the path that Faith was trying to navigate, and the advice that she shared with Faith was invaluable. It seemed that Faith was inspired and encouraged by her mentor’s words, but also in what she represented to Faith. She was a real-life example of how a female could succeed in a sometimes hostile professional world.

Sidney’s previous co-op rotations had not allowed for a female mentor, but a recent position that she had taken as an intern offered this new outlet for support.

At my new employer the senior engineer is a female, so she's my mentor there. It's a complete 180 degrees from the group I was in…so, that'll be new for me. I haven't gotten to interact with many female engineers…I'd love to professionally help progress women into engineering and stem fields.

Sidney’s experience with gender incongruities in the workplace definitely inspired her to make a conscious effort towards guiding and supporting other females as they enter STEM professions.
These few examples, though limited, appeared to scratch the surface of informal mentoring efforts by female professionals. Thankfully for students like Caroline, many corporations are proactively creating those types of mentoring programs. Failing that, more seasoned female professionals often seem to see the need for role models for young, female professionals and they are taking active steps to offer advice and support on navigating the professional world and dealing with gender obstacles.

**Professionalism**

“This job has helped me realize what it means to be a true professional in what I do in a workplace, and has helped me become a stronger engineer at the same time.” Edward’s quotation underscored the impact that a WIL placement could have on a student’s sense of professionalism. As he said, his experience helped him understand what it meant to be a “true professional.” But what did the term professionalism mean to WIL students, and how did the research participants perceive that their work placements affected this understanding? Many of the participants provided comments on aspects of professionalism. This section will explore those issues through the lens of the study respondents. The central topics of this element of pre-professional identity touched upon professional attributes, leadership, and reconciling identities.

**Professional Attributes**

Often times when interviewees were asked to define their professional identities, they were at a loss in how to come up with the definition. However, students were able to point towards specific attributes that they wanted to portray or possess in their professional lives. So, in many ways their comments and observations provided a tapestry of what the respondents saw as key attributes of professionalism. For example, in Sidney’s interview, she conveyed how her WIL experience provided her with a chance to observe professional behavior. She stated, “I
used every opportunity to observe how others conduct themselves, watch for the repercussions, and internalize how I can demonstrate the correct behavior. The company has really helped in growing my professionalism.”

Table 14

Professionalism: Professional Attributes

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ben</td>
<td>Co-op Report</td>
<td>I would like to be defined as a man of character that is true to his word. I want to be known for having a good work ethic and doing the best I can on every project.</td>
</tr>
<tr>
<td>Calvin</td>
<td>Co-op Report</td>
<td>Organization, curiosity, and a commitment to bettering the company are all integral aspects of success. Each of these lessons plays a key role in a professional’s life, and I believe that professionals must have each of these attributes to a certain degree if they hope to achieve any success.</td>
</tr>
<tr>
<td>Caroline</td>
<td>Interview</td>
<td>Part of a little bit of leadership and, and becoming a good engineer is to go and verify for yourself to make sure that everything that is said and everything that is reported is correct.</td>
</tr>
<tr>
<td>Christian</td>
<td>Co-op Report</td>
<td>I think communication and critical thinking are two of the most important skills that an engineer can have. I would like to be defined as the guy that can both find the correct information and communicate the information he has.</td>
</tr>
<tr>
<td>Edward</td>
<td>Co-op Report</td>
<td>I want to be known as a worker whose ideas work every time, and that these ideas solve the problem.</td>
</tr>
<tr>
<td>Eli</td>
<td>Interview</td>
<td>I want to be perceived as someone who's willing to help and lead people in the right direction and help the team go the right direction.</td>
</tr>
<tr>
<td>Eloise</td>
<td>Co-op Report</td>
<td>The most important and widely appreciated trait I’ve witnessed is caring. Simply taking pride in your work and doing the best you can at everything is so important.</td>
</tr>
<tr>
<td>Gus</td>
<td>Interview</td>
<td>I want to be seen as someone who would listen to coworkers and who's willing to accept their point of view and hopefully that they would be willing to accept mine. Just someone who's easy to work with.</td>
</tr>
<tr>
<td>James</td>
<td>Co-op Report</td>
<td>I want to be known for being on time, working well with anyone, and a leader with a proven ability to produce results. I think these are the four most important qualities.</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>Co-op Report</td>
<td>Confidence was one of the most important attributes of leaders in the mill. Communication was another key skill.</td>
</tr>
<tr>
<td>Keith</td>
<td>Interview</td>
<td>I saw within the firm that people highly, highly valued somebody that could get the work done.</td>
</tr>
</tbody>
</table>
Employees should also have flexibility in leadership style, openminded to new ways of performing tasks, and willingness to take on new roles when necessary.

I want to be perceived as someone who's understanding and empathetic, but also someone who's not a pushover.

I'd like to be perceived as somebody who's results driven without damaging relationships. Somebody who's skilled at getting the best out of others...I want to be able to get people to always be trying to improve and that's why it made me want to be as a professional.

The ability to discern when you need to be kind and when you need to sacrifice that objectivity for what needs to be done.

The table (Table 14) provides a good cross section of attributes that the participants felt were important to professional success, and were also aspects of professionalism that they wanted to emulate in their career. Stuart wrote in his co-op report regarding his views on professional behavior. “I would define professional as being presentable, dependable, communicates well, acts like a leader and produces work of higher quality than the average person,” he observed. Stuart noted that professionals should be “highly knowledgeable” in their field, and they should also be “dependable” while producing “quality work.”

Stuart’s remarks provided a good summary of overarching attributes that were mentioned in many of the other students’ comments. He touched on dependability to which Ben and Eli also eluded as well. Christian and Jennifer mentioned communication skills much like Stuart. Professional competency seemed to be another characteristic of professionalism that was discussed by the students frequently. Many of the respondents wanted to be knowledgeable in their field and use that knowledge to make a contribution. Other interpersonal skills were highlighted like empathy, listening, flexibility, and open-mindedness. Leadership was also associated with professionalism by some of the participants. Certainly, this list was not limited to only the traits presented here, but there were some commonalities to the attributes that they
provided. Importantly, it showed that the WIL students observed or employed those traits in their work placement and planned to apply them in their own professional practice.

**Leadership**

“As my future comes closer and closer, and I consider how I want to be looked at and defined as a professional I am more and more drawn to leadership and responsibility.” Prime’s reflection from his co-op report showed how his WIL participation not only gave him insight into professionalism, but it also exposed him to various aspects of leadership. The responsibility associated with WIL projects and the opportunity to collaborate with managers and supervisors at work inspired several of the respondents to pursue leadership roles in the future. In relation to his progression and leadership development, Prime continued:

I will be defined as an individual who not only gets his work done, but as an individual who is never satisfied with his knowledge base… I feel that if I am as knowledgeable as possible in all aspects of the business this will make me a great leader.

Caroline’s co-op report also provided her thoughts on leadership. Her time in the professional world placed her in close proximity to corporate leadership in a global petroleum firm. She also found this as something toward which to aspire. She wrote, “I believe leadership is one of the most important attributes of a professional. Successful leaders are defined by their ability to influence people, which takes great interpersonal and communication skills. They take initiative and solve problems.” In her research interview, Caroline also spoke of leadership. When asked about her professional identity, she responded, “I would really want someone to describe me as a good leader…who is able to effectively cause or implement solutions, but is very supportive of others.”
The impact of role models and mentors has been discussed previously in this examination of themes. Those individuals were instrumental in the growth and development of many of the research participants. Even managers that might not have intentionally set aside time with the WIL students for mentoring still provided an example for the respondents to see. Through observations, these students gathered perspectives on leadership styles and approaches.

Austin’s engineering manager displayed qualities of leadership that he hoped to emulate. He wanted “to be perceived” as his supervisor was. Austin felt that his mentor was “warm and open,” which gave him the ability to take “a very serious issue…and break it down into something” that could really be easily digested. “He had this way of going from kind of joking and just easing into serious conversations…I'd definitely like to acquire that trait and really model myself after that behavior,” explained Austin.

Faith’s WIL experience took her to a number of manufacturing facilities while performing financial audits. She also spent time in the corporate headquarters. Those opportunities offered her a view of numerous management and leadership styles, some good and some bad. Faith observed, “Ruling with fear in management is not the way that you gain people's respect. I would obviously want to be respected, but I also want for people to understand there's a mutual respect.” She “learned a lot about how to manage people,” and she saw “many different types” of leadership during her work terms. From her experiences, Faith contended, “Being kind wins out 100% of the time. Negativity does not help anything.” Faith’s work placement provided her with an up close view of a leader that tried to rule through fear and intimidation. She noticed the ineffectiveness of that style of management and realized that that particular method did nothing to inspire other employees.

Reconciling Identities
Previous sections of the analytic themes relayed participants perceived growth in their personal identities. Development in their pre-professional identities has also been explored. In the research interviews several respondents touched on an interesting concept. Some of the students relayed examples or thoughts in relation to reconciling their personal and professional identities. Essentially, how does one balance or integrate who they are individually, and who they need to be in the professional world? This could be a complex path to navigate.

Austin’s experience as a co-op offered him a chance to learn acceptable professional behavior through his own mistakes. He saw professionalism modeled by his manager and spoke of emulating that. At the point of his interview, Austin’s work experiences left him with the view that the personal self and the professional self needed to be separated. “It's definitely important to separate like work-Austin from…non-work-Austin…It taught me what sort of personality you can reflect in the workplace,” he concluded.

Other respondents, like Nadia, had a diverging view on the matter, or at least, she was at a different point in her journey to navigate those roles. By observing other professionals in her workplace she seemed to feel sorry for how some of the individuals carried themselves, and what types of lives that offered. Nadia’s reflections on the subject exposed a deep need or longing for a career that allowed her to integrate her colorful personality into her professional role as well. Nadia lamented, “My manager was just boring…there's nothing interesting about her. I know that you kind of have to be like that to a certain extent, but… It's just not a fun way to live.” Nadia observed that her manager separated who she was individually from how she portrayed herself at work. This was clearly not an approach that appealed to her for how Nadia wanted to navigate her future career.
As a business student, Robert gained work experience through two internships within the manufacturing industry. His time at work also allowed him to gain a perspective on how he could integrate his personal and professional identities.

I think one thing it really did for me is kind of realize what kind of role I see myself fitting in like personality wise and how I can use my personality within the workplace to an advantage. Like kind of figuring out what my professional, what was the word phrase?
How to use a professional identity?

Like several students in this study, Robert was not specifically familiar with the term “professional identity,” but he was aware of his personal attributes and how integrating those strengths could be advantageous to him in the professional world.

As eluded to earlier, Prime’s co-op placement took him to a manufacturing plant that was previously managed by his father. Previous sections displayed some of the struggles he dealt with in overcoming the perception of others. He later accepted a fulltime position with the company upon graduation. This factor certainly could complicate his ability to navigate the personal and professional aspects of his identity, being that he will also have to continue to establish an identity that is separate from his father’s reputation. In his interview, Prime reflected on this challenge. “My professional identity has not…gotten to just be who I am…it taught me that I had to establish myself. I had to make people realize there was a difference. I had to separate myself whatever way there was,” asserted Prime. His tone during that interview relayed a sense of lingering frustration mixed with dogged determination. Prime realized that he had a challenge to overcome preconceptions about him due to circumstances that were out of his control. His concern influenced every interaction that he had, and he would have to work very hard to establish himself through almost every work relationship that he developed. This was a
difficult task to undertake in addition to developing one’s own identity personally and professionally.

Rico’s accountancy internship offered him perspective on the proposition of addressing the personal and professional personas. Reading his interview transcript on the topic illustrated his own internal struggles with exactly what he did experience, and how that affected his growth in both realms. He reflected, “I think that it kind of merges the two…realizing that there is a distinct boundary between your personal life and your professional life, however they overlap and affect one another…What was the term professional identity?” Rico admitted that he “could definitely see how that was changing” and it was showing him things about himself like his “strengths and weaknesses.” He revealed:

There was personal growth in the sense of who I am as a professional and how I work with people…It wasn't as tangible…It was hard to quantify…but with that being so hard to gauge, it still nonetheless had an effect…you could definitely tell…I can tell more so when I got back… it's a lot harder to put into words how it changed me personally because it wasn't anything that I was necessarily focused on at the time.

Rico’s comments were very interesting in revealing his internal reflections in the moment. It seemed as if we were able to travel with him in his thoughts and journey through his efforts to quantify or describe the impact of his WIL experience on his professional and personal identities. Once again like other participants, the idea of a professional identity was a foreign concept to Rico. His initial thoughts on the idea of the personal and professional selves revealed that he saw a boundary between the two. He knew that a variety of growth took place during his work term, but some of the results were intangible. He was still processing what the opportunity meant to him from a developmental perspective. Rico provided a very thoughtful example of a
student still absorbing his experience and grappling with how to potentially integrate his roles as an individual and as an emerging professional.

**Visualizing Future Careers**

Stuart’s engineering co-op experience was instrumental in helping him map out his future plans. In his co-op report he wrote, “Working and interacting with all these different people in the office has also affected where I see myself in the future.” An important step in developing as a pre-professional is comprehending potential vocational options and seeing where one can go with their careers. For a large majority of the students, visualizing their future careers was perceived as an important benefit of their WIL participation. The analysis of the data showed that the seeing or visualizing aspect of this particular theme was essential for students. Being able to look beyond the horizon and see where one was headed provided the participants with helpful information. The essential concepts in this element of visualizing future careers involved topics like clarifying expectations and goals, experiencing reality, and exposure to career options. The following sections provide an illustration of the participants’ thoughts on these topics.

**Clarifying Goals & Expectations**

“My time as a co-op will be a guiding memory as I look for my path forward,” wrote Calvin. Several of the study participants reflected on how their WIL experience had helped them to clarify their professional expectations of the workplace, but also how their work assisted them in better understanding goals for their careers. Calvin’s observations from his co-op report continued, “While I am still looking for the right career for myself, this experience has helped me learn a lot about what I should expect from my workplace, and what I individually need in a workplace to feel satisfied.”
Not only did Calvin’s work placement help him identify his career needs, but he was also afforded the chance to align his professional expectations with his career goals through the perspective that he acquired. He went into the experience with “rather low” expectations, but he “began to see all of the benefits” he could gain from the job. “My new goal became determining what I would spend the rest of my life doing,” said Calvin. He began asking “a lot of questions, especially of people who have worked in other types of plants.” He wanted to “know what it was like to work in all kinds of engineering applications.” Calvin also threw himself into his work at the plastics plant, “trying to learn as much as possible and identify” what he “liked and disliked” about the industry. Calvin concluded, “I believe I have a better idea of the direction I want to take my life after graduation. I want to open a business creating a product that positively impacts the world around me.”

For Keith, the financial internships also offered similar affirmations. His WIL participation granted a level of confirmation regarding the direction that he had charted for his career. Keith proposed, “When you're talking about professional identity with students, the industry selection and category is probably the most important.” After his internship, he knew that this was the industry in which he wanted to pursue a career. “I'm not a cookie cutter person. I knew that investment banking is very difficult and very competitive, and I don't want to do something that's just like too easy,” stated Keith.

Students like Faith gained some new exposure to career pathways during her accountancy internship. This opened her up to possibilities that she hadn’t considered before. “Realizing what my friends were doing versus what I was getting to do…I felt spoiled a little bit…I know you have to put in grunt work, but I'd rather put it in somewhere where I see myself staying,” Faith commented. She reflected that in accounting most graduates tended to get their CPA
license, “work for two years for a big firm, and then move on.” Faith’s experience allowed her to envision new alternatives for her career like not working for a large accounting firm. She considered moving away from that track and potentially obtaining her CFA certification and working for another business or industry instead. This experience brought a new potential goal into her field of view.

Caroline’s co-op in the petroleum industry certainly confirmed her degree choice of chemical engineering, but like Faith, her work also exposed her to additional goals or options in terms of her career progression. Faith disclosed:

In terms of my future career goals, this co-op term, like my last term, has encouraged me to look more at business career paths. I wish to start in engineering to build a technical foundation, but I hope to use my chemical engineering knowledge while focusing on business in the long term… because of this co-op, I am more interested in getting a business minor or taking some of the prerequisite classes for an MBA. I could see myself in a career within this industry that combines chemical engineering and business.

In reviewing Caroline’s reflections from her co-op report, she certainly had been opened up to specific industries involving chemical engineering. Additionally, she now saw the value of additional education in business through a minor and an MBA.

Edward’s engineering co-op work also confirmed the enjoyment that he felt from seeing manufacturing projects successfully implemented. Like Caroline, he also observed the value of setting new goals like completing an MBA. Edward recognized the usefulness of his experience:
This job helped me realize I am in the field of study that I want to be in the rest of my life. I love the work I do with the company…This job has also affirmed my desire to get an MBA after I graduate.

Edward wanted to work his way “to the top of whatever company” with which he began his career. He felt certain that an MBA would give him “more knowledge to become a better employee.”

Charlotte’s career goals were quite lofty after her WIL experiences. Her work placements gave her the experience, knowledge, and confidence to aim high. Being an international student certainly afforded her a unique and also tragic perspective. She reflected on how her upbringing affected her career goals. Charlotte wrote about how she “lost a friend to acute asthma because of the inadequacy of advanced medical devices in the nearby hospitals.” During that same year, her neighbor “lost her son to a chronic illness because she could not afford the medical bills.” Those experiences made her “aware of the need for restructuring [her country’s] healthcare system.” As a result, Charlotte committed to dedicating her “career path towards alleviating the problems associated with healthcare” in her country. Charlotte’s background from childhood combined with her education and WIL experience have uniquely equipped her for a career directed towards serving and helping others. Her co-op work and knowledge could assist her in making progress towards her worthy goals.

**Experiencing Reality**

“I learned that a lot of the, a lot of the sort of romantic ideas I have about what engineers do and what I wanted to do with my life weren't exactly correct ideas. They weren't real.” Verne’s co-op placements gave him a practical view of what an engineer’s job really looked like. His work experience offered him a chance to compare his imagined career versus the daily
reality. This concept certainly tied into elements within the thematic areas related to assimilation and experience. Several subjects conveyed perspectives on how WIL participation injected a measure of reality into their visions of their future careers.

Robert’s manufacturing experience allowed him to work on engineering-based projects as a business major. This was a great opportunity for him and allowed him to understand the techniques and practices involved in that role. “I realized that I enjoy what I'm doing and…It exposed me to the day-to-day life of what this career and occupation is like. It gave me a better understanding of what I will expect,” Robert concluded. The exposure to the reality of the manufacturing engineering role could certainly help Robert in making an assessment of his future pathway.

Jack’s work placement also provided him with an up-close view of the day-to-day practicalities of engineering. Through his internship, he became familiar with “aspects of what actual fulltime engineers” typically do. Jack was able to work in “product development,” and he also got to utilize 3D software. He exclaimed, “I really am glad that I chose this path because that's exactly what intrigued me and kind of makes me very passionate about working.”

Jason’s work in a large automobile manufacturing plant also gave him insight into the daily work as well as just the routine of the manufacturing schedule. He would wake up at 5:30 a.m. and work the 7:00 a.m. to 4:30 p.m. shift. “I was getting on that routine, and really experiencing the real world,” he concluded. For Jason, figuring out what he really wanted to pursue as a career, and what his “engineering degree was were two very different things.” The internships affirmed his interest in manufacturing and assembly as opposed to design. Jason noted, “Most of our classes now are design oriented… I know that's not me… It's nice to get into something else…It reminded me of why I wanted to do this in the first place.” Jason’s job in the
factory allowed him to see what aspects of the profession really matched his expectations, confirmed his career choice, and gave him a view of his future.

Eli completed several engineering work experiences in manufacturing and he also felt that the jobs were useful in seeing what engineers do in actuality.

I guess my biggest takeaway was seeing how that interaction really looks like, and it was a good learning experience from that perspective, and also getting to see what engineers actually do and seeing what their day-to-day job is like…you know, what's my life going to be like if I worked for this company and after I graduate...So, you really get a full perspective. I mean…you can't learn it outside of doing it.

Eli observed that the best way to capture the essence of a career was to experience the reality of the work through WIL placements. As previous comments from Eli denoted, his career expectations were built on a need for work-life balance. His co-op work allowed him to gauge how the career and different companies aligned with his desires.

Elizabeth, like Eli, completed multiple WIL placements in various manufacturing facilities and industries. She noted that her co-op positions would likely ease her transition from college student to novice engineering professional after graduation. In her interview, she discussed the advantage that this experience offered to her. She asserted that without the co-op experiences then she would be “a deer in headlights” and overwhelmed in her first job. She contended that “it would be horrible,” and that she would “want to give up and come home immediately.” Elizabeth said, “At least now I've kind of gotten a taste of it, and gotten an idea, and can kind of know what to expect.” Listening to Elizabeth’s perspective, one could hear a sense of relief or thankfulness that she sought out these work placements. One could also almost hear a hint of anxiety in describing the alternative to what actually happened. A trace of fear
lingered in her voice as she considered the proposition of crossing the threshold from the academic world to the strange, unknown of the professional world with no sense of understanding regarding what awaited her on the other side.

Verne observed similar feelings during his interview, as he discussed his internship positions. He had “plans after I graduate already set up.” He knew where he was headed and who he was expected to be thanks to his internships. “I think it will prove to save me probably a couple of years of really awkward experiences when I enter my job after I graduate…that I may have had to go through had I not had previous work experience,” he concluded. Verne’s case illustrated how his experiences in his WIL placements had given him a leg up in assimilating and transitioning from a student to a professional, and it also offered evidence of a clearer career trajectory for Verne as a result of his participation in a WIL program.

*Exposure to Career Options*

In visualizing the future, WIL programs not only offered that glimpse over the horizon of the professional world into the daily demands but they also provided a roadmap of the various career options available to students. Stuart asserted, “Working and interacting with all these different people in the office has also affected where I see myself in the future.” Seeing those available future pathways was found to be extremely valuable to Stuart and several of the respondents during their work terms.

Stuart went on to reveal how his co-op experience “actually changed” his future plans “greatly” or at least made him start looking into “other options.” He realized that he didn’t mind “the corporate office setting,” but he hated “the manufacturing plant setting.” Stuart admitted, “To be completely honest, this work experience and the interactions I’ve made have really made me question engineering and manufacturing.” The experience that he had encouraged Stuart to
begin “angling towards the medical field.” He noted that the medical profession was more aligned toward what he hoped to “personally get out of” his career.

Even though, Stuart’s work in manufacturing was not confirmed to be a career path that he wanted to pursue, the WIL experience allowed him the chance to measure that alignment and determine that there were other options available that matched his professional goals. Now Stuart was able to select another option based on experience as opposed to conjecture. Several respondents were able to assess career opportunities and discovered new avenues that they might not have considered before their internships or co-op placements. Table 15 illustrates how WIL programs exposed other respondents to various professional options.

Table 15

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Data Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dan L.</td>
<td>Interview</td>
<td>I think it also kind of solidified that I do want to do the public accounting route to start. I would definitely say getting to see different industries, like I would've never thought I would have enjoyed real estate that much. So I think that's definitely gonna be a longterm goal, but I think in the short term, accounting is probably going to come first.</td>
</tr>
<tr>
<td>Jennifer M.</td>
<td>Interview</td>
<td>Personally, it really sort of made me have a mental shift from being like, &quot;Oh, I was in the chemical engineering but now on the marketing side, so I'm like kind of like an engineer/marketer.</td>
</tr>
<tr>
<td>Jennifer O.</td>
<td>Co-op Report</td>
<td>I honestly did not think I would like the environment, but once I adjusted, I really enjoy the mill. I could see myself working in a similar environment in the future. Working here I also realized how little I knew about my career options.</td>
</tr>
<tr>
<td>McCharen</td>
<td>Co-op Report</td>
<td>This experience has encouraged me to stay on the academic path that I am on. It has opened my mind to more possibilities of masters level education as well as more job opportunities.</td>
</tr>
<tr>
<td>McCharen</td>
<td>Interview</td>
<td>I got a much wider variety of experiences, product development, process development...what sales engineering is. I found out a lot more realms of engineering I didn't know existed.</td>
</tr>
</tbody>
</table>
Penn Co-op Report

While growing up both of my parents have owned businesses, so I’ve always assumed that I would own my own business or take over one of theirs. Interning has given me an opportunity to see if I would enjoy working in a corporate environment. After a semester of working here I have decided this is not the career path I want to take.

Sidney Co-op Report

I have always known I’ve had a passion for lean manufacturing, and while that has not changed, a joy from assembly is slowly starting to grow as I understand the products better. Long term though, I still have intentions of moving into consulting. I believe, seeing as my outgoing nature combined with lean style of thinking seems to be aligned more with consulting work.

Sidney Interview

I was fortunate to see the different disciplines of engineering. It’s so broad that there are so many that are actually more or less away from the technical side and more towards the people side and that was a big help for me because I know now that there’s plenty of opportunities for me to still be in engineering...in those roles that I just didn’t even know are options for me to go into. I kind of had like three boxes that engineers went into beforehand and now there's 15.

Verne Interview

Being in the internships, you actually learn a lot about different things that people do. That is one of the biggest things that I've taken from my internships is...I've learned a lot about military careers and things that people go on to do through the military and things like that. So, that was probably one of the biggest things I took from my internships as far as career planning. It's just what's out there.

Like Stuart, Penn’s co-op work revealed to him that he did not want to pursue a career in the corporate world and needed to veer toward the path of owning his own business or at least working in a smaller firm. The table reveals McCharen and Sidney’s perspectives of their work through both their interview comments and their writing in the co-op reports. For both students, the WIL placements opened their eyes to a wider view of the engineering field and the possibilities that it presented. Similarly, Verne’s internships displayed, “what’s out there” for him in terms of professional outlets.

Nick’s international business internship left him with comparable insights that related to the observations of these other students regarding career options. He offered that he “pretty
much switched” what he wanted to do professionally after completing the internship. Nick asserted, “I think that's also another important part of the internship, even if you don't like that job, you're going to find that out after the internship…if you never had taken it, you would never know.” The variety of exposure that Nick acquired during his WIL placement essentially changed where he wanted “to go in life.”

Summary

The fifth and final analytic theme proposed in this study illustrated the development of pre-professional identities for WIL students. The thematic elements discussed in this section conveyed how study participants learned to navigate the professional world through their work experiences. The subject of gender disparities in the workplace was also highlighted. Students’ views on professionalism and the process of professional development through WIL placements were examined as well. Visualizing future careers was the final element discussed in this section. This topic examined how WIL programs enable participants to clarify goals and assess various career options. The subsequent passage will offer a summary of the analytic themes presented in this chapter.

Summary of Themes

Analysis of the student interviews and the student co-op reports yielded five major themes related to the psychosocial and professional development of WIL participants. Those themes consisted of (a) Assimilation and Integration, (b) Experience and Understanding, (c) Interpersonal Perspective, (d) Personal Identity, and (e) Pre-professional Identity.

In general for the study participants, embarking on a WIL placement involved an aspect of assimilating into the environment of their employers and then returning back to the campus climate upon completion. Those transitions involved adjusting to new challenges and integrating
new knowledge continuously. Several respondents’ expectations were often challenged, but for other students the experience provided them with the learning that they anticipated. For many participants the learning that they acquired on the job influenced how they approached their academic work once they re-engaged in coursework.

The projects and tasks undertaken by the student in their WIL programs offered a great deal of new experiences and understanding for the processes and procedures of the working world. Much of the gains absorbed by the participants involved specific professional skills or technical competencies that are expected in industry. Communication skills emerged as one of the most common abilities that students viewed as important to professional practice and a new competency that they valued from their work placement. The projects and assignments completed by respondents also provided them with insight into the responsibilities associated with professional practice and gave them an appreciation for the consequences and advantages of such accountability.

The time spent in the WIL program affected many of the subjects’ interpersonal perspectives. Through their employment many students gained insight into professional relationships and the support that they can provide. Typically the work assignments required participants to collaborate with others in a team environment which helped to instill a greater sense of open-mindedness in several cases. The impact of role models and mentors was shown to be another key relational element that was instrumental in the development of the WIL participants.

Finally, this chapter examined the dualistic nature of the participants’ development of their own personal and pre-professional identities. The WIL experiences not only offered technical learning, but on an individual level many students observed gains in independence and
maturity. Challenges from projects and responsibilities often afforded subjects a new measure of self-awareness in evaluating their own strengths and weaknesses. For a large number of students, their work emboldened them with greater self-confidence in their own discernment and abilities. The WIL participants not only perceived new growth personally but they also showed indications of an emerging pre-professional identity. Their experiences have offered many respondents understanding into how to navigate the professional world by recognizing acceptable behavior and knowing the culture. Gender concerns were revealed to be a key obstacle for many female students as they attempted to progress along their career pathway. Interaction with co-workers and team members helped to instill some participants with a better grasp of professionalism and leadership skills. The time spent in the work place also offered students a clearer perspective on career goals and professional options that are available to them in the future. In the final chapter, these analytic themes will be discussed further and the implications of the research findings will be examined at length.
CHAPTER V

Discussion

The purpose of this qualitative study has been to explore the psychosocial and professional development of undergraduate student members of an interdisciplinary manufacturing program who participated in work-integrated learning experiences at a public university in the southeastern United States. A phenomenological methodology was employed in the implementation of the project. Data was acquired from two sources with the aim of gaining students’ perspectives on their experiences during their work-integrated learning (WIL) program participation. The data sources included WIL student interviews conducted by the researcher and also analysis of student co-op course reports. The project yielded 38 interview transcripts and 33 co-op reports. Five themes emerged from the data sources during the analysis process. This chapter offers a synopsis of the analytic themes in relation to other scholarly research. It also delineates the implications for higher education stakeholders in connection with WIL programs and policy.

Overview of the Research

The research project focused on several issues relating to the psychosocial and professional development of the research participants. In terms of WIL program participation, this phenomenological study explored the following questions: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs?
Additionally, the research looked at the subsequent sub-questions: (a) How does participation in work-integrated learning support the development of personal and/or professional identity, and (b) How do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences?

The research of Chickering and Reisser (1993) provided an essential research framework and a useful lens in examining the themes discovered during the analysis process of this project. Chickering and Reisser’s seven developmental vectors consist of: (a) developing competence, (b) managing emotions, (c) moving through autonomy toward interdependence, (d) developing mature interpersonal relationships, (e) establishing identity, (f) developing purpose, and (g) developing integrity. In addition to employing the framework of the seven vectors, the participants’ WIL experiences were also compared to the pre-professional identity (PPI) model as developed by Jackson (2017, p. 842). This framework highlights six aspects of pre-professional identity: (a) understanding of responsibilities, (b) understanding of expectations, (c) self-evaluation and reflection, (d) self-directed learning, (e) confidence, and (f) understanding of attitudes, beliefs, ethical values, and culture.

Data was collected in order to effectively explore the WIL experiences of the research participants. Semi-structured interviews were held with 40 undergraduate students from the IMP program on campus. Thirty-eight of the interviews were found to be suitable for use in the study. The interviews consisted of open-ended questions relating to their WIL placement. Student co-op reports (33) were also analyzed for reflections that the participants had regarding their co-op work placements. Through inductive analysis of the two sets of data, five analytical themes emerged from the respondents’ comments and reflections. These themes consisted of:
(a) Assimilation and Integration, (b) Experience and Understanding, (c) Interpersonal Perspective, (d) Personal Identity, and (e) Pre-professional Identity.

The first theme of Assimilation and Integration revealed the elements involved with students transitioning to and from their WIL placement. Examination of the concepts involved in this area showed the expectations held by students as they embarked on their work term. Analysis also revealed the challenges related to adjusting to a new workplace. Participants’ thoughts on returning to campus following the WIL experience was highlighted. Finally, the integration and application of new knowledge towards remaining academic pursuits was also found to be revealing.

Experience and Understanding makes up the second theme of the research findings. WIL students spoke of the useful skills and knowledge that they acquired through their employment. Specific technical skills were shown to be important, but soft skills like communication were also an essential benefit to participants. The project work and assignments promoted student’s learning and allowed for a better comprehension of professional reponsibilities.

Through the WIL placements, respondents were able to glean important insights into the third theme of Interpersonal Perspective. This theme consisted of elements related to the significance of professional relationships and how they support students during their work terms. WIL participants were able to obtain skills and experience with collaboration and team work during their assignments. The impact and guidance offered by mentors was also shown to be quite influential to the respondents.

Finally, the themes of Personal Identity and Pre-professional Identity surfaced throughout the analysis process. The WIL participants were personally influenced by their work experiences
through growth in their independence, self-awareness, and self-confidence. Professionally students were afforded a chance to learn about navigating the professional environment. Female research participants offered their perspectives on challenging gender difficulties which they were exposed to in their WIL placement. Employment also gave many of the research subjects a better understanding and appreciation of professionalism. The opportunity to spend time in the workplace enabled students to visualize future career options while clarifying goals and direction.

**Discussion of Research Findings**

As noted earlier, Chickering and Reisser (1993, p. 265), argued that, “human development, in all its complexity and orneriness, as the unifying purpose for higher education.” While Chickering and Reisser’s opinions are clear on the topic, other stakeholders contend that the objective of higher education is not so evident. Some scholars would point towards the competing interests involved in higher education today (Aram & Roksa, 2011; Aram & Roksa, 2014; Labaree, 1997). This research project set about to investigate the developmental gains of WIL programs and their potential for impacting accountability and effectiveness for colleges and universities.

Previous research has delved into how WIL experiences can improve student competence in various ways (Cates & LeMaster, 2004; Cooper, Orrell, & Bowden, 2010; Jackson, 2013; Reddan, 2016; Walther, Kellam, Sochacka, & Radcliffe, 2011). Over the years, scholars have also explored the role of interpersonal relationships as they relate to WIL programs (Fleming, 2015; Fleming & Eames, 2005; Schlosser & McNaughton, 2005; Smith-Eggeman & Scott, 1994). Often these studies have shown how professional relationships can support a student’s development during a work placement. In recent years, scholars have also begun to examine the
nature of professional identity development (Armstrong, Waite, & Rosenthal, 2015; Bowen, 2016a; Bowen, 2016b; Jackson, 2017; McDonald, Cameron, Brimble, Freudenberg, & English, 2014; Trede, 2012). These studies have illuminated the importance of understanding and addressing professional identity development in a very intentional approach.

Despite the previous body of research, gaps still exist in the scholarly work. There still appears to be a disconnect between studies investigating college graduate capabilities and professional development programs in higher education (Daniels & Brooker, 2014; Jackson, 2016). The literature review also revealed a lack of resources examining WIL programs role in fostering growth in students’ levels of competency, career decision making skills, and professional integrity. Finally, while professional identity is a concept that has been recently highlighted in the literature, the need still exists for further studies. Scholars call for better conceptualization of professionalism and also a clearer understanding as to how professional identity is formed and supported through WIL programs (Jackson, 2017; Molinero & Pereira, 2013; Zegwaard, 2015).

With this need for further study of WIL programs in mind, this research project examined the following questions: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs? Additionally, the research looked at the subsequent sub-questions: (a) How does participation in work-integrated learning support the development of personal and/or professional identity, and (b) How do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences? The subsequent section discusses the emergent themes of the project and their relation to the research questions.
Psychosocial and Professional Development of WIL Students

Analysis of the research data revealed that the WIL experiences did enhance the psychosocial and career development of the participants in many ways. The findings illustrate that WIL programs appear to qualify as a high-impact educational practice. Like other high-impact practices, WIL participation affords students significant gains in learning and personal development (Kuh, 2008). Positive developmental growth was also observed in several aspects connected to Chickering and Reisser’s (1993) seven vectors, such as: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, and developing purpose. Limited findings were revealed which connected WIL placements with the seventh vector of developing integrity.

Additionally, the emergent themes which were identified in this investigation also related to many aspects of Jackson’s (2017) framework for pre-professional identity, including: (a) understanding of responsibilities, (b) understanding of expectations, (c) self-evaluation and reflection, (d) self-directed learning, (e) confidence, and (f) understanding of attitudes, beliefs, and culture. Once again, the conclusions were limited as to WIL placements fostering gains in ethical values of the subjects. The subsequent sections will situate the research findings in relation to Chickering and Reisser’s seven vectors, Jackson’s pre-professional identity framework, and other relevant literature.

Developing Competence

Chickering and Reisser’s (1993) first developmental vector involves Developing Competence. The authors described this concept through the model of a three-tined pitchfork. Those three “tines” represent intellectual competence, physical and manual skills, and interpersonal competence. While some of the research participants did relay stories connecting
to physical skills, most respondents shared perspectives on growth linked with more intellectual and interpersonal competencies as highlighted by Chickering and Reisser. These elements involve skills and abilities like communication, reasoning, critical thinking, problem solving, and self-efficacy.

The development of many of these competencies was evidenced in all of the research themes which emerged from the data. The first theme involved Assimilation and Integration. This concept examined not only how WIL participants assimilated into their new employment situations, but it also revealed how students adjusted upon their return to the academic world. The reintegration to campus life and course loads allowed the WIL students to employ the gains in experience which were acquired during their work. This re-orientation to school provided participants with an opportunity to merge skills learned in their WIL placements with theories and principles that they were exposed to in their classes. This element aligns with research that shows the effectiveness of WIL programs in aiding the integration of theory and practice (Cates & LeMaster, 2004; Cooper, Orrell, and Bowden, 2010).

The second research theme, Experience and Understanding, was found to directly relate to students’ development of specific competencies. Respondents shared their experiences in learning and utilizing technical skills and application as required in the professional workplace. The WIL participants also relayed the important soft skills that were acquired during their employment. Communication was one of the most often cited gains that respondents took from their experiences. These results mirror findings uncovered through other studies (Higgs, 2014; Walther, Kellam, Sochacka, & Radcliffe, 2011).

Walther et al.’s (2011) study also connects to Chickering and Reisser’s (1993) thoughts on interpersonal competence. This was viewed as a critical element of one’s sense of
competence. The third research theme of *Interpersonal Perspective* strongly aligns with the previous literature. Through the data analysis, the participants were found to appreciate many gains in understanding professional relationships and teamwork. Several research subjects shared how these collaborations at work helped them to gain a greater sense of openmindedness which also relates to similar findings from Walther et al.’s work as well.

*Personal Identity* was the fourth theme to emerge from the research. The gleanings from this topic illustrated how many of the research subjects observed growth in their self-awareness and self-confidence during their WIL experiences. Students acquired a better sense of their strengths and weaknesses through their employment which offered some level of assurance for the participants. This level of self-awareness connected closely with Chickering and Reisser’s (1993) indicators of intellectual competence. Jackson’s (2013) previous study on WIL programs also observed connections with student work experiences and higher levels of self-perception. The research participants showed connections between their gains in self-awareness and also their sense of self-confidence. The handle of Chickering and Reisser’s “three-tined pitchfork” is largely supported by an individual’s self-confidence. An important construct of one’s own sense of competency lies in the assurance one has in their own abilities. This study provides indications of how the WIL students were able to gain greater affirmation of their competencies through their work placements. Raelin, Bailey, Hamann, Pendleton, Raelin, Reisberg, and Whitman’s (2011) study on co-op experiences also supported the assertion that WIL experiences promote increases in self-efficacy.

The fifth theme from the research findings also connects to Chickering and Reisser’s (1993) writings on developing competence. This theme explored the notion of *Pre-professional Identity*. WIL Students offered their insights into how their work placement provided them with
knowledge of navigating company culture and observing appropriate behavior in the work setting. Participants also noted specific attributes of professionalism that they could emulate. These elements correlated with the first vector by showing that students can comprehend and demonstrate acceptable social norms in the professional world. Bowen’s (2016b) research also affirmed the effectiveness of WIL placements in providing students with an outlet to observe and practice professional behavior prior to graduation.

The findings of this study revealed many links between WIL programs and the concept of developing competence as defined by Chickering and Reisser (1993). All of the emergent themes of the project offered support for this claim. As participants transitioned between the professional and academic worlds many were able to integrate new knowledge based on their practical experiences. Those experiences garnered the students relevant technical abilities and helpful soft skills like communication. Collaboration with co-workers afforded several respondents with a broader perspective and openness to others’ opinions. Research subjects often became more self-aware and confident in their capabilities through their WIL employment. Finally by observing co-workers and mentors, participants were given the chance to observe and practice appropriate behaviors as an emerging professional.

**Managing Emotions**

The second of Chickering and Reisser’s (1993) vectors relates to *Managing Emotions*. According to the authors, development in this vector is demonstrated by a student becoming more aware of their feelings, learning how to balance those feelings, and integrating them into their thoughts and actions. In this conceptualization, growth in emotional awareness entails issues like practicing new skills, learning coping techniques, becoming more adaptable, and seeking meaningful experiences and constructive actions. Several of the research themes
revealed how WIL experiences were shown to promote the development of emotional intelligence and maturity.

The theme of Assimilation and Integration specifically addressed the adjustment process of WIL students to their employment location. Several participants shared an array of emotional challenges experienced while transitioning into their employment and also throughout their work placement. The uncertainty of professional expectations and the respondent’s own ability to perform caused several students to express feelings of intimidation, inadequacy, and uncertainty. This worry was clearly an emotion that many of the subjects observed and had to work through during their employment.

An anxiety of “measuring up” to peers or meeting the challenge of the job was also revealed to have connections to the theme of Personal Identity. This research theme offered reflections from students regarding the challenges of independent living while on a WIL assignment. Many students were employed in new locations or faced with living completely alone for the first time. The participants expressed the emotional challenges of this in relation to their assimilation and their personal development. Observations included stories relating to loneliness and depression in some cases. From a personal perspective, these scenarios resulted in evidence of maturation and growth in an awareness of those feelings and adapting to the struggle through positive outlets. Cook, Bay, Visser, Myburgh, and Njoroge’s (2011) study of accounting students offered findings to also support the development of emotional maturity through participation in WIL programs.

The theme of Assimilation and Integration unearthed students’ feelings of frustration and stress in connection to their assignments and project work. This sentiment was also reflected in the theme of Experience and Understanding. In this area, participants were able to garner
helpful skills during their employment. Communication and responsibility were an essential element of the assignments that were completed. As the WIL students encountered miscommunication and looming deadlines they were exposed to the frustrations and anxieties that are often typical with the daily challenges of the professional world. In order to achieve their work goals, participants were faced with learning coping techniques and ways to adapt to the barriers that they faced. Similarly, Beck and Hamlin (2008) also investigated the relationship between WIL placements and emotional intelligence. Their work involved accounting students as well. The mixed methods study indicated perceived growth in adaptability, self-efficacy, and interpersonnal skills.

Through the theme of Pre-professional Identity, it was revealed that many of the females WIL students were compelled to learn coping skills to overcome cases of gender bias in the workplace. These participants expressed their perceptions of how other co-workers or supervisors were dismissive or disrespectful to them based on their gender. There were multiple cases of female students feeling like their opinions or intelligence was not respected. In a few scenarios, it appeared to cost the students preferential assignments. The respondents expressed feelings of frustration and anger. In some cases, these circumstances affected the students’ feelings of confidence in themselves. Several of the participants relayed how they found ways to cope with these challenges by either addressing the situation directly, turning to a mentor for support, or just finding ways to work around the biased individuals.

This study highlighted multiple themes that supported the notion that WIL programs do offer growth in managing emotions. The assimilation process offered challenges of adjusting to feeling brought about by entering a new workplace and living in a different environment. The independence brought about by moving to a new location or undertaking new work challenges
led to cases of personal development for many respondents. Work assignments also revealed emotional struggles to students as they attempted to meet their deadlines. Finally, the theme relating to pre-professional identity offered insight into gender biases against females in the workplace. These challenges and struggles illustrated the feelings that respondents observed and their stories revealed the techniques and methods that they employed to navigate those barriers.

**Moving Through Autonomy Toward Interdependence**

Chickering and Reisser’s (1993) third vector involves *Moving Through Autonomy Toward Interdependence*. According to the writers, separating from one’s parents and establishing oneself as an individual is an important part of the developmental process for students. Establishing self-sufficiency and learning how to take responsibility for decisions are essential in the individuation process. Chickering and Reisser observed three components of moving through autonomy towards interdependence, which are: (a) emotional independence, (b) instrumental independence, and (c) interdependence. Emotional independence involves a freedom from needing constant reassurance and approval. Instrumental independence is comprised of one’s ability to solve problems independently and the confidence to pursue various opportunities in different locations. Interdependence means that an individual has an awareness of their own place in nurturing the welfare of the larger community. Several of the emergent research themes involved elements that connect with the concepts of autonomy and interdependence.

Connections to this vector were discovered in three of the research themes from this study. In particular, relationships between instrumental independence were evident in the data that respondents provided concerning the theme of *Experience and Understanding*. The WIL student perspectives gained from their work experience touched upon several markers for
instrumental independence. Respondents discussed how they learned how to analyze a process and identify problems through their project work. They further demonstrated problem solving abilities by using their technical and soft skills to reach a solution. Often times participants had to learn to persist in overcoming challenges, but enduring through those hurdles offered the students confidence in tackling the next problem that they might encounter.

The theme of Personal Identity also contained signs of instrumental independence. Many of the students were assigned to employment in new locations with which they had no familiarity. Often these participants were far from their typical support networks. “Adulting” was a new challenge for several students, and they had to learn to handle issues on their own which afforded them new life-skills. Some of the participants relayed stories of learning to be financially independent in not only earning money, but also being responsible for paying bills for the first time. Some WIL assignments required that the students travel which presented additional complications that several respondents had not dealt with on their own before. Again, this connected with instrumental independence by demonstrating that the participants learned to leave one place and be able to adapt and function well in their new environment. While these “adulting” challenges required students to learn to be self-sufficient, the work assignments also demanded that the students learn how to take initiative and manage their own workload. Confronting new problems often forced several participants to self-teach themselves new competencies or simply to employ self-discipline in order to focus on a task and drive to a result. All of these behaviors showed positive signs of the WIL students advancing in their sense of instrumental independence. Other research provides support for these observations. Jackson’s (2017) study employed Baxter Magolda’s (2001) work on self-authorship and applied
that framework toward WIL placements. Her findings indicated progression in student autonomy and signs of self-direction through their experiences.

Chickering and Reisser (1993) saw interdependence as the capstone of their third vector. The research participants in this study offered signs of growth in this area through the theme of *Interpersonal Perspective*. In many cases the WIL students shared instances of how their experiences provided them with insight into the importance of respect in professional relationships. Some respondents observed that positive collaborations at work were built upon giving respect to others which often allowed the students to earn a measure of respect themselves. Many participants showed signs of an increased openness to the opinion and ideas of others. This broader perspective appeared to have exposed them to the importance of compromise in team assignments, which is another strong indicator of interdependence. These results also connect to other findings in the literature on the topic. An early study by Wilson and Lyon (1961) found that WIL placements supported increased ability to understand and relate to others in the workplace. Unfortunately there have been limited studies on the topic since that time. Finally, while a considerable amount of students learned to operate self-sufficiently, several also remarked on their understanding for the need to ask for assistance in solving problems in their work. The appreciation for teamwork and comprehending that some problems are too large to address alone were positive signs of interdependence.

Elements highlighted through this study provide positive indications of growth for participants in autonomy and the appreciation for interdependence. Students’ work assignments offered a chance for learning new problem solving and critical thinking skills as signs of instrumental independence. New personal challenges in independence also provided many participants with an enhanced level of self-sufficiency and motivation. Increases in
interdependence were recorded through respondents advanced appreciation for professional relationships and collaboration. These observations mark a progression for many of the research subjects through not only autonomy but toward signs of interdependence as regarded by Chickering and Reisser’s (1993) work.

**Developing Mature Interpersonal Relationships**

*Developing Mature Interpersonal Relationships* is the fourth vector from Chickering and Reisser’s (1993) writings. The authors underscore how impactful that relationships can be in the growth and development of a student. Through these connections students learn how to do things like manage emotions, make meaningful commitments, develop tolerance, and resolve conflict. Most of the themes of this research study offer connections to this fourth vector.

As mentioned previously in relation to the second vector of *Managing Emotions*, the first research theme of *Assimilation and Integration* illustrated how many respondents learned greater awareness of their emotions and also how to understand and cope with those feelings. This same theme also revealed connections to developing mature interpersonal relationships. In order to develop and maintain healthy relationships with others, it is imperative that individuals be able to express their thoughts and feelings in appropriate ways. The development of positive relationships was also shown to be quite helpful to the research participants as they adjusted to their new work and living environments. Fleming and Eames’ (2005) study also offered support for the notion that relationships were essential to the socialization and enculturation process for co-op students.

Communication skills are key to establishing new relationships and maintaining those connections. The second theme of *Experience and Understanding* captured how WIL placements afforded many students opportunities to learn and improve their communications.
skills. A crucial part of effective communication is not only the ability to speak one’s own mind clearly, but to also listen actively to the concerns of others. Listening provides understanding and empathy for the perspective of others. These are skills that many respondents learned through their work and they are fundamental components for building trust in relationships. The students were also confronted with a variety of conflicts in their WIL placements and several participants were able to employ their newly learned communication skills in helping to resolve such issues. Other studies (Fleming, 2015; Schlosser & McNaughton, 2005) examined co-op experiences and how they can help facilitate learning new skills like communication that can facilitate understanding and trust in participants. These studies showed how WIL students experimented with interpersonal skills in the workplace, and also how those relationships in turn facilitated the learning process for the participants.

Communication skills like listening and understanding were closely related to the third theme of Interpersonal Perspective. Through data analysis, results from this theme indicated that the WIL experience of many study respondents resulted in an increased openness to new ideas or opinions. This tolerance is important to developing healthy relationships. It allows participants to reassess their assumptions and empathize with their co-workers in many cases. Smith-Eggeman and Scott’s (1994) research examined the development of interpersonal relationships through co-op experiences and also found that such programs often support growth in tolerance and the quality of professional relationships. These indicators revealed connections to the fourth theme of Personal Identity due to the observations by several respondents regarding their growth in self-awareness and self-confidence. Chickering and Reisser (1993) noted that these measures were also key requirements for sustaining openness and intimacy in a mature relationship.
The assimilation process for the WIL participants showed how they were able to learn how to recognize and manage their emotions which was a key component of Chickering and Reisser’s fourth vector of _Developing Mature Interpersonal Relationships_. The communication skills that the study subjects garnered through their WIL employment also was shown to be crucial in being able to listen and understand others. This led to higher levels of tolerance and openmindedness which was observed by many participants in the theme of _Interpersonal Perspective_. The _Personal Identity_ theme also showed how several respondents experienced increased self-awareness and self-confidence which support tolerance and intimacy in establishing health relationships.

**Establishing Identity**

While all of the previous vectors connect closely with identity formation, Chickering and Reisser’s (1993) fifth vector explicitly covers _Establishing Identity_. In their work, Chickering and Reisser asserted that, “establishing identity certainly involves growing awareness of competencies, emotions and values, confidence in standing alone and bonding with others, and moving beyond intolerance toward openness and self-esteem” (p.173). The authors conceptualized identity development as facing challenges and resolving conflict in the process of building a solid sense of self. That sturdy foundation of identity is built upon several attributes: comfort with body and appearance, comfort with gender and sexual orientation, sense of self in social, historical, and cultural context, clarification of self-concept through roles and life-styles, sense of self in response to feedback from valued others, self-acceptance and self-esteem, and personal stability and integration.

Chickering and Reisser (1993) also cited Knefelkamp, Widick, and Parker (1978) in highlighting environmental factors that are conducive to healthy identity development, such as:
experimentation with varied roles, the experience of choice, meaningful achievement, freedom from excessive anxiety, and time for reflection and introspection. Chickering and Reisser also added the following elements to the list: interaction with diverse individuals and ideas, receiving feedback and making objective self-assessments, and involvement in activities that foster self-esteem and understanding of one’s social and cultural heritage. All of this study’s emergent themes directly relate to the concepts delineated by Chickering and Reisser’s assertions on identity formation.

The first theme of Assimilation and Integration captured stories from many WIL students that offered associations with several factors of identity construction as delineated by Chickering and Reisser’s (1993) work. In the participants’ transitions to their work site they shared observations of the emotional challenge of the adjustment process. Students became aware of feeling like nervousness, anxiety, frustration, loneliness, and depression. These emotions were brought about from issues of either moving to a new location or simply from the challenges and demands of their work assignments or interactions with new co-workers. Transitioning between their employer and the return to academic life also afforded many respondents with time for reflection and the integration of new knowledge and experience gained through their work placements. Several participants noted how new information, reflections, or skills that they acquired would be beneficial in their academic pursuits or in their future professional endeavors.

A majority of the research subjects shared reflections of how their WIL employment provided them with valuable skills and abilities. The second research theme of Experience and Understanding depicted those cases which also had several links to identity formation. Many of the work projects required the respondents to learn new technical applications or soft skills in order to complete the assignments. These achievements were meaningful to the students and
instilled a sense of self-esteem from their newly acquired skills. The participants’ awareness of their new competencies seemed to have bolstered their sense of self personally and professionally. Macdonald, Cameron, Brimble, Freudenberg, & English’s (2014) research examined the development of students’ skills, confidence, and identity through an accounting or finance internship and professional development program. Their findings also suggest that WIL programs can provide participants with effective development of competencies and professional identity.

*Interpersonal Perspective* is the third theme of this research study and it also related to identity development in various ways that link to Chickering and Reisser’s (1993) observations on identity formation. Students noted how their WIL placements helped them to better understand the importance of professional relationships and collaboration with co-workers. Through these interactions participants were able to find help in assimilating to their new employment setting and they garnered validation through the bonding that they did with others. Several respondents relayed cases of how they were able to connect with a diverse array of people that they might not have ever associated with otherwise. These relationships and team collaborations appeared to provide many of the respondents with a greater sense of open-mindedness and tolerance for new ideas. Students also reflected on the vital importance of their relationships with mentors in providing the participants with feedback on their performance and advice on suggested improvements. The study subjects seemed to greatly value that level of input and guidance. Armstrong, Waite, and Rosenthal (2015) conducted a study with pharmacy students on the influence of coaching or mentoring programs during WIL placements. They also found that the feedback from mentoring was helpful to students in constructing a sense of professional identity and obtaining navigation skills for the professional environment.
The research subject for this project offered reflections on issues relating to their Personal Identity development for this study’s fourth theme. This subject captured several observations connected to the psychosocial development of the respondents. Many of these reflections revealed attachments to Chickering and Reisser’s (1993) thoughts on identity construction. Many of the WIL students provided stories of how their experience helped them to learn how to stand on their own independently. In several cases that was demonstrated through adulting by becoming more financially self-sufficient or through other responsibilities of living autonomously. Work assignments also required the students to learn to become self-motivated and self-directed. Several participants revealed deeper levels of self-awareness after their WIL employment. The interview provided cases of students reflecting on their various strengths and weaknesses which they noted as a result of their experience. For some respondents, their self-awareness also led to a better grasp of their priorities or values in relation to their personal and professional life. A few students relayed their desire for work-life balance and noted issues of importance for them as they progress into their future lives and careers. These participants were able to try on the roles of “adult” or professional during their WIL placements. These experiments and reflections helped them gain a better insight into their concept of self as a young adult and an emerging professional.

The concept of trying on different roles also related to this study’s fifth theme of Pre-professional Identity. This theme certainly connected to several elements of Chickering and Reisser’s (1993) Establishing Identity vector also. The authors noted the importance of resolving crisis in this process. Several of the research subjects relayed their concerns with how to reconcile who they were as individuals with who they thought they needed to be as a professional. Some respondents felt that they needed to maintain a separation between their
personal and professional identities. Other students lamented working in a profession that would not allow them to reflect their own personalities. Clearly, the respondents were experiencing varying thoughts and approaches to reconciling these roles, but the WIL experience did seem to provide them with an opportunity to embark on that journey.

This theme also provided examples of students who were able to not only experiment with roles, but to also observe appropriate professional conduct, expectations, and attributes through their peers and mentors. Interestingly, many respondents could not conceptualize their thoughts when interviewed about their professional identity. However, they could provide observations on various attributes associated with professionalism through their observation of others. These findings were also supported by research from other scholars on the subject (Bowen, 2016b; Trede, 2012).

Many of the participants reflected upon unique factors relating to the professional culture of their workplace. Their WIL placement provided respondents with an opportunity to learn valuable skills in navigating the culture through acceptable professional norms. Trede’s (2012) study also illustrated support for how WIL programs can assist students in better understanding workplace culture and socializing into a community of practice. Bowen’s (2016b) work employed the lens of social identity theory in order to analyze the experience of student interns. He theorized that individuals adopt specific attitudes and behaviors in order to assimilate into a particular social group, in this case a work environment. Bowen’s findings affirmed the notion that WIL programs can provide participants with a space to try out variations or “possible selves” and apply observed behaviors in an effort to craft their professional identities. These results resemble observations recorded by the research subjects in this study regarding their professional identity formation.
Chickering and Reisser (1993) also asserted that comfort with gender and sexual orientation are important factors in developing a solid sense of identity. This study’s findings on pre-professional identity contained cases of female WIL students that encountered challenges to their efforts toward professional development due to their gender. Several female respondents relayed incidents of perceived gender bias during their work assignments. These episodes involved cases of male counterparts or supervisors making offensive comments or treating the participant in a dismissive manner. Often times, the female WIL students noted that they felt that their opinion was not taken seriously or that male WIL students were given preferential assignments due to their gender.

Over the years, various studies and articles have documented the problems with gender discrimination in the workplace and how that often leads female engineering students, in particular, away from their originally intended career paths (Boykin, 2011; Fouad, Chang, Wan, & Singh, 2017; Leventman & Horst, 1985; Rowe, 1980; Singh, Fouad, Fitzpatrick, Liu, Cappaert, & Figuereido, 2013). As observed by several of the female study participants, these types of gender biases during their work placements were frustrating and often challenging to their sense self-confidence.

The stories of these emerging female professionals related how the success they found in their WIL assignments and the support of mentors were essential in helping them establish a stronger sense of self efficacy. The advice of role models, especially other females, were shown to be highly valued by the respondents in assisting them in getting through immediate struggles and also visualizing a pathway for their professional careers. Several scholars have completed studies with similar results and recommendations which show the positive effects that mentoring relationships have in supporting female professionals in the workplace (Fouad & Singh, 2014;
Ingram & Mikawoz, 2006; Raelin, Reisberg, Whitman, & Hamann, 2007). The cases captured in this study’s theme of Pre-professional Identity affirmed the challenge that several female WIL students faced based on their gender identity, and they delineated the coping skills and mentoring relationships that were pivotal in providing a supportive environment for these individuals’ professional development.

**Pre-professional Identity Framework**

In addition to employing the work of Chickering and Reisser (1993) as a conceptual lens, the professional development of the study subjects were assessed against the pre-professional identity (PPI) framework of Jackson (2017). This model draws upon Baxter Magolda’s (1998) research regarding self-authorship and employs it as a measure of students’ professional identity formation through WIL experiences. Jackson’s PPI framework consists of the following factors: (a) understanding of responsibilities, (b) understanding of expectations, (c) self-evaluation and reflection, (d) self-directed learning, (e) confidence, and (f) understanding of attitudes, beliefs, and culture. These elements serve as triggers which help students better understand the responsibilities and expectations of their future professions (Jackson, 2017, p. 842). These triggers were shown to have been evident during the WIL experience of many of this study’s respondents.

The trigger of Understanding of Responsibilities entails: completing tasks, exposure to organizational structure and different roles in the company, learning from co-workers and supervisors, exposure to company documents, and participating in meetings (Jackson, 2017, p.842). The research theme of Experience and Understanding connected to this factor. Respondents relayed how their work required them to complete important assignments by working with documents and applications as provided by the employer. The theme of
Interpersonal Perspective also exposed students to collaboration with co-workers and supervisors through projects and team assignments. Participant comments relating to the theme of Pre-professional Identity certainly linked to this trigger in that many WIL students were afforded opportunities to observe the organization’s structure and often times observe or even try on the role of a project leader during their employment.

The next component of Jackson’s PPI framework entails the Understanding of Expectations. This factor is comprised of things like: working under deadlines, interacting with stakeholders, undertaking challenging situations, exposure to the office environment, and working with “real” information. Once again, the Experience and Understanding theme of this research study offered many students an introduction to the pressures, challenges, and expectations of deadlines during their project work. These assignments certainly required the participants to employ the use of actual company data in order to complete their projects. The respondents also provided their observations on working with stakeholders in the theme of Interpersonal Perspective. Several students relayed the usefulness of working with others to solve problems and quite a few participants relayed their frustrations with gaining buy-in to their projects from stakeholders.

The third trigger presented by Jackson’s (2017) PPI model is Self-Evaluation and Reflection. This element encompasses things like: identifying strengths and weaknesses, evaluating one’s performance, assessing gaps, planning for personal development, and organizational improvement. This trigger related closely to the theme of Personal Identity. Many research subjects provided reflections on their personal strengths and weaknesses that they observed during their work terms. These gleanings primarily came through the challenges of living and working independently. Many of the students gained insight into their own need to
take initiative and become more self-reliant. These observations often were accompanied by an increase in self-confidence and a clearer sense of direction.

*Self-directed Learning* is the third concept of Jackson’s (2017) PPI framework. This factor consists of: understanding the need to work autonomously, attention to avenues for personal growth, recognizing the need to gain a competitive advantage, and appreciating the need for goal setting, responsibility, and accountability. The emergent themes of *Experience and Understanding* and *Personal Identity* also displayed associations with this trigger. As previously discussed, many students offered examples of their advances in independence and being self-directed in their professional and personal lives. Their experiences with work assignments provided several respondents with a recognition of the usefulness of soft skills and technical abilities. They felt that the acquisition of those skills through their work experiences will allow them to be competitive in their future careers.

These research themes of *Experience and Understanding, Interpersonal Perspective,* and *Personal Identity* also relate to the next point in Jackson’s PPI framework. This trigger deals with *Confidence* and it is comprised of: gaining insight into industry and professional roles, establishing a professional network, gaining practical experience, receiving feedback, and developing non-technical skills. Many of the participants displayed advances in self-confidence during their WIL placements. The work assignments, soft skills, and practical experiences provided students with further assurance of their abilities. The interpersonal relationships and collaborations with professionals afforded respondents with valuable connections and networking opportunities. These interactions that students had with co-workers and supervisors also provided an outlet for some of the participants to receive constructive feedback on their performance as well.
The final trigger listed in Jackson’s (2017) PPI framework involves Understanding of Attitudes, Beliefs, Ethical Values, and Culture. This element involves: insight into business ethics, understanding of the employee’s mindset, awareness of practices for managing cultural awareness, and exposure to organizational culture. The research themes of Interpersonal Perspective, and Pre-professional Identity offered the most direct connections to this final trigger of Jackson’s model. In terms of ethical practices, there were very limited examples from students in which they explicitly mentioned ethical training or observations. The closest connection with ethics that was provided by the subjects were the reflections on safety procedures and practices. These observations were primarily part of the Pre-professional Identity theme in which the students also related how they noticed various aspects of the culture of the organizations in which they worked and also the beliefs and behaviors of co-workers. These gleanings combined with the interpersonal perspectives that participants gained through their collaboration with co-workers provided many of the respondents with insights into the mindset of their fellow employees and their role-models as well.

The research themes presented through this study all appear to connect in various ways with Chickering and Reisser’s (1993) vector of Establishing Identity. The findings from the data revealed how the study participants were able to make advances in identity formation through increases in measures like self-confidence, awareness of competencies, emotions, and values, increased tolerance, and interpersonal connections. Most of the research themes from this study also provided links to markers in Jackson’s (2017) framework for pre-professional identity. The work experiences of the students and their collaboration with others in their WIL placements provided many participants with opportunities for personal and career development. Those experiences proved to be conducive for advances in pre-professional identity formation.
Developing Purpose

Chickering and Reisser’s (1993) sixth vector involves *Developing Purpose*. The scholars’ ideas on developing a sense of purpose offered students a clarified view of their future and a solid foundation for moving forward. Conceptually, Chickering and Reisser stressed that establishing a clear purpose involves an ability to be intentional, to assess interests and options, to clarify goals, to make plans, and to persist in that progression. Once students have acquired those abilities they should then be able to formulate plans for action and set priorities by integrating three elements: vocational plans and aspirations, personal interests, and interpersonal commitments. In developing a sense of purpose, individuals should also understand what pursuits they feel are fulfilling and what endeavors best utilize one’s talents and abilities. Chickering and Reisser pointed out that in developing purpose, it is difficult to visualize a future role or plan if one has not seen the pathway before.

An examination of the research findings revealed three themes that offered associations with the vector of *Developing Purpose*. The theme of *Pre-professional Identity* contained several links to establishing purpose. Many respondents offered perspectives that delineated how their WIL employment allowed them to clarify their career goals and expectations. Through their work, students were able to determine if they were heading toward the right career or if they need to change directions. Several individuals pointed to experiences that offered them insight into areas in which they can more narrowly focus for additional goals to pursue in order to help them be better prepared for their chosen profession. In some cases, the WIL placements offered the participants a view of various career options within an industry. By observing other co-workers or managers, students were able to visualize potential future roles or better understand what type of leadership approach that they would employ in their careers. Seeing
these examples first-hand appeared to be very valuable for respondents in establishing their sense of purpose.

The research theme of *Interpersonal Perspective* also offered stories from students on how their work with mentors and role-models helped them to gather information for the guidance of their future. Additionally, collaborations with others on team projects was an impactful experience for students. Through problem solving activities and group work many respondents were able to better understand the need for interpersonal commitments in order to complete assignments.

*Personal Identity* was the third research theme to provide links to developing purpose. Within this context, cases were collected that showed how WIL placements assisted several students in recognizing their priorities. Working and living independently offered the participants insight into what they needed in order to have a sense of fulfillment professionally and personally. Several respondents relayed observations on things like work-life balance, family time, personal interests, and community involvement. These work assignments also provided participants with a greater sense of self-awareness. A clearer vision of their strengths and weaknesses offered insight into how the respondents could better utilize their talents for future pursuits.

A literature review of the connections with the vector of *Developing Purpose* and connections with WIL programs yielded limited and conflicting results. Weston’s (1986) work examined how WIL placements would affect career identity. His findings revealed no link to co-op work and career certainty for students. The study did provide limited support for the programs offering greater career certainty. Mueller’s (1992) research explored the effects that co-op program participation had on student growth in three of Chickering and Reisser’s (1993)
vectors, including the development of purpose. The findings of the study did not show support for the idea that WIL programs enhance a participant’s sense of purpose. Career Decision Making Self-Efficacy (CDMSE) was examined in Delorenzo (2000). This project investigated how co-op participation affected the development of CDMSE. Delorenzo’s results revealed that co-op students had significantly higher CDMSE scores, but did not show support for the participants’ career locus of control. The collection of these studies present a research area in need of clarification.

Gleanings from several of the research themes in this project do indicate that many of the study subjects acquired a clearer sense of purpose through their WIL program participation. The areas of Pre-professional Identity, Interpersonal Perspective, and Personal Identity closely connected to elements of Chickering and Reisser’s sixth developmental vector. Through observing and interacting with other professionals, WIL program participants were able to visualize potential career paths. The work placements also offered many students a clearer understanding of their priorities and abilities as they plan for their future professions.

**Developing Integrity**

The final aspect of Chickering and Reisser’s (1993) seven vectors concludes with Developing Integrity. This task is closely related to the previous two vectors. The authors asserted that one’s core beliefs provide a foundation for interpreting experiences and maintaining a sense of self-respect. Chickering and Reisser point out that the development of integrity involves three sequential but overlapping stages: (a) humanizing values – shifting away from automatic application of uncompromising beliefs and using principled thinking in balancing one’s own self-interest with the interests of one’s fellow human beings, (b) personalizing values
– consciously affirming core values and beliefs while respecting other points of view, and (c) developing congruence – matching personal values with socially responsible behavior.

In light of these stages, it appears that the findings of this research project offered few explicit links with the development of integrity. The observations of the study subjects presented few cases of respondents overtly discussing their values or beliefs in a larger moral sense. However, there were several implicit hints showing the potential growth in terms of their understanding of professional values and responsibilities. The theme of Interpersonal Perspective captured stories of how students’ collaborations and interactions with others did provide them with a greater sense of tolerance and an openness to other opinions. The area of Personal Identity recorded respondents’ reflections of their priorities and self-awareness, but again these were not directly connected to issues of moral importance. Student observations from the theme of Pre-professional Identity delved into organizational culture. There were several discussions of the aspect of safety in the workplace. These were presented more specifically in terms of operational importance and a need for responsibility. This area was likely the closest relation to be found with explicit examination of issues of professional ethics aside from one co-op report entry that mentioned ethics and inclusion. However, in several recollections from the students’ work experiences, the participants indicated a greater appreciation for the value of human life and well-being. Several individuals also relayed cases of gaining a larger appreciation for professional responsibility in terms of finances and resources as well.

These results could very likely correspond to the research design incorporating limited methods constructed to specifically capture participants’ observations related to growth in integrity. Conversely, it is possible that WIL programs offer few outlets for students to acquire
developmental gains in this area. A survey of the related literature also revealed few studies that investigate gains in student integrity through WIL programs. Only a small portion of the projects found relationships between WIL placements and the participants enhanced understandings of moral and ethical principles associated with their professions (Dellaportas, Cooper, & Leung, 2006; Tillman, 1990).

The findings of this study in relation to Chickering and Reisser’s (1993) seventh vector of *Developing Integrity* revealed very limited relationships. The results make it difficult to propose direct connections between WIL program participation and an enhanced grasp of personal and professional integrity. Literature on the subject also offered a very sparse sample for review. While the direct evidence connecting WIL participation and growth in professional integrity was minimal, the tacit implications from the data appear to offer indications that would merit further investigation.

**Summary**

The examination of the findings of this study revealed numerous ways in which WIL program participation enhanced the psychosocial and professional development of the study subjects. The emergent themes of this project revealed connections with personal and professional development markers from six of the seven vectors from Chickering and Reisser’s (1993) writings. Limited relationships were found between WIL participation and the authors’ seventh vector of *Developing Integrity*. Additionally, this study also provided evidence to support how WIL experiences supported the growth of respondents’ professional identity through a comparison with Jackson’s (2017) *Pre-professional Identity* (PPI) framework. The following section will delineate implications that the findings have in relation to various areas of higher education.
Implications for Higher Education

Institutions of higher education find themselves in an environment which calls for growing accountability and competing interests from various spheres of society (Aram & Roksa, 2011; Aram & Roksa, 2014, Labaree, 1997). This study examined how work-integrated learning programs (WIL) affected the psychosocial and professional development of the participating students. The findings presented several implications for higher education and the role that WIL programs can play in bolstering efforts to serve students in their growth as an individual and an emerging professional. The following sections illustrate implications for various aspects of practice in higher education, such as: WIL administrators and career services staff, campus faculty, higher education administrators and policy makers, and researchers.

WIL Administrators & Career Services Staff

As the findings of the study revealed, WIL participation can impact students through personal and professional growth. While experiential programs do provide unique opportunities for this type of learning and growth, it is important to not forget the integration portion of the WIL structure. One of the key features of these programs is built on the participant’s ability to leave campus and apply principles learned in the classroom to their work placement. The students are also able to absorb those new lessons in the workplace, reflect, and integrate that new knowledge when they return to campus. It is incumbent on WIL administrators and career services staff to proactively formulate programs that intentionally and explicitly support this type of student growth through WIL programs.

WIL program administrators can take a purposeful approach to supporting experiential work placements through thoughtful program development. An effective WIL program should involve considerations like the design and implementation of effective policies and practices, and
the creation of supportive measures for students and employers. Developing a defined structure for WIL programs is a key element for effective practice. This allows all stakeholders to have clear perspectives of the expectations, goals, and requirements of the program. Several organizations have developed accreditation standards or guidelines for WIL programs (American Society for Engineering Education, 2019; Co-operative Education and Work-Integrated Learning Canada, 2018). Co-operative Education and Work-Integrated Learning Canada (CEWIL Canada), is an organization that partners with higher education institutions in Canada to foster promotion and accreditation of WIL programs in the country. Their cooperative education guidelines assert that quality co-op education programs require that institutions provide: structured educational features that mediate the co-operative education learning process, delivery of quality programming and assessment, evaluation and monitoring of the employment experience (Co-operative Education and Work-Integrated Learning Canada, 2018). In keeping with guidelines such as these and the findings of this study, it is asserted that an overarching structure of an effective WIL program consists of elements like the following:

- WIL program admissions process and requirements
- Preparatory/orientation courses or seminars
- Formal recognition of program participation through course credit
- Requirements for the workplace learning environment
- Expectations of responsibilities for all parties involved (institution, student, & employer)
- Challenging and productive work assignments
- Outlets for open communication between all parties
- Mechanisms for evaluation, feedback, and assessment from all stakeholders
• Programs supporting WIL student re-integration to campus and continued reflection on their experiences

Based on the research findings, there are several steps that can be taken to enhance structural elements to better prepare and support students in relation to their WIL program participation. In reviewing the comments by study participants regarding their expectations and adjustment experiences during their work terms, it appears that SU and the IMP could implement several measures to improve students’ transition to the workplace. For example, formalizing the admission process to WIL programs can be a helpful measure. Several universities list specific requirements for WIL participation on their campus. The University of Cincinnati has a long history with the development and implementation of cooperative education programs. Their co-op program participation offers students courses that prepare participants for the challenges of the workplace (University of Cincinnati, 2018). Orientation programs or career courses like these can be quite helpful in addressing many of the issues that students face during a WIL placement. These topics could range from items that relate to professionalism and even delve into personal issues that might arise during employment. Typically these seminars offer guidance on resumes and job searches and also presents professional advice as well.

In reviewing the experiences relayed by the study’s participants, it would seem prudent to explicitly address topics like: transitioning to the workplace, adjusting to independent living, professional expectations and culture, appropriate behaviors, professionalism and professional identity, ethics and integrity, reflective activities, communication skills, team work, potential challenges, finding assistance, and seeking feedback. These topics could prepare students for some of the challenges that they might face in their work placements. It could also nurture a thoughtfulness for the participants in terms of intentionally addressing issues of professionalism
and identity. The course could also provide students with a context for viewing professional ethics and inclusion during their employment. Students could be educated on healthy ways to cope with challenges to their gender, race, or sexual identity during these courses as well. Overall, these kinds of seminars can offer the participants a foundation so that they can adjust and thrive in their WIL experiences.

Though this study only addressed the students’ perspective of their WIL participation, there are certainly supportive measures that programs can and should implement for supporting employers. The WIL administrator should craft clear policies and procedures that delineate expectations of the employer, the university, and the student’s roles. This allows all parties to have a clear set of expectations prior to undertaking the venture. The employer should understand the requirements for the work setting and how they should offer meaningful assignments. During the WIL participation the employer must also be aware of the need for guidance, mentoring, and feedback on student performance. Often times, WIL supervisors are unprepared in how to best guide the learning and evaluation process for students (Coll & Zegwaard, 2006; Hodges, Smith, & Jones, 2004; Peach, Ruinard, & Webb, 2014; Richardson, Jackling, Henschke, & Tempone, 2013). This is an area in which WIL administrators can better guide and support the employer’s participation as an educational partner in the program.

During the WIL work term, all three parties (student, institution, and employer) should have a clearly defined mechanism for feedback to one another. Several study participants indicated their preference for timely feedback and in some cases they did not feel that they were receiving input that would have been helpful to their progression. Again, this could be for several reasons, but this is an area where the educational institution can offer guidance to the employer and the student in how to approach and structure a feedback process that is formative. This
regular communication of constructive information can be an essential part of the student’s developmental process in a WIL placement (Coll & Zegwaard, 2006; Hodges, Smith, & Jones, 2004; Peach, Ruinard, & Webb, 2014; Richardson, Jackling, Henschke, & Tempone, 2013).

Also, having a readily established contact point for emergencies is a wise element to specify at the outset.

While regular feedback is important for an effective WIL program, reflection also plays a vital role in student learning (Larkin & Beatson, 2014; Smith, Clegg, Lawrence, & Todd, 2007; Stupans, March, & Owen, 2013; Sykes & Dean, 2013). Ideally, WIL students would engage in reflection before, during, and after the experience is completed. WIL administrators can establish assignments and prompts for reflection as part of experiential courses. Many scholars have written about the regular use of reflective journals for the students throughout their employment. This study employed reflective writings from co-op reports at the conclusion of the work term. Since learning occurs throughout the process, it would be best to engage the participants in reflection at each stage of the placement, including once they have returned to campus.

WIL administrators can also design resources and programs to assist students in the transition back to campus following a work placement. Often issues related to things like financial aid, housing, or registration can arise for participants once they arrive back at their college or university. WIL administrators should establish clear processes with other student service offices on campus to ease the hurdles that students might face upon their return. Additionally, WIL staff can foster further reflection and growth by creating communities and groups for WIL program completers so that they can share their reflections and lessons from their experiences. Ideally, WIL administrators will engage campus faculty on outlets to
encourage reflection through remaining coursework as well. By implementing these types of policies and programs WIL administrators can create programs that engage students in the learning process and support employers as partners in that effort.

Based on the findings of this study, the following list provides a summary of the aforementioned recommendations for WIL administrators or career services staff:

- **Formulate WIL programs that are intentional and explicit in supporting student growth.**
  - Structure programs through specific accreditation measures or recommended programmatic guidelines.

- **Improve WIL student adjustment and transition.**
  - Formalize WIL program admissions process.
  - Clearly communicate WIL program requirements for students.
  - Develop and conduct courses and/or seminars to prepare students for WIL placements.

- **Implement support programs for WIL employers.**
  - Provide clear expectations through detailed policies and procedures.
  - Clearly set and communicate requirements for a safe and appropriate work setting
  - Equip employers with resources for offering WIL students effective guidance, mentoring, and formative feedback.

- **Create formative feedback mechanisms for all WIL stakeholders.**
  - Offer guidance to student, employers, faculty, and staff.
  - Create defined mechanism for sharing information.
Clearly establish contact points for emergency purposes.

- Engage students in reflection exercises throughout their WIL program participation (before, during, and after).
  - Establish reflective assignments, activities, and journal prompts for use in courses or seminars throughout the program and curriculum.
  - Create campus communities or groups where WIL participants share experiences and reflect.

**Faculty**

As the study findings indicate, several participants faced challenges in transitioning into the workplace, adapting to the expectations, and in some cases, confronted incidents of gender bias. Data from the study also indicates limited opportunities to explicitly learn ethical approaches or behaviors during their WIL placements. Additionally, participant comments regarding the relevance of their coursework to professional practice presented the possibility of a disconnect between the Academy and the professional sector.

Faculty can play an important role in developing measures to maintain an effective WIL structure and curriculum. Support for a successful WIL program begins with a healthy campus culture led by departmental faculty and staff that are committed to creating meaningful experiential opportunities for students (Contomanolis, 2005; McCurdy & Zegwaard, 2009). WIL administrators should engage campus faculty as partners in the creation and implementation of effective programs. The integration of knowledge from course instruction and work placements are both equally important factors in the WIL model. Faculty are in an excellent position to engage WIL students before, during, and after their work experience is concluded. This can be done in a variety of ways, but there are also a number of challenges to be addressed.
Teaching faculty can encourage the operation of an effective WIL program by creating a supportive environment for experiential learning. Faculty play a vital role in encouraging students in their pursuit of WIL opportunities. In addition, professors’ involvement in connecting with industry partners and WIL employers could be instrumental in program success, and also allow for faculty members to gain insight into current industry needs as related to the curriculum. Academic recognition of WIL courses is also another crucial factor in establishing the legitimacy of such programs. Faculty’s promotion of WIL placement for academic credit is helpful in establishing a clear culture that values work placement in the learning and development process.

Pedagogical and curricular expertise are one specific area in which faculty can offer their knowledge to maintain a healthy WIL program. Faculty can be valuable in thoughtfully evaluating and developing ways to implement WIL-related content throughout the degree curriculum. Learning outcomes can be tied to required course subjects and WIL specific knowledge as well. The integration of discipline specific knowledge and professional development content should be threaded throughout the degree program. Linn and Jako (1992) proposed that college teaching offered several forms of integrating WIL experiences into the curriculum: the planned, the possible, and the serendipitous. “Planned” activities would be typical assignments like co-op reports and student presentations. The “possible” means of integration would be ways that faculty could engage students in their coursework following WIL placements. Finally, “serendipitous” efforts are less clear to delineate, but essentially would be overarching ways that the work experience would influence student learning.

While these terms are useful, perhaps a more practical way to frame the integration of learning related to WIL programs would be more along the chronological lines of before, during,
and after. Prior to the WIL placement faculty can develop courses that prepare students for the challenges of the workplace and lay the groundwork for specific skills that will be helpful to the students as they enter the program. They can instill elements of professionalism that participants should understand. Topics like communications, team work, leadership, and ethics could be woven in with discipline specific principles during the course. During the WIL work placement faculty can engage students in reflective activities and provide valuable feedback to the student that can bolster the learning process (McCurdy & Zegwaard, 2009). Following the WIL completion, faculty can find ways to engage those students in the classroom. By encouraging class discussions that provide insight into the student’s WIL experiences or providing assignments that encourage reflection on WIL placements, faculty can create a more wholly integrated curriculum that incorporates experiential components as well.

Ultimately, the goal of these activities should be “deep learning” for the student. “Deep learning” is described as, “student’s ability to reflect on the work experiences, to integrate these experiences with their academic lessons, and to conceptualize their learning so that they are able to ultimately bring together their work and their academic experiences to solve problems in unfamiliar environments (Weisz & Smith, 2005, p. 606).” This level of learning requires knowledge from the work experience and from coursework to be integrated and reflected upon.

As several of this study’s respondents revealed, they were not aware of the concept of professional identity and relied on observation for an informal understanding of professionalism. While those methods are useful, a more intentional approach to WIL curricular development is needed. Trede (2012) proposed three elements of an effective, critical WIL curriculum that would enhance the development of students’ comprehension of professional identity and professionalism. Those three elements consist of: (a) problematizing participation, (b)
generating a discourse of professionalism and professional identity, and (c) capacity building in students and mentors to question. Trede found that this type of approach enables a purposeful development of professional identity and professionalism. Again, faculty can play a key role in developing content that engages students at all phases of the curriculum. This type of integrated academic approach to WIL participation can assist students in becoming thoughtful professionals that engage critically in their work. Faculty engagement throughout the WIL process could clearly assist participants with some of the struggles and challenges that were observed in the findings of this study.

Based on the research findings, the following list offers a summary of the previously discussed recommendations for campus faculty:

- Create a supportive campus culture and departmental environment for WIL participation.
  - Formal recognition of the merit and value of WIL participation through the offering of academic credit for WIL completion.
  - Actively engage WIL students in deep learning through the integration of WIL into the entirety of the departmental curriculum.

**Higher Education Policy and Administration**

The findings from the research study presented several implications for higher education policy and administration. As eluded to previously, it is imperative that an institution create a supportive culture for successful WIL programs on campus. The foundation of that culture begins with the policies and administrative systems that are established to frame experiential participation. The campus climate should encourage students, faculty, and staff to be aware of and empowered to become involved in WIL related projects.
One way that campus leaders can promote effective WIL activities is to provide essential support to WIL administrators through proper staffing and resources whether that be through career services or departmental professionals. Infrastructure is also necessary. Funding and commitment for online systems that connect students with potential employers, provide seminars and resources for students prior to placement, or allow students to connect to faculty and staff while the WIL placement in is progress would be useful tools to encourage and optimize the WIL experience for all stakeholders. Finally, clearly defined guidelines, accreditation measures, and procedures for WIL programs are a necessity. The implementation of these specific elements ensure that the tripartite stakeholders have clarity on program rules, responsibilities, and requirements.

WIL student safety and wellness should be of primary concern to campus leaders. The data from this study revealed how the workplace presented participants with challenges and cases of potential bias based on their gender. While these types of issues cannot be eliminated, it is important that administrators and faculty take every measure to offer a WIL program that implements support programs throughout the work experience and beyond. Gillett-Swan and Grant-Smith (2018) proposed an intentional approach for WIL wellbeing. This approach would assist institutions in identifying and implementing measures that could assist with potential wellness issues that would arise for students within the context of the work experience. These outlets could be formal or informal support through advice or training on coping strategies for dealing with financial stress, travel or transport issues, familial responsibilities, biases or discrimination, or other topics. These resources could tap into campus wellness staff and other available support networks. A thoroughly planned institutional approach to wellness in WIL
programs could be beneficial to the students before, during, and after the experience has been completed.

As the research findings also revealed, the adjustment and assimilation process can be a challenge for students. While wellness programs and other seminars can be helpful to students in that process, there are other procedures that campus can establish that would make access and adjustment between campus and the workplace more seamless. Dealing with housing or financial aid issues can be another challenge for students to navigate as they are going to or returning from WIL placements. Any procedures that administrators can enact that will streamline the process would actually remove some of the potential for anxiety from the transition phases. Also, eliminating exorbitant WIL tuition or fees would be preferred. Keeping accessibility as open as possible to a diverse array of students is the ideal for participation. Minimizing barriers and additional expenses provides an environment that is encouraging for all potential WIL participants.

Finally, as discussed previously, faculty play a critical role as partners in WIL programs. Campus leaders can encourage faculty engagement in WIL courses and activities by helping to reduce or eliminate barriers to their involvement. Typically, faculty often view WIL participation in a positive light, but looking deeper at the subject reveals several hurdles that faculty perceive in their engagement in WIL activities (Contomanolis, 2005; McCurdy & Zegwaard, 2009). Issues relating to recognition of WIL activities in faculty workload were found to be a particular deterrent to involvement. Certainly, in review of tenure the weighting of faculty efforts spent in instruction or service for WIL programs can often be viewed with less priority than other endeavors.
The time spent in WIL-related activities is often seen as time taken away from the pursuit or implementation of critical research projects. Research activity being an area that often and rightfully carries quite a bit of bearing in the recognition of faculty workloads. Higher Education administrators can foster a supportive landscape for faculty participation in WIL programs by creating a culture that values WIL activities as part of faculty duties. This can be nurtured by clearly communicating a commitment throughout departments for supporting those efforts in considerations of tenure when teaching WIL courses or supporting students in their placements. Campus leaders can also look for ways to encourage faculty to interact with students and employers during WIL participation. Perhaps establishing formal networks for these connections can also yield potential collaborations with industry on research projects and curriculum development. Additionally, administrators could also create lucrative WIL grants or projects which would be open to receiving faculty proposals. By nurturing a supportive climate, and looking for innovative ways to overcome barriers, campus leaders could potentially find measures to encourage broader faculty participation in WIL programs.

Based on the findings of this project, the following list summarizes the preceding recommendations for policy makers and administrators in higher education:

- Create the foundation for a campus climate that empowers students, faculty, and staff to become actively engaged in WIL programs.
- Provide essential support to WIL program administrators through proper staffing and resources in academic departments and career service offices.
- Clearly define guidelines and/or accreditation measures for campus WIL programs.
- Adopt and promote effective WIL wellness and safety programs.
o Establish formal or informal support networks involving WIL staff, campus health and wellness professionals, financial aid administrators, and faculty.

o Offer advice or training on issues like:
  ▪ Financial stress
  ▪ Travel or transportation issues
  ▪ Familial challenges and responsibilities
  ▪ Coping with bias or discrimination
  ▪ Other safety or wellness concerns

• Address WIL ease of accessibility.
  o Streamline or eliminate administrative barriers or processes like:
    ▪ Campus housing arrangements
    ▪ Costly WIL tuition or fees
    ▪ Other financial aid impediments

• Encourage faculty engagement in WIL programs and activities.
  o Reduce barriers through formal recognition of WIL activities in the workload.
  o Make WIL support a recognized part of the tenure and promotion process.
  o Establish formal networks to connect faculty with WIL employers.
  o Support/establish WIL programs or grants that reward faculty involvement.

Higher Education Research
Examination of the themes and findings of this study revealed several potential subjects for further scholarly research. Principally, continued examination of pre-professional identity formation through WIL participation is needed. The outcomes from this project captured how the work placements provided students with opportunities to observe professional conduct and behaviors of role models and mentors. These examples gave WIL participants insight into professional culture, expectations, and norms that the students could apply to their future career efforts. However, the interviews also showed that many students were unaware or unable to verbalize the concept of professional identity. In turn, many respondents were only able to relay observations on professional conduct and did not have an explicit understanding, appreciation, or approach to crafting such an identity. The findings seemed to reveal a very organic growth for many of the respondents’ sense of professionalism, and further research should be conducted on how to make professional identity development more explicit in academic coursework, and WIL preparation and support programs on campus. A further examination of effective methods and pedagogy in this area could certainly influence effective practice for faculty, career services staff, and WIL program coordinators.

Secondly, the emergent themes indicated very few connections to how WIL experiences challenged or informed the students’ sense of integrity or ethical development. This result seemed to mirror the lack of scholarship in the literature as well. Again, the lack of indicators in this study could be due to the research design, but nonetheless the field needs a more thorough understanding of potential effects that WIL placement can have on professional integrity development. Further scholarships could determine if WIL programs can be influential and if so, then what approaches can best prepare students for ethical professional practice?
Next, issues of diversity and inclusion should be investigated through further scholarship. This study revealed cases of potential gender bias experienced by several female WIL participants. This theme emerged from the data unexpectedly. An intentional design that delves more deeply and includes broader perspectives would be greatly beneficial to the field. Further scholarship could include a larger population of females, more minority respondents, and students representing other protected classes in the workplace. The expansion of such a project could capture potential issues faced by these participants through their WIL experiences. The findings from such a study could reveal a better understanding of issues faced in the work placement and how WIL programs can better prepare and support these students.

Finally, this research project offered results that indicated the importance which mentoring and feedback played in the psychosocial and professional development of many of the WIL students. The benefits that several of the female respondents found from these interactions proved to be quite meaningful in particular. This appears to warrant more extensive exploration of the impact that mentoring relationships can have. Examination of formal and informal networks should be conducted. A review of mentoring and feedback mechanism in a broader sense could be beneficial in addition to more targeted investigations of how these relationships impact student representatives from underrepresented groups in the WIL participant population. As campuses strive to achieve more diverse representation, WIL scholars and program coordinators should endeavor to create programs and procedures that will encourage participation and also bolster opportunities for success of all potential WIL students.

Based on the study findings, the following list details the recommendations for further research on WIL programs in higher education:
• Continued examination of pre-professional identity formation through WIL participation.
  o Explore effective programmatic methods and curricular approaches

• Investigate WIL programs’ potential influence on the development of professional integrity and ethics.
  o Can WIL be effective in developing those areas?
  o If so, what are the best methods and practices to promote growth of professional integrity and ethics specifically?

• Study issues related to diversity and inclusion in WIL programs.
  o Intentional examination of WIL participation from the perspective of minority or underrepresented groups.
    ▪ Obtain a more detailed understanding of the issues and challenges faced by these students.
    ▪ Improve knowledge and practices for how to better prepare and support minority and underrepresented students during WIL participation.

• Further explore WIL mentoring and feedback methods and approaches.
  o Better understand the impact that mentoring relationships can have of WIL student development.
  o Examine aspects of formal and informal mentoring networks.
  o Analyze the effectiveness of various feedback mechanisms.
  o Investigate the impact of mentoring and feedback on minority and underrepresented groups specifically.
Summary

This qualitative research study has explored the psychosocial and professional development of undergraduate students as a result of their participation in a WIL program. A phenomenological methodology was utilized in order to capture the lived experiences of the participants during their work placements. The study attempted to answer the following questions: What experiences enhance the psychosocial development (as defined by Chickering & Reisser [1993]) and professional development of students that participate in work-integrated learning programs? Additionally, the research looked at the subsequent sub-questions: (a) How does participation in work-integrated learning support the development of personal and/or professional identity, and (b) How do undergraduate students perceive their growth and preparation for careers as a result of their work-integrated learning experiences?

Data was obtained from 38 WIL student interviews and 33 co-op student reports. Analysis of the data revealed five major themes of: (a) Assimilation and Integration, (b) Experience and Understanding, (c) Interpersonal Perspective, (d) Personal Identity, and (e) Pre-professional Identity. The results indicated that WIL participation did enhance the psychosocial and professional development of the study participants. These findings exhibited educational and developmental outcomes which are often associated with high-impact practices (Kuh, 2008). Psychosocial and professional development was found to occur across six of Chickering and Reisser’s (1993) developmental vectors, which included: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, and developing purpose. The results do not indicate links between WIL participation and Chickering and Reisser’s seventh vector of developing integrity. Additionally, the research themes revealed many connections with all of the elements of
Jackson’s (2017) framework for Pre-professional Identity (PPI), which consist of: (a) understanding of responsibilities, (b) understanding of expectations, (c) self-evaluation and reflection, (d) self-directed learning, (e) confidence, and (f) understanding of attitudes, beliefs, and culture.

As a result of the themes and findings gathered from this study, recommendations were offered for future higher education practice as related to WIL administrators and career services staff, faculty, and higher education administrators and policy makers. Finally, suggestions for future WIL research were also delineated. These areas included topics relating to pre-professional identity formation, developing professional ethics and integrity, issues in diversity and inclusions, and effective approaches for mentoring and feedback in WIL programs.
LIST OF REFERENCES
REFERENCES


http://dx.doi.org/10.1002/tl.266


Carnegie Classification website. (n.d.). http://carnegieclassifications.iu.edu/


http://dx.doi.org/10.1207/s15326985ep4104_4


http://dx.doi.org/10.1177/1080569904273753


APPENDICES
Dear Student,

My name is Scott Kilpatrick, and I am currently a doctoral candidate in the Higher Education Administration program in the Department of Leadership and Counselor Education through the School of Education at the University of Mississippi. My research topic focuses on the psychosocial and career development of undergraduate students who have taken part in a cooperative education (co-op) and/or internship experience. I am interested in the topic because my work with the Center for Manufacturing Excellence deals directly with student development through work-integrated learning experiences.

As part of my dissertation, I plan to conduct a number of one-on-one audio recorded interviews with undergraduate students that have completed a co-op and/or internship experience. If you have participated in a co-op or internship and you are willing to take part in this study, I would be very interested in speaking with you about your experience. Your participation would require you to take part in an interview in which you will be asked open-ended questions about your co-op or internship and how the experience might have related to your own personal or professional growth. The interview will take approximately one hour of your time. All participants will receive a $5 Starbucks gift card that can be used at campus locations.

If you are willing to volunteer for the study, please respond to this email confirming your participation. Once I receive your response, I will then email you with the instructions and details pertaining to your interview. If you should have any further questions about the study, please feel free to contact me by email and I will provide further details so that you can get clarification before you decide whether or not to participate in the research. I look forward to hearing from you soon.

Sincerely,

Scott Kilpatrick
Doctoral Candidate in Higher Education
skilpat@olemiss.edu
(662) 915-2640
APPENDIX B

Consent Form

Information regarding a Qualitative Research Study

Title: Investigating the role that work-integrated learning experiences play in the psychosocial and career development of undergraduate students

Investigator
Scott W. Kilpatrick
Center for Manufacturing Excellence
216 CME
University of Mississippi
University, MS 38677
(662) 915-2640
skilpat@olemiss.edu

Faculty Sponsor
Amy Wells Dolan, Ph.D.
Dept. of Leadership & Counselor Education
137 Guyton Hall
University of Mississippi
University, MS 38677
(662) 915-5710
aewells@olemiss.edu

☐ By checking this box I certify that I am 18 years of age or older.

Description
The researchers in this study want to explore the personal and career development that takes place for undergraduate students who participate in co-op and/or internship experiences during college. In order to gain a deeper understanding of this topic, you will be asked to participate in an hour long interview in which you will be asked to respond to open-ended questions on topics related to your co-op or internship experience. The interview will be audio recorded and then transcribed by the researchers. The research project will be explained to you and you will have an opportunity to ask any questions that you would like in order to gain clarification on the project.

Cost and Payments
The interview will last approximately one hour. Other than your time, there will be no other expenses to you for your participation in the study. You will be given a $5 Starbucks gift card for taking part in the interview.

Risks and Benefits
During the interview, you will be asked to reflect on your experiences during your co-op or internship work term(s). As part of this reflection, you might recall unpleasant memories associated with your co-op or internship. While this type of risk is possible with participation in the study, there is also a chance that further reflection on your co-op or internship experience
could benefit you by bringing about more clarity related to your personal or professional development.

**Confidentiality**
During the study, the researcher will not use your name during the interview process or in any of the subsequent notes, transcription, analysis, or discussions related to the project. Participants may be asked to provide certain types of information which may include but is not limited to demographics such as age, race, gender, major, home state, and other details related to your co-op or internship. In order to protect your identity, the researcher will use a pseudonym for the duration of the study. Every precaution will be taken to insure that you cannot be identified from any of the collected data. The responses and findings of the study will be shared with the dissertation committee as part of the research and learning process. Upon completion of the study all recordings of the interviews will be destroyed.

**Right to Withdraw**
You do not have to volunteer for this study, and there is no penalty if you refuse. You can end your participation in the project at any time by contacting Scott Kilpatrick by email (skilpat@olemiss.edu) or phone (662-832-7361). If you start the interview and decide that you do not want to finish, just tell the researcher and the interview will be stopped immediately. Whether you participate in the study or decide to withdraw, your decision will not affect your current standing or future relationship within the University or the Center for Manufacturing Excellence, and it will not cause you to lose any benefits to which you are entitled.

The researcher may stop your participation in the study without your consent and for any reason, such as protecting your safety or protecting the integrity of the research data. Whether or not you withdraw from the study or the researcher stops your participation, you will also still receive the gift card that was provided for your involvement in the project.

**IRB Approval**
This study has been reviewed by The University of Mississippi’s Institutional Review Board (IRB). The IRB has determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions or concerns regarding your rights as a research participant, please contact the IRB at (662) 915-7482 or irb@olemss.edu.

Please ask the researcher if there is anything that is not clear or if you need more information. When all your questions have been answered, then decide if you want to be in the study or not.

**Statement of Consent**
I have read the above information. I have been given an unsigned copy of this form. I have had an opportunity to ask questions, and I have received answers. I consent to participate in the study.

Furthermore, I also affirm that the experimenter explained the study to me and told me about the study’s risks as well as my right to refuse to participate and to withdraw.
<table>
<thead>
<tr>
<th>Signature of Participant</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Printed Name of Participant</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C
APPENDIX C

THE UNIVERSITY OF MISSISSIPPI

RELEASE FORM

For valuable consideration, I do hereby authorize The University of Mississippi, its assignees, agents, employees, designees, and those acting pursuant to its authority ("UM") to:

a. Record my participation and appearance on video tape, audio tape, film, photograph or any other medium ("Recordings").
b. Use my name, likeness, voice and biographical material in connection with these recordings.
c. Exhibit, copy, reproduce, perform, display or distribute such Recordings (and to create derivative works from them) in whole or in part without restrictions or limitation in any format or medium for any purpose which The University of Mississippi, and those acting pursuant to its authority, deem appropriate.
d. I release UM from any and all claims and demands arising out of or in connection with the use of such Recordings including any claims for defamation, invasion of privacy, rights of publicity, or copyright.

Name: _______________________________________________

Address:______________________________________________

Phone No.:_____________________________________________

Signature:_____________________________________________

Parent/Guardian Signature (if under 18):_____________________

335
APPENDIX D
APPENDIX D

Interview Protocol

Date:_______  Time:_______  Location:_______

Interviewer:  Scott Kilpatrick
Interviewee (Pseudonym):  __________________________________________________

Standard Procedures:
The student will be interviewed in a neutral, quiet place for approximately one hour. The interviewer will collect the student information form from the student. The participant will then be provided with an informed consent form for review and acknowledgement. Once all paperwork has been completed and collected the interview will begin. The interviewer will activate the recording device and begin with the first question. The interview will be semi-structured to allow flexibility in what order questions are asked, and also provide opportunities for follow-up questions as needed. Once all of the questions have been asked, the interviewer will thank the interviewee and turn off the recording device. At that point, the interviewer will provide the participant with their $5 gift card and once again thank the subject for their assistance with the research project. The participant will then be free to leave.

Interview Questions:
1. Major?/Year? (Classification?)
2. Where did you work for your internship?
3. What prompted you to pursue an internship (co-op)?
4. What was it like for you to work as an intern (co-op)?
5. What did you learn about yourself during this experience?
6. What was your most memorable experience during your work term?
7. What was the most challenging experience during your internship (co-op) and what did you learn from it?

8. In what ways did your work term help you to develop skills or competence?

9. What did your internship teach you about managing your feelings or emotions?

10. How did your internship (co-op) challenge you to become more independent?

11. How did this internship shape your professional identity?

12. What did your experience teach you about interacting with co-workers/teammates?

13. How did this internship (co-op) affect the way that you view yourself personally and professionally?

14. In what ways did your internship (co-op) inform, change, or reinforce your career goals?

15. How did the internship (co-op) affect your personal growth and development?

16. Do you think that your internship (co-op) better prepared you for your future career? If so, how? If not, why?

17. What did this experience tell you about who you want to be or how you want to be perceived as professional?

18. What did this experience teach you about relationships?

19. What would you say is the biggest benefit that you received from taking part in an internship (co-op)?

Thank you:
Thank you for taking the time to share your experiences related to your co-op/internship work. This information will be very helpful in allowing me to gain a better understanding of the growth and development students gain as part of these types of experiences. If you should have any further information that you would like to add to this discussion, please feel free to contact
me anytime and I will be happy to speak with you. Before you leave, do you have any questions for me?
VITA

Scott W. Kilpatrick
Associate Director – Internal Operations
Center for Manufacturing Excellence
The University of Mississippi

Email: skilpat@olemiss.edu  Telephone: 662-915-2640

EDUCATIONAL AND PROFESSIONAL CREDENTIALS:

Ph.D. University of Mississippi (2019) Higher Education/Student Personnel
  • Research Interests: Student Development & Experiential Learning
  • Practicum: Title IX Office (Summer 2013)
  • Practicum: Center for Student Success & First Year Experience (Fall 2013)
M.S.M. Belhaven University (2004) Management
B.P.A. University of Mississippi (1997) Public Administration

PROFESSIONAL EXPERIENCE:

Jan. 2013-Present  The University of Mississippi
Center for Manufacturing Excellence (CME)
  Associate Director - Internal Operations (June 2015 – Present)
  Director, Cooperative Education Program (Jan. 2013 – June 2015)
  • Direct the professional development program within the CME
  • Provide career counseling regarding internships, cooperative education, and full-time employment
  • Manage budgeting process for the CME
  • Oversee academic aspects of the center related to student advising, course scheduling, and accreditation issues
  • Direct student affairs functions concerning student life, discipline, retention, and alumni interactions
  • Organize and conduct orientation programs for CME freshmen
  • Manage disbursals of internship grant funds
  • Develop partnerships with business and industry leaders
  • Coordinate recruitment activities for prospective students
  • Serve on the CME admissions committee
  • Advise the CME Student Advisory Board and CME student committees
  • Supervise technical staff within the facility

Aug. 2007-Jan. 2013  The University of Mississippi
School of Engineering
  Assistant Dean for Student Services (June 2015 – Jan. 2013)
  Assistant to the Dean (Aug. 2007 – June 2011)
• Conducted undergraduate recruiting efforts by attending various coordinated events and maintaining contact with prospects
• Provided academic and career counseling to students regarding scholarships, class schedules, employment opportunities, strategies for success, etc.
• Administered engineering scholarships and Academic Common Market program
• Coordinated and expanded the engineering co-op/internship program
• Managed Engineering SUCCESS program for underprepared students
• Advised School of Engineering Student Leadership Council (including Honors Council)
• Developed program policy and content for the School of Engineering Service Corps
• Initiated programs with high school and middle school groups to provide career and academic related information to students
• Coordinated outreach efforts of the engineering student ambassadors
• Organized orientation sessions for freshmen and transfer students
• Developed reports used for tracking enrollment figures and trends, scholarship fund projections, and award recipient status

UNIVERSITY TEACHING:
The University of Mississippi
   EDHE 105: Freshman Year Experience
   ENGR 400: Leadership and Professionalism in Engineering (Co-instructor)
   MANF 150: Intro to Engineering/Manufacturing (Co-instructor)
   C OP 301: Co-op Work Experience
   C OP 302: Co-op Work Experience
   C OP 401: Co-op Work Experience
   C OP 402: Co-op Work Experience

PROFESSIONAL MEMBERSHIPS:
• Cooperative Education and Internship Association (CEIA)
• History of Education Society (HES)
• National Career Development Association (NCDA)
• Association for Christians in Student Development (ACSD)

SERVICE:
• Chair UM Manufacturing Lab Manager (CME) search committee (2018)
• Member UM Engineering Career Specialist search committee (2015)
• UM APEX Leadership Summit (2012-2014)
• Member UM Admissions Counselor search committee (2014)
• Member Transfer Student Experience course development committee (2013)
• School of Engineering Service Corps Committee (2012-2013)
• School of Engineering SUCCESS Committee (2011-2013)
• UM Residency Appeals Committee (2010-2012)