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Reverse Mentoring in the Classroom: A Qualitative Study

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ABSTRACT

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The intent of this paper is to understand the lived experiences of higher education students engaging in reverse mentoring. A literature review aims to discover how reverse mentoring is being implemented. Reverse mentoring, framed by social exchange theory and leader-member exchange theory, is a method focused on younger generations teaching technology to older generations, such as current-day Millennials with Baby Boomers. This review examines reverse mentoring practices, analyzes what has worked, and seeks to determine if this learning method has a place in the classroom. Due to the segmented, yet evolving application of reverse mentoring, there is a lack of research in environments like education. There is potential to use reverse mentoring as a vehicle to share knowledge, showcase students' work, demonstrate competencies, improve soft skills, develop lasting relationships, and potentially improve recent graduate new hire retention. As a means to understand the essence of and the lived experiences of students in reverse mentoring, interpretative phenomenological analysis—a qualitative research approach—is used to frame student experiences in the reverse mentoring in an educational context.

Keywords*:* reverse mentoring, higher education, millennials, pedagogy, student experience

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CHAPTER 1

Introduction

Students in higher education desire practical teaching methods and learning experiences that bring the students closer to real life events and applications (Billet, Cain, & Le, 2018; Goldman, Cranmer, Sollitto, Labelle, & Lancaster, 2017). For example, students desire meaningful and lasting relationships (Nolan, 2015), exposure to corporations' operations and cultures, career advancement opportunities (Smith & Nichols, 2015), and team working opportunities (Kowske, Rasch, & Wiley, 2010).

Progressive pedagogical methods like experiential learning, learning through experience (Kolb, 2014); competency-based learning, learning concrete skills (Voorhees, 2001); context-based learning — synonymous with object-based learning — the acquisition and process of obtaining new knowledge (Hansman, 2002), have been commonly found in the classroom. More specifically, activities for a student to get experience and participate in real-life projects, like on-campus internships, have been implemented into the classroom to meet this demand (Jorre de St. Jorre, & Oliver, 2018). Yet, there have been claims that many current learning methods can improve to bring students closer to the experiences they desire (Tulgan, 2015).

Employers have claimed, for various reasons, students have not developed the desired soft skills (Bloomberg, 2018; iCIMS, 2017; Tulgan, 2015). This has created a critical void as students have left the tertiary classroom to enter the workforce. Soft skills recognized by employers as important but absent in recently graduated students include problem solving, adaptability, time management, organization, oral communication, teamwork, collaboration, and written communication (iCIMS, 2017).

Therefore, looking at progressive learning opportunities that may improve students' current exposure to real life experiences, applications, and soft skills holds merit. Reverse mentoring (RM) is a popular teaching and learning method in organizational training that is focused on relationship building, teaching, and knowledge sharing. RM may potentially give exposure to new experiences, applications, improve soft skills, and create meaningful relationships.

In the late 1990s, Jack Welch, former CEO of General Electric (GE), introduced RM as a method to overcome the emerging technology knowledge barrier. He paired 500 executive employees with young novice employees to be trained on emerging technology, like the internet. This early form of RM took traditional mentoring, that of an expert guiding a novice, and reversed the roles and granted the novice the opportunity to teach an expert (Chaudhuri & Ghosh, 2012; Murphy, 2012).

Though this practice was largely found in business (Chaudhuri & Ghosh, 2012; Murphy, 2012), there are those who have taken the RM method and applied it as a learning method for teacher training (Porras, Diaz, & Nieves, 2018), geriatric social integration (Breck, Dennis, & Leedahl, 2018), and social network training in academics (Morris, 2017). It is clear that RM may be applicable in more contexts than just corporate professional development.

In another instance, RM was used as a method to bridge the gap between higher education and professional organizations. In this instance where RM has been applied, positive outcomes have been reported by both the students and the professionals; however, these responses have not been properly researched (Chaudhuri & Ghosh, 2012; Murphy, 2012). Rather, observations and feedback to date have been informally acquired through fallible semester or term end interviews and ratings. Empirical research is absent on the subject of RM between higher education students and practicing professionals. With increasing interest in RM between higher education students and industry professionals, there is a need to empirically research the experiences of students involved in this form of RM (Morris, 2017).

This research project sought to answer the question, what is the student experience of reverse mentoring when used as a method for students to teach classroom materials to industry professionals? Through interpretative phenomenological analysis (IPA), I describe the lived experiences of students who have participated in RM with practicing professionals in an informative and effective way.

Definitions

In this section, I discuss important terms associated with this literature review. I first define mentoring as it is traditionally considered and then as applied to RM, and the role of social generations. These terms have been defined as they are critical to understand what and whom is being studied.

Mentoring: Kram (1988) gave one of the earliest definitions of mentoring as a relationship developed between two individuals. One individual having more experience than the other, the expert, is committed to providing developmental support to the novice. By 1991, Jacobi validated 15 definitions of mentoring across research literature. In 2007, Crisp and Cruz found at least 35 new mentoring definitions, totaling over 50 definitions in all. In one case, mentoring was defined as parent-like relationships aiding in bridging the theory to practice gap (Lunt, Benett, McKenzie, & Powell, 1992). Comparatively, Bonnie McKenzie (1995), split mentoring into two groups: informal and formal. Eby, Allen, Evans, Ng, and DuBois (2008) complicated the description of mentoring by classifying it into three groups: youth, occurring in contexts where youths are mentored; academic, mentoring occurring in an academic context; and workforce mentoring, mentoring occurring in workforce environments. Similarly, Ensher and Murphy (2011) further obfuscated the definition of mentoring by dividing mentoring into three parts: (1) traditional mentoring, defined as an experienced individual mentoring a less experienced individual; (2) step-ahead mentoring, defined by the mentor being an organizational level above the mentee; and (3) peer mentoring, defined as two individuals of equal status mentoring each other. Finally, Ghosh (2014) broke mentoring down into two groups: (1) psychosocial, defined through relationship building; and (2) developmental, defined by personal development.

Though there is inconsistency and confusion about a general mentoring definition, compartmentalizing mentoring is difficult due to variables in each application. We find the definition by Ghosh (2014) most compelling because in his research he considers all the research performed by Kram (1988), Jacobi (1991), Crisp and Cruz (2009), McKenzie (1995), and Ensher and Murphy (2011) and divides them by the purpose and intended outcomes. As it pertains to RM, Chaudhuri and Ghosh (2012) explained RM as pairing a new junior employee with a more experienced employee or manager to help that tenured individual acquire new learning.

Reverse Mentoring: RM is an alternative mentoring method introduced by former General Electric (GE) CEO Jack Welch in the late 1990s (Finkelstein, Allen, & Rhoton, 2003). Chaudhuri and Ghosh (2012) defined RM as a method where junior employees (mentor) are paired with veteran employees (mentee) to exchange information with the initial lesson coming from the junior employee. Similarly, Murphy (2012) defined RM "as the pairing of a younger, more junior employee as the mentor to share knowledge with an older senior colleague as the mentee" (p. 551).

The intent of this dyadic relationship is to learn reciprocally and build intergenerational relationships with the outcome that by learning together and building relationships employees find more satisfaction in employment. Businesses that use RM as a training and human capital retention tool include Cisco, Hewlett-Packard (HP), The Hartford, Don Baer, PwC, Proctor & Gamble, General Motors, Unilever, Deloitte & Touche, Wharton School of Business at the University of Pennsylvania, and others (Ambrose, 2015; Chaudhuri & Ghosh, 2012; Steimle, 2015).

Many companies, like Cisco and HP, used RM by pairing younger non-executive employees with executive employees. Earle (2011) in a blog post on Cisco's describes how Cisco implemented RM as a practice to bridge diverse backgrounds and thus did not define the pairings by social generations (Earle, 2011). Sapundzhieva (2018), wrote about how RM is being realized at HP. He explained HP matched Millennials with executives for learning to happen across these generations. HP's approach utilized social generations to define who was matched with a professional (Sapundzhieva, 2018).

Ultimately, it appeared that RM can be a cost-effective method of teaching and learning. It can be an innovation driver, a bridge over generational divides, a way to understand trends, bridge technology gaps, a means to recruit and retain employees, a way to create social equity, a manner to understand diversity, and way to manage talent. Because RM can possibly solve generational differences, it is important to understand the differences between social generations (Murphy, 2012).

Social Generations: Social generations are defined by historical and social events. These influences defined

the perspectives, decisions, and actions of a social generation (Kowske et al., 2010). Because

RM often deals with differences across social divides, it is important to understand what is meant by “social generation.” Social generations are groups of individuals that are born within a relative period of time and experience similar social and cultural experiences (Mannheim, 1952). Though social groupings have been around for over a century, Strauss and Howe (1991) attempted to define generations by proposing generational theory. Many groups, including the United States government, have feared to formally recognize social demographic definitions because there is no way to exactly delineate social groups. The concern was that a formal definition would label and categorize individuals incorrectly. This has left those interested in the influences of these groups to create their own definitions.

Dimock (2018) stated that though defining social generations is difficult and fluid, it is a way to understand how individuals are defined by world events, technological advances, and social shifts (Joshi, Deckner, Franz, & Martocchio, 2010). For our intents and purposes, we used the definition adopted by Pew Research (Dimock, 2018), which defined social generations into the following groups by birth years:

- Silent Generation — born 1928-45
- Baby Boomers — born 1946-64
- Generation X — born 1965-80
- Millennials — born 1981-96
- Post-millennials/Gen Z — born 1997- current

Though Pew Research has given these years as what defines social generations, they acknowledged that there is a need to retool these definitions as time passes (Dimock, 2018).

Millennials and post-millennials, the most recent generations, have been a surprise to earlier generations. Influences during the developmental years of these generations have led to significant shifts in the way we attract these individuals to universities and employment (Gong, Ramkissoon, Greenweed, & Hoyte, 2018). Therefore, it is important to consider and organize individuals impacted and shaped by similar events to understand their habits, behaviors, and decision-making processes.

Millennials: Pew Research claimed that Millennials, the largest social generation in higher education today, are those born between 1981 and 1996. This social generation totaling 83.1 million individuals have surpassed the baby boomer population of 75.4 million. Additionally, they are the biggest employed generation in the United States at 35 percent (Brundage, 2017; Dimock, 2018). Per Pew Research (Graf, 2017), the last group of the Millennial generation entered post-secondary education in 2014 and is expected to graduate in 2018. Millennials demand teaching-learning experiences to be administered differently than preceding social generations.

Luttrell and McGrath (2016) claimed that Millennials have had more exposure to information that any previous generation and desire to build upon existing knowledge and not necessarily place an emphasis on the acquisition of information. Some characteristics that millennials want in educators are enthusiasm, personal relationships with instructors, co-collaboration with teachers on projects, hands on or interactive instruction, connections to the real world, and timely feedback (Dunneback & Therrell, 2015; Gallup, 2016; Luttrell & McGrath, 2016). It is suggested that this social generation are more focused on themselves and leisure time and are more extrinsically motivated (Twenge, 2010).

CHAPTER 2

Literature Review

In this section, I summarize a review of RM literature. I discuss the environments where RM is taking place, the structure of RM, the benefits of RM, and the vulnerabilities of RM applications.

Reverse Mentoring Environments

RM is readily found in corporate settings, the environment where it first gained traction. Jack Welch used reverse mentoring as a professional development and teaching tool at GE to get 500 upper management employees, including himself, educated on new technological advances such as the internet. By pairing young adults with veteran employees, information was quickly and effectively transferred between these individuals in the dyadic relationship (Chaudhuri, 2015 Greengard, 2002; Harvey & Buckley, 2002; Murphy, 2012; Wingard, 2018). The results at GE were overwhelmingly positive and quickly spread to other prominent organizations like Time Warner, Dell, Thomson Reuters, Microsoft, Hewlett-Packard, CISCO Systems, Target, United Healthcare, Fidelity Investments, Unilever USA, and International Business Machines (IBM) (Ehrgott, 2009; Greengard, 2002; Harvey & Buckley, 2002; Hays & Swanson, 2011; Kwoh, 2011; Microsoft News Centre Europe, n.d.; Wingard, 2018).

For example, in an internally prepared report, IBM—who in 2008 had 356,000 employees working across 170 different countries—placed significant importance on continual support and education with mentoring being the medium to do so. Initially, mentoring practices within the company were limited to traditional mentoring developed within each department independent of other departments. Moreover, much of those mentoring programs were limited to executives. This resulted in inefficiencies in eliminating cultural diversity gaps, interdisciplinary projects, socio-demographic differences, information sharing, ineffective onboarding, and diminished employee program ownership (Murrell, Forte-Trammell, & Bing, 2008). In response, IBM began the mentoring revitalization program and created the Strategic Mentoring Portfolio as an addition and complement to the corporation's existing traditional mentor Experiential Learning Portfolio program.

IBM's mentoring portfolio allowed for many mentoring forms to be implemented ensuring that the needs of employees, stakeholders, and the organization at large were being met. The mentoring portfolio consisted of methods like traditional mentoring, informal mentoring, speed mentoring (problem-specific group mentoring), RM, one-on-one mentoring, peer mentoring, group mentoring, etc. This varied mentoring approach supported and improved the business morale and impact (Murrell et al., 2008).

Specifically, IBM's report declared that RM had a significant impact within the mentoring portfolio. RM was implemented to avoid the negatively evolving power structure defined by rank, status, and tenure of traditional mentoring structure. RM promoted equal partnerships and shared ownership. An immediate result of this was knowledge sharing from both individuals in the dyadic relationship. It became a foundational program, requisite of all employees, that supported IBM's goal to create a "knowledge-resilient" company culture (Murrell et al., 2008).

Comparatively, CISCO implemented an Early Career Network (ECN) intended to serve new hires and employees just beginning their careers. RM was the foundation of ECN with the intent to create more inclusivity in the diverse workforce. Like the program that GE and IBM implemented, Cisco has paired a young employee within the organization with a senior management team member with positive results.

In a slightly different manner, Target used RM as a method to learn best business practices. Target contracted with Techstars, a third-party group, to connect new startup companies with similar large organizations like them. Target's intent for implementing this was to learn new and emerging practices on how to get things done quickly and efficiently. Secondary benefits to Target's program included breaking down generational stereotypes of younger generations, like Millennials. Older participants realized that there is more to learn from the younger generations than previously thought (Alcorn, 2016).

Reverse Mentoring Structure

To make sense of the nature of RM, researchers referred to social psychology theory. These theories include social exchange theory (SET; Cropanzano & Mitchell, 2005; Blau, 1964) and leader-member exchange theory (LMX) (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). These theories have created a foundation and framework upon which the RM program has been effectively explained and developed (Burkhardt & Schoenfeld, 2003; Chaudhuri & Ghosh, 2012; Murphy, 2012).

SET was developed by several individuals: Freedman (1967), Sahlins (1965), Gouldner (1960), Homans (1958), Thibault & Kelley (1959), and Blau, Falbe, McKinley, & Tracy (1976). SET aims to explain that relationships evolve over time into trusting, loyal, and mutually committed if certain rules are adhered to by the participants (Cropanzano & Mitchell, 2005). It is the SET framework that lays the foundation for RM to become possible and confirms the need for rules and norms to be implemented into an RM structure.

Building upon SET is LMX (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975; Graen & Uhl-Bien, 1995). Though, LMX, a transactional and transformational exchange platform was initially intended to operationalize leadership relationships, it has evolved to explain how to achieve high-quality relationships. When high-quality relationships are formed, it produces quality contribution, loyalty, and positive affectivity (Graen & Uhl-Bien, 1995; Murphy, 2012). These theories confirmed that tested and tried methods of relationship development is necessary to for RM to function with positive outcomes.

When properly recognized, social theories become the foundation for recognizing and establishing elements that make a solid RM structure. These elements include

- high-quality connections;
- organizational context;
- rules; and
- desired outcomes (Murphy, 2012).

It must be acknowledged that the aforementioned theories have helped define successful RM programs in the context of organizational development. However, further research is needed to understand what is different about the context of students reverse mentoring practitioners. Specifically, empirical research can further define preparation methods, structure, and follow-up and review procedures in the student-practitioner context.

Reverse Mentoring Benefits

Mentoring has produced positive results; therefore, its application is found worldwide. RM, a non-traditional form of mentoring, also maintains some traditional mentoring benefits but also introduces new benefits including bridging technology gaps, understanding trends and customers, recognizing social equity and diversity, and recruiting and retention (Murphy, 2012). Murphy (2012) categorized these benefits into three functions; career, psychosocial, and role modeling.

Career benefits are wide ranging and may be defined by the context; however, some recognizable benefits include knowledge sharing (Breck et al., 2018; Nolan, 2015), coaching (Chaudhuri & Ghosh, 2012), career support (Ensher & Murphy, 2007), career mobility (Allen, Eby, Poteet, Lentz, & Lima, 2004; Dreher & Cox, 1996; Hezlett & Gibson, 2005), exposure and visibility (Meister & Willyerd, 2010), skill development (Breck et al., 2018; Murphy, 2012), presenting challenging and innovative ideas (Kram, 1988; Rollag, Parise, & Cross, 2005; Zhang & Bartol, 2010), and networking (Chaudhuri & Ghosh, 2012; Murphy, 2012; Nolan, 2015).

Murphy (2012) stated that knowledge sharing occurs when both members of the dyadic relationship share information that the other member may find as relevant. As a result of readily accessible knowledge, the novice may have knowledge about how to find information quickly. In contrast, the expert may have experiential knowledge accrued over time. These differences in experiences and knowledge attainment result in opportunities to learn reciprocally from each other (Breck et al., 2018; Nolan, 2015). Defillippi and Arthur (1994) broke down knowledge into three categories: knowing how, knowing why, and knowing whom. RM creates an environment where all three of these categories can be utilized.

Cohen (2010) claimed RM serves as a viable vehicle for talent recruiting and employee retention. Millennials at large desire for their voice to be heard and their contributions to be recognized. If these desires are satisfied, then the desire of Millennials to work and remain at such a company increases (Gugercin, 2017; Hechl, 2017; Kato, 2019; Lacy & Copeland, 2013; Murphy, 2012). Additionally, career support can result from RM. Career support includes talent recruiting, employee retention, company operations exposure, company culture exposure, organizational support, and talent and leadership management.

First, RM has been found to expose an individual's talent, comprehension, and skills leading to career mobility within a company (Lacy & Copeland, 2013; Murphy, 2012). In many organizational instances, showcasing skills is often limited to colleagues of the same title or directly to managers of that individual. RM permits more exposure of an employee to longer tenured or higher-ranking individuals.

The second domain of RM is psychosocial. Psychosocial benefits include support and feedback (Murphy, 2012; Nolan, 2015), acceptance and confirmation (Kram, 1988; Levinson, Darrow, Klein, Levinson, & McKee, 1978), friendship (Breck et al., 2018; Gugercin, 2017; Murphy, 2012), social equity (Breck et al., 2018; Dardouri, 2018; Hechl, 2017; Morris, 2017; Murphy, 2012), understanding trends and differing perspectives (Chaudhuri, 2015; Dardouri, 2018; Murphy, 2012), and affirmative encouragement (Aruna & Anitha, 2015; Murphy, 2012).

Murphy (2012) explained that the psychosocial element supported by RM improves upon traditional mentoring methods because of the dyadic relationship structure (Kram, 1988). Though traditional mentoring methods improve psychosocial relationships, RM is thought to improve the psychosocial even more as both individuals have a chance to share knowledge and expertise. This opportunity reduces inequality, which traditional mentoring often creates, as both individuals have a chance to teach and share knowledge.

The third major benefit of RM is role model observations and examples (Hechl, 2017; Lacy & Copeland, 2013; Kato, 2019; Murphy, 2012; Kase, Saksida, & Miheli, 2018). The interaction between both individuals is intended so that both parties benefit. The mentor, though a novice, has a lot to learn from the mentee's experiences. Today, time in a specific field does not necessarily mean that you are guaranteed to know more than novice employees; yet, experience cannot be entirely discredited. This is where someone with a lack of experience can learn from the professional. Corporations claim that the RM has improved the leadership skills of both the mentor and mentee (Murphy, 2012)

Yet, with all these claimed benefits, there are many unknowns. What we still do not know are what the benefits might be of RM in other environments outside the corporate environment. More specifically, what are the benefits of using RM to improve classroom instruction? Does RM improve classroom performance? Additionally, does it improve students that are in high demand by potential employers? Does it improve employment opportunities for students and increase future retention of recently graduated new employees? Does it improve self-efficacy?

Reverse Mentoring Vulnerabilities

Mentoring as a whole has many benefits, if executed properly; however, it is not infallible. Ragins and Kram (2007) warned of vulnerabilities being manifested in many ways. Generally, these include mentor-mentee mismatches, abrasive or intimidating relationships, value differences, personality differences, work-style differences, neglect, lack of expertise, manipulative behavior, and dysfunctionality. Specifically, mentees have claimed that bad experiences include negative relationships, straining reactions, and poor relationship quality.

Comparatively, mentors have claimed that proteges have failed to meet expectations, are unwilling to learn, lack genuity, and are over submissive (Eby, Butts, Durley, & Ragins, 2010). Many of these issues transfer to RM. Murphy (2012), claimed vulnerabilities in RM have yet to be empirically researched but also recognizes some observed manifestations. These include issues of gender, race, personality barriers of lack of trust, and confidence.

Though a positive outcome of RM is overcoming generational differences, it is generational differences that may prevent relationships from forming (Murphy, 2012). The idea of a less experienced individual teaching an expert or an executive a new topic may be hard for either individual to accept because of social position and experience. Without an open mind and an understanding of the mutual benefits, the relationship may not develop trust, confidence, and a willingness to learn, which are critical to RM's structure (Murphy, 2012).

Furthermore, finding the motivation to participate in such a program may be hard to develop. It is critical to identify the motivational factors driving action (Kase, Saksida, & Mihelic, 2018). The motivational factors can be broken down into intrinsic and extrinsic motivation. For students, who are commonly known to be extrinsically motivated over intrinsically motivated, the motivation may be to get a job and showcase their skills. Whereas for the professionals, the desire to participate in RM may be more intrinsically motivated. However, if the motivating factor is to complete a requirement simply because it is required, then the potential for a successful relationship is jeopardized (Kase, Saksida, & Mihelic, 2018).

These shortcomings are possible in the workplace environment, yet empirical research is lacking on vulnerabilities (Murphy, 2012). Specifically, we do not know what issues will arise in the student to professional setting. Some things to consider are that a professional may not be as invested in the student because the relationship may be short-term compared to the corporate setting. This lack of time may diminish the desire to invest time in the individual. Another shortcoming may be a student's lack of professionalism. If a student is not prepared or willing to share valuable information, it could create negative reactions between the student and the professional. Further empirical research is required to determine the possible shortcomings of a student reverse mentoring an industry professional.

Can Reverse Mentoring Go to School?

Many questions linger about RM as a pedagogical method between students and professionals. In theory RM can be broken down into three stages: pre-intervention, intervention, and post-intervention. Because the desired outcome of RM is to provide both short-term and long-term benefits to both participating individuals, it is necessary to consider all three phases.

The first phase of RM, pre-intervention, has very important elements: mentoring training and mentoring matching. Kase et al. (2018) claimed that proper instruction was required for reverse mentors to confidently and appropriately reverse mentor the mentees. This is so that both individuals understand framework and boundaries to maximize the potential of the experience and find value in it.

Matching processes is a more obscure process with no common framework that is generally used. Institutions are using a variety of manual methods or software to match participants. For example, Hacker, Subramanian, and Schnapp (2013) claimed that mentors and mentees must share common backgrounds and have appropriate and similar expectations. At University of Washington School of Medicine, students are matched by common backgrounds and expectations after which students manually select a mentor from the school's central database.

In another example, Chronus, a private company whose service is to provide mentoring platforms, training, and mentoring software to clients, uses unique software to match mentors and mentees. The software is proprietary and the methods used to match individuals is unknown. Further research is needed to understand qualities that determine the algorithmic structure that most effectively matches student.

The second phase of the mentoring structure, the intervention portion, has received most of the attention from scholars (Breck et al., 2018; Chaudhuri, 2015; Chaudhuri & Ghosh, 2012; Gugercin, 2017; Greengard, 2002; Hays & Swanson, 2011; Hechl, 2017; Kato, 2019; Lacy & Copeland, 2013; Murphy, 2012). The literature review has identified many holes; context (student-practitioner RM), lack of empirical research on RM vulnerabilities, and understanding the experiences of students engage in student-practitioner RM relationships.

It is important to understand how student-professional RM interactions are being experienced. Exploring and understanding student experiences could be the precursor for studies on learning impact, employment opportunities, soft-skill improvement, and relationship building. It is understood that these positive outcomes exist between co-workers; yet, students will not immediately bring the sort of impact to a corporation as a new employee would. Therefore, the benefits for professionals to engage in such a practice is obscure and requires diligent research attention.

Lastly, post-intervention, is the opportunity for relationships to continue beyond the intervention phase and for review of the practice. RM relationships are intended to endure in the corporate world. Corporate participants, both mentor and mentee, are employees and the very nature of this situation allows for RM relationships to last. In contrast, students are not bound to the organization and professionals are not bound to the students. What is not known is if these relationships, those of students and professionals, last beyond the reverse mentoring intervention. What benefits come of this? What is required for this to continue?

Moreover, it is important for both the student and the corporations to analyze the benefits of the interaction. Currently, businesses are finding that affective commitment of employees engaging in RM is improving (Hechl, 2017), that lasting relationships are being created, continual improvement of communication, and a continually developing leadership pipeline (Murphy, 2012). In the case of student-professional relationships, more research is needed to understand the underlying experiences of students in the student-professional RM relationship.

Student-professional RM is still a relatively undiscovered topic and because a lot can be researched it is important to begin to seek and understand foundational student experiences and perceptions. Therefore, my research question is, *what is the student experience of reverse mentoring when used as a method for students to teach classroom materials to industry professionals?* The essence of this question is easily connected to qualitative research. Therefore, the methods for this research are qualitative in nature.

CHAPTER 3

Methods

In order to understand the student RM experience in the student-practitioner context, I elected to use interpretive phenomenological analysis (IPA). IPA is a phenomenological qualitative research approach innovated by Smith, Flowers, and Larkin (2009). The use of IPA was a recommendation of my mentor and chair Rick West as IPA implements purposive sampling, is formative in nature, and may bring to light and makes sense of common themes of RM in the context of higher education student and practitioner relationships.

Participants and Context

This research was conducted at Dixie State University (DSU) in St. George, UT. DSU is an open-enrollment institution owned by the state of Utah. As of the 2018/2019 academic year, DSU had 9,950 students enrolled. DSU is an appropriate host for this study because the business management course, strategic management 4800, uses RM as a pedagogical method. Strategic management 4800 is a required course for business students to take for the business management degree.

The textbook that the course uses is *Strategic Management: Concepts* (*4th edition)* by Frank T. Rothaermel (2018). At the start of each semester, the students were instructed on the task of RM and instructed to find a practicing professional to mentor and teach material from the textbook and course curriculum. The students were given a framework (see Appendix A) with prompts that they could flesh out and use as a guide when instructing the professionals. Though the students were required to meet at least once a week those meetings were not given a specific duration.

According to the DSU 2019 summer semester course catalog, one section of business strategy 4800 was offered as a block course. This course began May 13 and ended June 21, 2019. This course section had 13 students enrolled. Participant structure was based upon a purposeful random sample in which 10 students were selected by volunteering for this study (Patton, 2015).

Student demographics included traditional college students and returning students. Student employment contexts in prior semesters included part-time and full-time employment in the short- and long-term, depending on the student. University wide ethnic breakdowns show that 76 percent of enrolled students are White, 12 percent are Hispanic, 2.2 percent identified as Black, and the remaining included Native American, Asian, Pacific Islander, and others. Participants were not monetarily compensated or given course credit to participate in this study.

RM as a pedagogical method in the classroom is unusual. Therefore, I desired to observe and analyze the essence of students' experiences through qualitative IPA format (Smith et al., 2009). IPA method implements a semi-structured interview framework to observe and analyze the experiences of the population being observed. Smith et al. (2009) stated that "When people are engaged with 'an experience' of something major in their lives, they begin to reflect on the significance of what is happening and IPA research aims to engage with these reflections" (Smith et al., 2009, pp. 2).

Instrumentation

Based upon the IPA format, I conducted semi-structured interviews with open ended questions to get to the essence of the student's experiences. A copy of the interview transcripts are in Appendix B. The first interview sought to understand their experience with RM prior to engaging in RM for this course. The post interview sought to understand their experience using RM to teach course content. The questions were designed to peel apart the participant experience and expose the essence of their engagement. The pre and post interviews are not comparative in nature; therefore, the pre and post interview questions differ and seek to understand experience.

Data Collection

Before interviewing the participants began, institutional review board (IRB) approval was obtained from DSU, the institution hosting the interviewing, and BYU, the research-sponsoring institution (see Appendix C). Interviews were administered pre-RM intervention and post-RM intervention to 10 students enrolled in MGMT 4800 at DSU. The interview questions (see Appendix B) are intended to be open-ended. A research journal of interview notes accompanies each interview. These interview notes describe observations, impressions, changing perspectives of the student experience (Emerson, Fretz, & Snow, 2011). Additionally, the journal notes what I saw, heard, and experienced during the interviewing phase of the research. Noting these items occurred during the interview, after the interview, and during a reflection of the interview. The template for this journal can be found in Appendix D.

Notes taken during the interview (see Appendix E) were broken down into “headnotes” and “jottings” (Emerson, Fretz, & Snow, 2011; pp. 29) that allowed for attention to be given to asking questions and synthesizing answers to maximize the semi-structured interview. For example, headnotes are a title assigned to a broader topic to be reviewed during analyzation. In contrast, jotting, the exercise of writing more detailed notes, were more detailed and lengthier. Jottings were divided into data memos and theory memos. Data memos address the data while theory memos address the implications for the study.

The interviews were recorded using the Apple application QuickTime player and the iPhone application Voice Memos to provide redundancy. The recordings were kept and stored in a password secured folder on the cloud-based storage system iCloud. The recordings were transcribed using a web-based service Rev.com.

Data Analysis

Procedures, recommended by Creswell and Poth (2016) including IPA analysis measures, negative case analysis, research bias clarification, and member checking will be outlined.

Analysis measures will follow the six recommendations of Smith et al. (2009). This includes: (1) read and reread transcripts, (2) initial notation, (3) develop emergent themes, (4) search for connections across emergent themes, (5) moving to the next participant and repeat steps 1-4, and (6) looking for patterns across experiences.

In step one, I read and re-read transcriptions, I made notations that were written in a reflexive journal on the recollections of impressions had during the interview process. Reading, rereading, and reviewing notes reevoked feelings and impressions I had during the interview. Additionally, the journal aimed to seek new or overlooked feelings and observations that were missed during the interview process.

In step two, initial notation, careful examination occurred of semantic content and language. Referencing journal entries at correlating points of the transcript helped recall descriptive and conceptual elements of the interview. During this process, notations were made of similarities, differences, echoes, amplifications, and contradictions in what was said and what was noted in the journal.

These notations led to step three, the development of emergent themes. Emergent themes were created by connecting related items and patterns from the transcript and notes using Quirkos, a cloud based qualitative data analysis application. This set the stage to connect emergent themes chronologically, map and organize emergent themes, and identify subordinate and organize through abstraction, subsumption, polarization, contextualization, numeration, and function.

These former three steps were repeated for each individual. When steps 1-4 were completed for each individual pattern were noted across all participants. These patterns were ordered by frequency.

Credibility Measures

Measures to maintain credibility included bracketing, negative case analysis, and peer checking. Bracketing, though difficult, was implemented in the analyzing and coding process. Bracketing eliminated bias of my own experiences and perspectives. Negative case analysis (Lincoln & Guba, 1986), was implemented for the duration of the study to identify competing codes and themes and refine these conflicts. Peer checking occurred by engaging members of my thesis committee. These members checked for accuracy in transcribing methods, emergent theme extraction, and final observations.

Disclosure Statement

The results of my research intend to inform me and other individuals of the potential this particular phenomenon related to reverse mentoring has in being systematized into a functioning product that can be sold for profit. For more details on the nature of my interests please see Appendix B.

CHAPTER 4

Results

To address the research question of understanding student experiences using RM as a learning method, codes from the interviews were combined into three major themes: (1) mindset, (2) relationships, and (3) emotions. These major themes are not mutually exclusive as there are overlap among the major codes as shown in Figure 1.

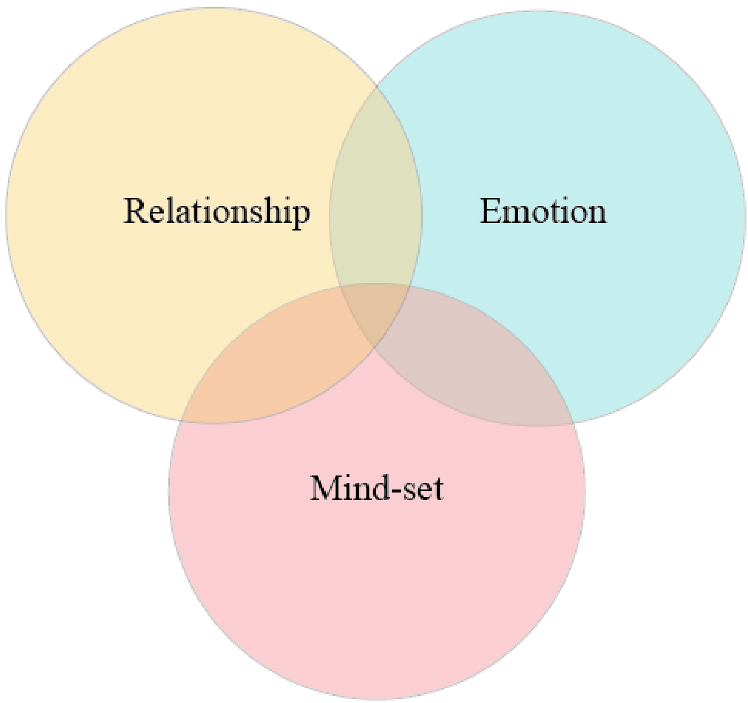

Figure 1. Major themes illustration.

Overlapping of major themes addresses the unique nature of the codes being complex. Table 1 defines the 13 major codes and explains the reasoning behind each code. Three themes are presented after Table 1, along with the associated parent codes.

Table 1

Names of Codes, Themes, and Code Definitions.

Code	Matching theme(s)	Code contents
Positivity	Emotion and mindset	Positivity was recognized and noted when a student made a positive comment, when a specific positive emotion was noted, or when a positive expression toward the RM experience was expressed.
Relationship	Relationship and mindset	Relationship was noted when a student made mention of their relationship with the practitioner, development of the relationship, practitioner engagement.
Negativity	Emotion and mindset	Negativity was recognized and noted when a student made a negative comment, when a specific negative emotion was noted, or when a negative expression toward the RM experience was expressed.
Student learning	Mindset	Student learning was noted when the student made mention of their learning experience, application of a topic they learned, or expressed recall or reminder of something they learned.
Teaching Experience	Relationship and emotion	Teaching experience was noted when a subject noted when they mentioned teaching the practitioner or recommended changes to improve teaching of material.

Table 1 continued

Code	Matching Theme	Code contents
Time commitment	Emotion and mindset	Time commitment was noted when a subject mentioned a time requirement to engage in RM including positive and negative experiences.
Decision making	Emotion and mindset	Decision making was noted when a subject mentioned his or her reasoning for their decision related to selecting their practitioner of choice.
RM preparation	Relationship and mindset	RM preparation was noted when the subjects mentioned preparation required to engage in RM, the structure given by the instructor to engage in RM, and efforts by the students to customize the instruction to meet the needs of the practitioner.
Student effort	Relationship, mindset, and emotion	Student effort was noted when there were proactive measures by the student to improve upon the RM experience or when there was a demonstration of a lack of effort. This includes efforts to study the material, prepare the lesson, and adapt.
Self-reflection	Emotion and mindset	Self-reflection was noted when the student used self-reflection to describe their experience and when they reflected upon their weaknesses and how that impacted the RM experience.

Table 1 continued

Code	Matching theme	Code contents
Motivation	Relationship, mindset, and emotion	Motivation was noted when the student mentioned motivational forces including intrinsic and extrinsic motivational forces to engage and maximize the RM experience.
Self-efficacy	Emotion and mindset	Self-efficacy was noted when the subject demonstrated high self-efficacy or low self-efficacy when presented with the task of teaching a practitioner classroom material. Where self-efficacy growth was observed it was also noted.
RM student reception	Emotion and mindset	Student RM reception was noted when the student learned of RM and their perception of RM.

Note. Codes were organically developed as transcriptions were read and analyzed.

Ten individuals (see Appendix H) were interviewed to gather information about their experience. From these interviews' codes were developed (see Appendix I) and the frequency of the codes helped develop themes. Code development began by reviewing the transcriptions and taking notes. The transcriptions were then re-read and additional notes were added. These transcriptions were then uploaded to Quirkos, an online qualitative analysis program to be coded. Codes were broken down into three groups: (1) parent codes, (2) child codes, and (3) grandchild codes. Parent codes were more general in nature, child codes were more specific, and grandchild codes were very specific. For example, emotions/feelings were coded as a parent code. Emotions/feelings was broken down into child codes like positivity and negativity. Positivity was broken down into relaxed, excited, happy, hope, confident, willing, and honesty. Not all sub-themes will be discussed in detail in this paper (see Appendix J); however, the most frequent sub-themes are mentioned to demonstrate the role that each of these themes had on the student experience.

Theme 1: Mindset

Mindset, defined as the established set of attitudes held by someone, were observations of the student's experiences represent how the students perceived and approached different experiences and challenges. Naturally, this theme acknowledges observed dispositions in the subjects and how they addressed challenges in the learning environment. This theme is further broken down into sub-themes acknowledged because of the frequency of their manifestations in the interview. The four sub-themes are (1) student learning, (2) time, (3) self-efficacy, and (4) motivation. These sub-themes were selected by frequency of an attitude toward a subject.

Sub-theme 1: Student learning. It is evident that the intent of RM is to facilitate learning. When the students approached RM with a learning mindset, or a favorable attitude toward learning, they had effective learning experiences and interpreted their felt emotions of anxiety and nervousness as catalysts to prepare well.

Sean, a senior with a business emphasis in accounting, had an approving attitude and stated that this pedagogical structure, that of taking classroom content and teaching a practitioner, allowed him to see different perspectives and see how the theory applied in different contexts. He stated, "I think the book did a really good job of helping us implementing and connecting the material with real life, because we had the case studies. So that is really cool for me to be able to take a concept and to see it in real life."

Sean's experience allowed him to see the business strategy principles and theory applied in different contexts. Observing a practitioner and how the practitioner's company implemented and altered the strategy being taught by the student to fit their company structure allowed Sean to see the complexity of real-world business strategy. Sean said, "I learned a lot about the functionality, I guess, of the company. The way things work and the way… the different focuses the company has. I learned about how the partners of the firm made management decisions."

Owen, a senior with goals to pursue a career in hospital administration, acknowledged that the discourse between him and the practitioner was enlightening and rewarding. He said of his experience, "She would be like, 'Oh, that's way similar to this at the sandwich shop, or this is what we're going through..." These experiences of teaching what they are learning in the classroom to the practitioners in the field often created discussion that enriched the student's learning.

Sub-theme 2: Time. Time commitment was a big concern of the subjects when they engaged in RM. The subjects interviewed were enrolled in a spring term where the schedule was condensed into seven weeks. The subjects often acknowledged that the task of engaging in RM, including preparation and meeting the practitioner was a challenge. Due to holidays they met only six times. The mindset of students was grouped into two types: (1) positive mindset or "I can do this" and (2) negative mindset or "I'm not going to try."

Amanda, a senior with prior professional work experience and aspirations to own her own residential land development company stated some concerns about time, "So, my problems was not what we did, it was more the timeframe did not really work with the project." It was perceived that Amanda's attitude toward this class and RM was negative. It seemed that she did not have confidence in her ability to engage in RM in the time allotted and viewed the exercise as a burden.

Comparatively, Brian, a senior who played on the university's baseball team and had a positive mindset said, "it definitely is extra effort, then it would be just to do the homework and that's it. So, I mean, I guess the initial thing was going to take a little bit of extra time." Though it was extra effort he expressed confidence is his ability to give RM extra effort.

The subjects with a "can do" mindset acknowledged that engaging in RM in a six-week period was difficult but their mindset was one were they believed they could get it done and do it well. Those students who had realistic, albeit, optimistic mindsets about the time commitment trended toward having a positive experience.

Sub-theme 3: Self-efficacy. Bandura (1977, 1986) defined self-efficacy as an individual's belief in his or her capacity to execute behaviors necessary to produce specific performance attainments. An attempt to observe self-efficacy was made in all of the interviews. It was noted when the students expressed a belief in themselves or when there was a lack of self-belief. These expressions were categorized as high self-efficacy or lack of self-efficacy.

Brian demonstrated high self-efficacy when he said, "No, I mean I'm only doing two classes. I mean I just took 15 credits while playing a 55-game baseball season. So… not having baseball and I do not have a job right now and all I have to do is these six weeks with two courses, like… I think I will be okay." Brian has been in tough situations before and was able to use previous experiences as motivation to accomplish this task.

However, Amanda demonstrated a lack of self-efficacy in separate portions of her interviews. In one statement she said, "So it's just… not being from here and the exclusivity here, it's like… yeah, I do not know if that [finding a practitioner] is possible." She did not believe she could connect with practitioners from the town because she is not from the area. In comparison to other students, many were not from the area but felt that practitioners in the area would be willing to engage in RM.

In another interview Amanda felt that it was necessary to create a façade to succeed in RM. “I’m not good at lying and BSing. I’ve been working on that, not very good at it though. I have not found what works yet. Well, it seems like it’s always a work in progress.” The state of the student’s self-efficacy was a precursor to selecting a good CEO and a positive experience. Mindsets of the students and what they believed they could or could not do set the stage for the experience they had when engaging a professional through RM.

Sub-theme 4: Motivation. Motivational forces, the reason or reasons an individual has for acting or behaving in a particular way, were subdivided into two groups: (1) extrinsic and (2) intrinsic motivation. One specific motivational factor was the same for all subjects: students were required by DSU to take this course to graduate. Beyond that external influence, the motivational factors differed widely from one student to the next. Some factors included proving the value of an education to a family member, whereas another student they felt this would help them create stronger ties to the professional world through relationship development and application.

Ben, a senior with aspirations to build a home building company and real estate portfolio, selected his father, an electrician and also Ben’s employer, as his practitioner. Ben’s father never went to college but has been successful in his electrical business and has been critical of Ben’s college attendance. Ben stated,

> Well for me, having my Dad actually realize all I’ve learned… I feel like the reverse mentoring helps him realize how much I actually know about a lot of

different things and he'll actually take me seriously for bigger deals and opportunities.

Ben was extrinsically motivated to prove his father wrong. In contrast, Owen was intrinsically motivated. He was excited and desired to help his practitioner learn business strategy and improve her business. Owen selected his stepmother as his practitioner. She runs a small franchise and has no formal business education. He said, "I am excited to see how they take it coming from me and how I'm going to be able to teach them."

Another student, Mike, felt that knowledge creates opportunity, "with knowledge, I think comes power. When you learn more, your knowledge can actually help benefit others around you." Mike believed that this learning method made him a better and more intelligent person.

Those who engaged in RM initially did so because it was a required course. However, after engaging a practitioner in RM, it seemed the majority of the subject's mindsets toward networking, teaching preparation, and the act of teaching improved. They realized that each of those items are important to their future career even if those occur independent of RM.

Theme 2: The Critical Role of Relationships

Students were encouraged to select their own practitioner. In many circumstances the practitioners and students had existing relationships. These relationships included family members or co-workers. In other situations, the relationships had to be developed. The strength of these relationships seemed to motivate the student to prepare in better ways. Equally, the relationship seemed to influence the actual teaching experience. No two relationships were the same, causing each student to prepare a bit differently and have a different teaching experience.

Sub-theme 1: CEO selection. In 8 of the 10 cases, students had a family member or co-worker in a professional managerial role and connected with these individuals. In many instances, students worried that selecting a family member to reverse mentor would contradict the outcomes of the assignment.

Raymond, a senior with professional work experience in construction and a desire to get a law degree, expressed some concern with his choice of CEO, "so I have not asked the professor yet, but it is my dad." Raymond assumed that the intent of this exercise is to meet with a random professional; however, no criteria was established by the professor to select a non-related practitioner.

Raymond quickly explained why he chose his father, "just that he was my dad. I understand that this kind of creates a different conversation than if he was not my dad, you know? In my opinion, it's better… because we're more comfortable and open, you know?" He believed that their similar interests and eliminating the relationship development process he could maximize the experience and he did have a positive experience.

In a different experience, Ben felt that to really maximize your experience you have to match a career field with a practitioner within that field. Ben believed that students who selected family as practitioners would not have a rich experience.

> because when you're choosing somebody that you already know, you lose out on a lot of those benefits of getting outside information, or having to be more professional. Or a lot of those aspects that I think are beneficial to reverse mentoring.

Ironically, Ben ended up using his father as his practitioner and still had a positive experience.

Two other students, Amanda and Tyler, collaborated and connected to practitioners using the other person's personal network: Amanda used a practitioner from Tyler's network and Tyler used a practitioner from Amanda's network. The students and the practitioners did not have preexisting relationships. The practitioners were willing to engage the students, but from Amanda's and Tyler's experience, the practitioners were not invested in the experience, unlike students who selected individuals with pre-existing relationships. Amanda said the following about her practitioners' willingness, "And so, it was just kind of that, "Sure, whatever, I'll help you complete the assignment."

Tyler said that initial interaction was good but feedback quality diminished over the course of the term-long assignment, "Honestly, it seemed like the quality of feedback that I was getting, was getting less and less towards the end." It appears that the lack of practitioner investment in the student resulted in a poor experience.

The types of relationships types students could possibly engage in are numerous and complex; however, all three potential relationships—pre-existing familial, pre-existing non-related, and newly acquainted—were prevalent in this study. Though these experiences are not comprehensive, they indicate that the interest of the practitioner, the history of the relationship, and how the relationship is developed matter in the outcome of the RM experience.

Sub-theme 2: RM preparation. Preparation was encouraged by the professor and a framework in the form of a weekly report (Appendix I) was supplied to guide the students through the RM experience. This framework helped develop confidence in the student's ability to prepare. Even with the provided framework, many students went beyond what was required to prepare while others did the bare minimum.

Owen prepared for RM by engaging in the tasks required by all the students: a reading of the chapters and filling out the practitioner weekly report but went beyond by taking the weekly report and used it to teach his wife before engaging with the CEO, "That was how I would prepare. I would kind of fake teach my wife or whatever, at least run through some stuff with her, and then she would be like, 'Yeah, sounds good.' That's how I would do it."

Comparatively, Amanda did the bare minimum, she stated, "So I had gone through outlining the chapters and then due to his time constraints, because I could only get 30 minutes with him, so I tried to shorten it to the absolute pivotal points." Beyond reading and completing the weekly outline, Amanda did not prepare anymore.

Theme 3: Emotions

Emotions, defined as a natural instinctive state of mind determined by stimuli, were expressed by each student. Emotions ranged from strongly positive to strongly negative. For many this could be explained by the mindset of the individual but for others it may be a reaction to a specific occurrence during the RM process.

Sub-theme 1: Positivity towards RM. Positive emotions were frequently found in those students with strong and positive mindsets. Amongst all participants there was a general positivity towards RM. This includes emotions of relation, energy, happiness, hope, confidence, willingness, and honesty.

Additionally, students with strong mindsets acknowledged nervousness and anxiety as positive emotions that evoked growth and improvement. Ben stated, "I would say positive. Because, like I said, it kind of made me anxious, or like motivated, to work harder, and show off what I do actually know." Similarly, Jake expressed that the nervousness developed a motivation to prepare well, "I was a little nervous because you want to be able to… it's a nice portion of information that you're summarizing and you do not want to mess it up. You want to keep it all together."

Owen expressed excitement towards RM and the reinforcement it may provide, “It’s nice to be able to teach my stepmom because we’ll probably end up running the sandwich shops here one day, but for right now, that’s not what I want to do.” In another positive comment towards the outcomes of RM Sean said, “Yeah, I think professional networking and developing relationships is huge, can be a huge benefit in future careers and things like that.”

Sub-theme 2: Negativity towards RM. All the interviewees expressed some form of negative emotion including anger, fear, frustration, uncertainty, conflict, pessimism, a sense of being overwhelmed, and regret. These emotions were often a result of an experience where opportunities were not maximized, not believing in the experience, or simply just having a negative mindset and attitude.

Amanda expressed negative emotions ranging from fear of contacting a practitioner due to a short time-frame to expressing discouragement when her practitioner stopped engaging her halfway through the term. She expressed, “his calendar went from open to just completely blocked, and then he did not answer his phone, I was like, ‘Okay.’” Amanda also sensed that her practitioner did not see value in the experience, “It did not really line up because he was not really getting anything out of it.” Amanda’s perceived that her practitioner did not care discouraging her from trying to find the benefits of RM.

Raymond expressed some concern when the topic did not align with the practitioners needs. He worried that because the practitioner was a busy person that irrelevant content would annoy the practitioner.

> And then there were a couple of times that the material and a couple of things about expanding internationally and stuff like that, where the materials… it was not applicable and so he [the practitioner] just really was not that interested in it.

Jake, also expressed some concern with the relevancy of the topic to the practitioner's discipline.

> I'd say ... because I know it was something that talked about stocks and how companies would cater to the stockholders. The stockholders have the power. Because the company has nothing to do with stocks, there's no stockholders. There's no reason to say that information, really. I'd bring it up, but I'd say that does not really relate to us, but is there any feelings you have on it? He does not really because it does not relate to us, and I do not believe he's a stock guy.

From the student's perspective, the applicability of the material taught to the practitioner determined the quality of feedback they received from them. They felt that the practitioner's time was very valuable and topics that the practitioner did not value worried the students.

In the context of asking a practitioner to engage with, Luke expressed concern about asking his employer to engage with.

> Right now, I'm working for the St. George Shuttle, and I'm the accountant and the HR manager. So, I work really close with the CEO there. Unfortunately, I do not feel like [I can ask the CEO], because we're working with multiple different companies and we just started one, I do not feel like he'd [the CEO] have the two hours each week to sit down with me.

It was a common observation to see worry in the students when they were considering who to ask. They feared rejection, failure, and inconveniencing the practitioner. These negative feelings were strong enough for them to maybe select individuals that were not their first choice, prepare in a different manner, or give up on the RM experience altogether.

CHAPTER 5

Discussion

The major themes the students expressed were about mindset, relationships, and emotions. These themes are explained by social exchange theory (SET) and leader-member exchange theory (LMX). This study found that relationship development was critical to an enriching experience. Mature relationships, founded in SET, had healthier positive engagement by both parties. Additionally, high quality relationships bore results, described in LMX theory, like improved mindset, quality contributions, loyalty, and positive affectivity (Graen & Uhl-Bien, 1995; Murphy, 2012).

It was quite apparent that when a student selected a practitioner where they had an existing relationship or common interest the experience was positive. These types of relationships were mature and developed and mirror those explained by SET. For example, Raymond, Brian, Luke, Ben, Jake, Mike, Owen, and Sean chose practitioners they already had established relationships with. These relationships included relationships with family members and relationships with co-workers that had developed over time. Family relationships have been developed over a lifetime while co-worker relationships have been developed over shorter periods.

The family member practitioners' relationships were unique. The practitioner was invested in the success of the student and gave a strong effort to ensure a quality experience. For example, Mike's selected practitioner was his brother who owns a pest control company. Mike has worked with his brother to help start this pest control company. RM provided a medium for Mike to share business strategy knowledge with his brother who does not have a formal education degree. In the post-interview he stated

> Before going into it, because obviously I know my brother pretty well, we grew up together, I was looking forward to it, and excited about it, of course. “This is such a great opportunity. I get to work with someone I know well who I'm literally working with, too. Then when it came to during the process, it was pretty interesting. I was able to... obviously my brother and I talk business, but I felt like we're on a level of having intellectual conversations. We're just big jokesters. We do not take a lot serious, but to actually see us thinking thoroughly and coming up with strategies and different plans to improve the company, it's just pretty amazing.

In this instance, Mike had an experience that he never had before with his brother. The knowledge he gained from the business strategy course was valuable in their efforts of growing the pest control business. Not only was knowledge being transferred but Mike’s older brother gained confidence in Mike as an asset to the company and valuable to the company's future.

Additionally, co-worker relationships seemed to have positive RM experiences. Like family practitioners, co-workers also demonstrated a vested interest in the student. Co-worker practitioners seemed to be invested because the student was a part of the corporate team, the student’s success benefited him. Co-workers enjoyed the knowledge refresher, connected with the student in a way that had not happened before, and felt that the student’s success increased the human-capital value of the company.

Sean, for example, felt a positive result from his experience.

> Yeah, I think it was a real positive thing. We taught each other… we discussed [the case] for 45 minutes to an hour and got to know each other better. I think I

> gained a better understanding and appreciation for him and I think that he did for me too… I'd bring up about the case study and about some of the chapter content. Then we'd talk. What it ended up being is kind of applying the chapter content and the examples in the case to what the business he's part of, Hinton and Burdick, about what they do, and their business structure, and kind of real world examples in the accounting industry ...So we would talk about ... like for example, if we had a chapter on external factors in business, what external factors were affecting the accounting world and the firm itself. How the firm's growing and all that different stuff. So, it was really cool to be able to see, I guess, the inside more. Because, he is a partner, he's an owner in the firm. He knows all the inside things. To be able to get a glimpse of that, I guess.

For Sean, not only did he feel that the practitioner had an interest in him but he was also able to build an interest in the CEO. Moreover, this engagement provided an opportunity for Sean to see a different perspective of the company than his current role provided. This positive engagement of this practitioner impacted Sean in a way that may have influenced his opinion of the company but gave him exposure to helping the company grow.

In contrast, Tyler and Amanda connected with individuals they had never met before. Tyler selected Amanda’s father as his practitioner and Amanda selected a former co-worker of Tyler’s. Both practitioners were willing to be mentored by the students but did not have an interest in the student’s success. Amanda expressed some frustration with the timeframe allotted to teach her practitioner.

> So, I had gone through outlining the chapters and then due to his time constraints, because I could only get 30 minutes with him [in each session], so I tried to shorten it to the absolute pivotal points. And then, I'd actually shoot it to him in an email beforehand… because that 30-minute window to try to cover two chapters? I could not really teach much.

To make the situation worse, Amanda's practitioner not only stopped communicating with her but blocked her from his calendar that she had been given access to, to schedule the RM appointments. "Yeah, like I had ... his calendar went from open to just completely blocked, and then he did not answer his phone, I was like, 'Okay.'" It seems that because there were no mutual interests the practitioner did not demonstrate any interest in Amanda's success.

Tyler experienced a similar situation with Amanda's father. Tyler was not connected to his practitioner in any way other than the practitioner was a classmate's father. Though there is a connection through Amanda, Amanda's father seemed to perceive this experience as an act of service and nothing more. When Tyler's practitioner had other obligations, he pushed Tyler off. Tyler said,

> Honestly, it seemed like the quality of feedback that I was getting, was getting less and less towards the end. I think it was just a lot in that amount of time. So, our rapport seemed to increase a little bit, but the quality of the feedback that I was getting was kind of reducing. Versus the first few weeks he was really putting in some good effort and I was getting more out of him when we talk on the phone and then towards the end he was not that much available on the phone, so it was just short and he would answer on email. This was not as great.

With no vested interest in Tyler, the practitioner seemed to slowly disengage in the RM experience. This disengagement was discouraging to Tyler and he felt that he had made the wrong choice in selecting Amanda's father.

In addition to the importance of relationships, this study suggests that mindset plays a significant role in the student experience. For example, Owen and Mike demonstrated optimistic and positive mindsets. They approached the relationship development differently than those with negative mindsets. The narrative of the negative mindsets blamed the lack of opportunity to connect with a practitioner in the St. George and surrounding communities. For example, Amanda felt that because she was not a local, she would have a hard time finding a practitioner because local practitioners do not like individuals who are not from the area. The study did not confirm whether this claim is valid but what it did observe is that this predetermined mindset led her to believe that finding a practitioner in the surrounding community was not possible.

Finally, emotional experiences were largely observed in the interaction between student and practitioner. Positive and negative emotions were experienced by every participant. However, the relationship's type and mindset seemed to have influenced this. Many students felt that some negative emotions, like anxiety and nervousness, often acted as a catalyst to prepare more; in contrast, other students reacted differently. These students felt emotions of nervousness and anxiety strong enough to discourage them from trying to control the situation and maximizing the RM engagement. It was evident that students with positive mindset set to control emotions where students with negative or weak mindsets let the negative emotions take control and discourage them.

In all, there are many factors that play into the experience of a student engaging a practitioner via the principles of RM. Frequent observations were relationship types, mindset of the students, and emotions evoked from the interaction. Though these were observed in this study, there are limitations that once addressed could expose more underlying elements to this experience.

Study Limitations

The research on mentoring in the classroom is limited compared to the discussion in the professional world. The premise of this study is based on previous findings of RM in the business context. This benchmark has helped create richer understanding of what may happen in the educational context. However, because so many variables in the classroom differ from the corporate context, we simply were not able to rely upon the findings of former articles. This opportunity to study a new context is opportunistic but fraught with limitations.

First, this research included participants in a term or a seven-week period. Terms, compared to semesters, condense the content to be taught in half of the time. This time crunch impacts the student experience of RM. Often, students mentioned that they wished they could have experienced RM in a full 16-week semester.

Second, this study was limited to one academic term of six weeks. The one-time occurrence of this study may not accurately portray the general experience that students had. A longitudinal study of student experiences of RM may illuminate new experiences and concerns possibly including different themes from the ones identified in this study. This has the potential to improve information that informs the design of this course.

Third, the group of students observed were all from the same course section. Although this permits some control and similarities to extract themes in this specific instance, we were limited to studying the experience of RM as a pedagogical structure for this section only. To further understand the experience RM has, more studies would need to be performed in other sections of the course and other disciplines.

Implications for Research and Practice

From this study we recommend several future research opportunities. As mentioned previously, this study was limited to a seven-week term. This compressed schedule may not be the ideal situation, as many of the students expressed. Additionally, it was noted that it is important for relationships to take time to mature. Therefore, a study in a full semester is warranted as the experience of the students may differ. Additionally, a longitudinal study on both terms and semesters could bring insight to the experiences of the students that may not have occurred in this study.

A major finding of this study is that relationships play a key role in the effectiveness of the learning experience and in how the practitioners were selected. Roughly half of the students in this course are locals. The other half are not locals, but of this group, half of the subjects opted to select a family member as their practitioner. As addressed before, only two individuals, not of the area, selected non-related practitioners. This is a limited pool of individuals and a seemingly innumerable amount of relationship types may exist. Future research may try and identify other RM relationship types and how they could be developed. This may include how relationships are most effectively developed in this context. Furthermore, research could seek to understand the elements necessary to establish and develop rich and healthy relationships in the RM context.

The students either engaged with the RM in person, on the phone, or in a combination of phone and email. Future research could seek to understand the impact of web-based mediums of connecting to practitioners and how those relationships develop overtime. Questions include what elements of a relationship need to be present in the context of student-practitioner RM.

How much time is needed to develop strong relationships? Moreover, identifying what variables in this context each individual of the relationship brings to the table that foster a successful relationship.

Another study could evaluate the structure of the course. A professional evaluation could inform of changes that might improve the experience of the students and position the course to have more positive outcomes. Is the proper RM training, that of adequate instruction, being administered as Kase et al. (2018) suggests? Potential items to be evaluated include a modification of how the students contact professionals, an improvement to the framework the students are given to teach the professionals, and maybe more or less structure to improve the experience.

Conclusion

The positive impact reverse mentoring has made in the professional world has caught the attention of academics. People in the world of academia became interested in the transferability of these benefits to education. However, since there is no empirical research of RM in the broader academic context, this study sought to understand the experiences of students at a public university in southern Utah.

The study explored the experiences of 10 undergraduate seniors in the business management program at Dixie State University. They were all enrolled in the required capstone business strategy capstone course. Observations from this study revealed that relationships, mindset, and emotions were influencing factors for students who were using reverse mentoring as a learning method. The students mostly experienced positive emotions and sought to avoid negative emotions by attempting to do three things: (1) selecting the right practitioner, (2) performing a diligent study of the material to be taught, and (3) engaging proper and thorough preparation like role playing. Many who resorted to selecting practitioner with whom they already had relationships tended to have a more positive experience even when some negative emotions were felt; whereas those who selected practitioners whom they had never met before tended to have a negative experience and felt strong negative emotions. How they handled these emotions and the experience can be explained by each student's mindset. Those students with strong "can do" mindsets used the negative emotions to their advantage compared to those with weak mindsets let the negative emotions overwhelm them. While this study provided valuable insight, more studies can be performed into the experience of students in different semesters and disciplines, and how relationships can be developed among non-family members.

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APPENDIX A

Practitioner Report Template

Appendix I is the form, provided by the professor, that the subjects used to prepare and report of the RM experience.

MGMT 4800 – Weekly CEO Report: Study, Teach, Listen, Learn, Reflect, and Report (individual work)

Student name: ________________________________ Cell phone #: _____________

E-mail address: ________________________________ Date of CEO visit: _________

Circle type of visit—in person or by telephone: ____________ Text Chapter #: _______

Mini Case Title: ____

Name, Title, Telephone # of person visited: ____________________________________

____

Name of CEO's company: ____

1. Summarized, in outline format, this week's textbook chapter content you prepared and studied to teach to your CEO (This can be a copy and paste of the work you did completing the "Textbook Chapter Questions" assignment).
2. Reported, in outline format, how your CEO responded to this week's textbook chapter content you taught him/her, and how your CEO's company is, or is not, applying this textbook chapter content in their day-to-day business.
3. Outlined, in detail, using the outline format, this week. (Note: It is expected that you will use this detailed outline when you teach this week's content to your CEO.)
4. Reported, in outline format, how your CEO responded to this week's content you taught him/her, and how your CEO's company is, or is not, applying this content in their day-to-day business.

5. Reported, in outline format, any changes the CEO plans to make in the operations of his/her company given the textbook chapter and content that you taught her/him.

APPENDIX B

Pre and Post Interview Questions

Pre-intervention RM Questions

1. Why are you taking this course?
2. How is this course beneficial or not beneficial to you?
3. How do you see yourself as a professional in this discipline? What are your strengths and weaknesses?
4. What is the meaning of RM to you?
5. How do you feel about the opportunity to do reverse mentoring?
    a. Is it exciting? stressful? why?
6. Explain how you selected your practitioner?
    a. Why did you choose that particular practitioner?
    b. Tell me what you were thinking when you made the decision?
    c. Tell me what you were feeling when you made the decision?
    d. What worries or concerns did you have when selecting a practitioner?
7. How are you preparing for your RM experience?
    a. What do you plan to teach?
    b. How do you plan to teach it?
    c. What has the preparation been like?
8. Describe your relationship with the practitioner you chose.
9. In your view, what will make the reverse mentoring experience a successful one for you?

Post-intervention RM Questions

1. Describe your feelings leading up to meeting with the professional?
2. How did you prepare to teach your selected practicing professional?
3. How did you feel about approaching this teaching opportunity?
4. Tell me about your experience teaching your practitioner of choice. I was not there, so please share all the details of the story so I can understand what your experience was like.
    a. How did your relationship evolve over the course of the semester?
5. What positive or negative effects did RM have on you as a learner?
    a. What about in preparing you for your future career? Has RM affected your career preparation?
    b. What effect did RM have on your confidence, if any?
6. How do you see yourself as a professional in this discipline?
    a. What are your strengths and weaknesses?
    b. Did RM affect your sense of professional identity?
7. In your own words describe how you would improve the experience of RM, not only in this class but in other situations.
    a. Prompt: How could you improve the process for selecting a practitioner?
    b. Prompt: How could the process be improved for students sharing their knowledge with the professionals?
8. What are your thoughts overall about RM? I'm interested in your thoughts not just in this class, but the overall concept of RM as part of education.
    a. What do you see as the benefits?
    b. What do you see as the challenges?

9. When you become a working professional in this field, what are your thoughts about being the mentee?

APPENDIX C

Institutional Review Board (IRB) Documents

Dixie State IRB Approval Letter

DSU
DIXIE STATE UNIVERSITY
ST. GEORGE, UTAH

Institutional Research IRB Official Letter

Date: May 16th, 2018

Mailing Address: 225 S 700 E
St George, UT 84770
IRB Case#: QA-001-201830

TITLE OF PROPOSAL: "Reversing mentoring"

Dear Shandon:

This letter is to officially notify you of the approval of your research by the Institutional Review Board (IRB) for the Protection of Human Subjects by Dixie State University. It is the Board's opinion that you have provided adequate protection for the rights and welfare of the participants in this study. This approval will expire in 12 months from the date of this letter and continuation approval will be required if you research extends beyond the date.

If you make any changes to your survey, questionnaire, and/or methodology will need to go through IRO/IRB again.

Please make sure you handout or read the Informed Consent Form to participants.

Please feel free to contact us at 435-652-7598 if you have any questions.

Sincerely

Song Gao
Institutional Research Analyst
IRB office
Dixie State University

BYU IRB Authorization Form

Institutional Review Board (IRB) BYU Authorization Agreement

Name of Organization Providing IRB Review (Institution/Organization A): Dixie State University

IRB Registration #: Federalwide Assurance (FWA) #, if any: FWA 00023200

Name of Institution Relying on the Designated IRB (Institution B): Brigham Young University
FWA #: 00001266

The Officials signing below agree that Brigham Young University may rely on the designated IRB for review and continuing oversight of its human subjects research described below: (*check one*)

(___) This agreement applies to all human subjects research covered by Institution B's FWA.

(√) This agreement is limited to the following specific protocol(s):

Name of Research Project: Observing the Experiences of Higher Education Students Reverse Mentoring Industry Professionals.

Name of Organization A Principal Investigator: Shan D. Gubler
Name of BYU Principal Investigator: Shandon M. Gubler Nicolas B. Gubler
Sponsor or Funding Agency:
(___) Other (*describe*): Self Funded

The review performed by the designated IRB will meet the human subject protection requirements of Brigham Young University's OHRP-approved FWA. The IRB at Institution/Organization A will follow written procedures for reporting its findings and actions to appropriate officials at Brigham Young University. Relevant minutes of IRB meetings will be made available to Brigham Young University upon request. Brigham Young University remains responsible for ensuring compliance with the IRB's determinations and with the Terms of its OHRP-approved FWA. This document must be kept on file by both parties and provided to OHRP upon request.

Signature of Signatory Official (Institution/Organization A):

____________________ Date: 5/21/18

Print Full Name: Michael Lacourse Institutional Title: Provost

Brigham Young University Signature of Signatory Official:

____________________ Date: 5/25/18

ALAN HARKER
ASSOCIATE ACADEMIC VICE PRESIDENT
RESEARCH & GRADUATE STUDIES

APPENDIX D

Reflexive Journal Template

The reflexive journal was be broken down into two parts: (1) interview notes, and (2) transcription and peer review notes. By categorizing the journal into two sections I desire to streamline future searches for information.

Interview Journal Section

The interview section of the journal is a digital journal dedicated to this research project only. I chose a digital journal to organize my thoughts. It contained a title that consisted of the student's name, date of the interview, and time of the interview. Quick notes were written during the interview and post-interview reflection corrected any errors and enlightened upon ambiguous notes.

Transcription and Peer Review Journal Section

The transcription and peer review journal. The transcription journal entries corresponded with the transcriptions. After the interviews have been transcribed using Rev.com, the transcriptions pages were numbered. As the transcriptions were read notations were written on the right margin of the transcription. As coding and theme recognition occur notes included similarities, differences, echoes, amplifications, and contradictions.

Title - Subject (student) | Interview # | Page and Paragraph | Date and Time

Entry summary

Entry content

Reflexive summary

APPENDIX E

Interview Journal

This journal includes thoughts and observations from the pre- and post-interviews of the ten subjects. The nature of this journal is to help recall of thoughts and observations; because of the rapid pace in which the notations were written down, the notes are short and in a draft format.

Pre-interview

Sean - Interview - 5/13/2019 7:09 AM

- accounting major and works at Hinton & Burdock
- he is an accounting specialist does book-keeping
- he feels this is a required class
- a little closed but body position is relaxed
- eye contact occurs about 50 percent of the time
- he is a little shuffle at the thought of being stressed

Owen - Pre-interview - 5/13/2019 7:45 AM

- he is wearing a hat and casual clothes
- he is easy to talk to
- very willing to participate in the study
- appears engaged, confident, and positive
- wants to engage in this to help his family rather than find a professional in his area of potential employment (is this due to lack of understanding, ease of selecting a professional)

Amanda - Pre-interview - 5/13/2019 8:36 AM

- she is a bit reserved

- a bit negative towards the purpose of school, Dixie State, and the local community of St. George (this seems to be a preconceived notion)
- does not believe that an individual teaching content benefits from that engagement
- feels like the course is just a requirement
- school seems to be a challenge and a burden
- answers were short and reserved

Mike - Pre-interview notes - 5/13/2019 11:29 AM

- pest control
- interviewed once before
- very positive and engaged
- his weakness is fear
- good with people and positivity
- structured preparation and presentation = synopsis, lesson, then review
- subject is confident, positive, and engaged
- not nervous about people, nervous about timeline and amount of work to do

Tyler - pre-interview - 5/13/2019 12:06 PM

- open with his responses
- made eye contact
- gave good long responses
- interested in the impact that this form of learning may have
- nervous to engage but willing to do so
- attentive, slouched, indication of being comfortable

- had good eye contact
- some themes arising may be related to teaching

Jake - pre-interview - 5/13/2019 12:40 PM

- self-aggrandizement and shows confidence
- selected the same practitioner as the ethics course
- fear of trying to connect with an individual in the field that he desires to find employment
- took the easy way to selecting a professional

Ben - pre-interview - 5/13/2019 1:23 PM

- laid back and showing some interest but feels more obligated to be here even though there is not any obligation
- does not seem he knows the path to where he wants to go and how he is going to achieve it
- he just knows what he wants with no clear path
- kind of had a negative attitude towards formal education
- he stated that his father does not value higher education
- his father does not have a college degree

Luke - pre-interview - 5/13/2019

- Luke had a very good plan for a career path
- he plans to get an MBA
- desires to work in operations management
- believes that reverse mentoring is a process that has benefits but that would be difficult to make replicable

- talked about a connecting service being too much like a dating app (what is negative about that?)

Brian - pre-interview - 5/13/2019 2:50 PM

- does not know what he wants to do with his life
- still figuring things out
- talked about how individuals with stress, anxiety and depression deal with these kinds of teaching and learning environments
- wearing joggers, vans, t-shirts and a hat

Raymond - pre-interview - 5/13/2019 3:31 PM

- professional experience in construction management
- going to law school
- felt that having a foundational knowledge was important before teaching a practitioner ideas and themes
- composed engaged
- interested in improving himself
- demonstrated self-efficacy
- motivated individual
- wearing sweatpants t-shirt flip-flops

RM Post-interview

Sean 7:15 AM - 6/17/2019

- recently married
- looks a bit tired and slouched
- experience gives him confidence

- had a pre-existing relationship with his professional
- have more time to discuss one book chapter rather than three.
- preparation is very important and foundational

Owen 7:55 AM - 6/17/2019

- job interview at Intermountain Healthcare
- alert and good posture
- has direction in his career
- would like a bit more structure in some areas
- like more training pre-teaching experience
- cross-disciplinary education would be cool
- continuing education and relationship builder

Amanda - 8:19 AM. - 6/17/2019

- finance emphasis
- real estate finance
- property management experience
- not currently working
- changed her position on teaching to learn from the pre-interview
- seems to be an introvert
- 30-minute sessions
- too short for the requirements

Mike 9:51 AM - 6/17/2019

- super positive attitude
- implementing some business strategies ideas into the company they work for

- the coursework gave him the confidence to think outside the box
- confidence increases
- create opportunities for the student to address a current challenge the professional is having
- real life projects
- challenges are ready and willing individuals that can be mentors
- a platform with options available

Raymond - 10:33 AM - 6/17/2019

- being able to cater to the needs of your audience
- confident
- engaged but leaning back and relaxed

Luke - 10:53 AM - 6/17/2019

- CEO - his own father
- ability to show soft skills is lacking
- he would create a project opportunity for the student and the CEO would get involved in a project
- find a way to apply knowledge
- wordy with responses
- he is analytical
- good posture
- comfortable
- more comfortable than in the pre-interview
- attitude seems to be better

- the ethics application seemed to be a waste for him but the strategy application seemed to be more applicable and worthwhile
- would be willing to do that but would like the material to accommodate to his interests

Jake - 11:30 AM - 6/17/2019

- Pro-image - Mike Birch for CEO report
- telephone - five to six times
- relaxed but using a lot of body language
- appears more comfortable than in the first interview
- critical thinking and creative applications are largely lacking
- confident but realistic about capabilities
- appears that he struggles to articulate how he felt
- likes the idea of giving back
- sees it as a form of continuing education.

Ben - 12:03 PM - 6/17/2019

- attentive, more positive attitude than when we had the pre-interview
- experiential learning is important and of value
- confidence may be tied to taking an uncomfortable situation and making it comfortable
- stretching opportunities boosted self-efficacy which his experience was not trying or stretching
- seems like some responses to questions are contradicting to other question's answers
- create a framework to make students more accessible to CEO
- CEO's seemed very inaccessible
- barrier to entry to good valuable CEOs

- believes that RM would be more beneficial if there were foundational knowledge to make it more effective
- seeking application and opportunity

Tyler - 12:43 PM - 6/17/2019

- relaxed
- overwhelming
- in person interaction
- making the situation more of conversation based
- how is this affected using a program like Zoom
- no one used video-based platforms.
- geographical selection of CEO's would be valuable
- took time to think about his responses
- well thought out and articulate
- felt like mini-cases were most valuable when it comes to content from the book to be taught
- access to more individuals than one CEO with an emphasis in international business (the topic of discussion)

Brian - 1:24 PM - Post-interview

- Aaron Grahams - manages at rain for rent
- face-timed = 3 calls. Phone calls = 3
- did not take advantage of teaching what his CEO did not understand
- I think he approached it as a learner not a teacher
- says he lies in the middle with business strategy. (though I would say he is more a two)

- terminology is weak thus professionalism in business strategy is weak
- it does not seem that Brian has put a lot of effort into this course
- have a way to better align professionals with students
- due to delays he had selected the easiest route.
- admits he did not devote as much time and attention as he should have
- did not spend too much time which means he did not devote as much attention as he should

APPENDIX F

Transcription and Peer Review Journal

6/17/2019

Performed the second round of interviews. On average they were about 30 minutes long. Overall sentiment of reverse mentoring seemed to be positive in this context. Desires for more opportunities to connect with more professionals who are willing to be reverse mentored.

6/18/2019

All the recordings were transcribed by REV.com. I would say after a few run throughs that they are mostly correct. Minor corrections were needed. I began reviewing and coding "Mike's" pre and post interview. Upon completion of this first subject, I sent them off to Rick for review and guidance.

6/21/2019

Today, I will review the remaining audio recordings and transcriptions for accuracy.

6/24/2019

10:29 AM: Today, I am reviewing quality of audio to transcription. I have worked on "Tyler's" post-interview. The transcription is fairly accurate. Minor adjust had to be made.

6/25/2019

Finished extracting themes from pre- and post- interviews of "Owen". Attempted to extract common themes. Sent the transcription, notes, and common themes to Rick for review. Finished running through pre- and post-interviews of "Owen."

7/9/2019

Began synthesizing "Ben" pre-interview. Overall, there seemed to be a conflict in his image. The influence of his dad's animosity seems to have transferred to "Ben". Yet, "Ben" is using it as a tool to prove his dad wrong and to showcase his knowledge growth.

7/16/2019

Began "Ben" post-interview breakdown.

7/17/2019

Continued to break down and digest the "Ben" post interview. It seems like he possesses a lot of negativity toward education because of his father's viewpoint. However, he seems to want to prove his father wrong as well by finishing his degree and showing why it is valuable. In particular, he used RM as a vehicle to showcase this and prove his dad wrong. It does not seem like this is the first instance he has wanted to prove his dad wrong. They work together and it seems they butt heads often.

7/18/2019

Finished synthesizing the "Ben" interview. Overall, it seems that "Ben's" view of RM is that it helps you with knowledge retention.

7/19/2019

Looked for common themes, contradictions, similarities, & Echoes in "Ben's" Theme

7/20/2019

Finished common theme extraction that was begun on 7/19/2019 for "Ben". Began synthesizing "Brian" pre-interview.

7/22/2019

Synthesized “Brian” pre-interview notes. “Brian” has engaged in reverse mentoring in a previous ethics course taught by the professor. The framework for reverse mentoring for the Ethics course is the same as the Strategy 4800 course. Only difference is the content taught.

7/31/2019

Synthesized “Ben’s” post-interview

8/1/2019

Continued to synthesize “Ben” post-interview.

Observations: “Ben” seems to do the minimum required. I do not think it is because of animosity or negative feeling but rather a result of indecision of what he wants to do in life. It seems that he wants to devote his time and energy to something that he will love and he has not found that yet. It seems he lacks passion for business and wants to nail down the career that would get him up in the morning.

Vulnerability: When a context and environment make the subject vulnerable it appears a good experience develops and strengthens confidence and self-efficacy. However, if a subject in a vulnerable position had a bad experience does it always lead to a drop-in confidence in self-efficacy? Does this slide across a spectrum depending on the type of bad experience?

Students try to control vulnerability. Where does the greatest growth occur across the vulnerability spectrum? [Not vulnerable ←-> somewhat vulnerable ←-> Completely vulnerable]

Final notes

Impressions: It seems that not knowing what to do for a career was a barrier for selecting a CEO. Know knowing where to start in regards to selecting a CEO became overwhelming.

Fear/Anxiety was present: Quality of teaching and preparation diminished because his CEO was family.

8/5/2019

Continued to synthesize "Ben" Interview. It seems to me that although his experience with his CEO was fairly negative his attitude towards the potential of RM is positive. He believes if he had selected a CEO in the finance field who was willing to be taught and donate his time his experience would have been a lot better.

8/6/2019

Began synthesizing (finding common themes) in "Luke's" pre-interview. Initial thoughts about "Luke". He seemed very well organized and had a clear path of what he wants to do during school and after school. I felt at times that he was confident and in other times not confident. Additionally, he seemed to only find value in work and challenges that get him to his ultimate goal rather than being well rounded. I am not implying this is positive or negative. Rather, just noting some observation.

8/7/2019

Continued to synthesize "Luke's" pre-interview. I find myself taking a lot of time trying to think about what he is saying. I find myself trying to compare experiences when I must just note the experience. Contacted Rick to review coding to date and receive feedback.

8/8/2019

Continued to synthesize "Luke's" post-interview. "Luke" seems so ingrained in his career path that anything that does not get him to that end does not have much value. Even though RM helped him with recall it seems that he found RM more as a burden than as a way to improve learning and recall.

8/10/2019

I finished "Mike's" pre-interview analysis. Some of the information that I was able to extract focused on the needs of the CEO and the subject's personal interest in the company that the CEO represents. The company is a small private pest control company started by the subject and his brother two years ago. The Brother (CEO) does most the work managing and running the company. The CEO does not have formal business education and so he is running this company based off of his experience. The content that "Mike" is sharing with him is valuable as he is seeing new ways to manage and scale his company. It seems that this RM experience has been very rich with a lot of good detail and experiences for both individuals.

8/13/2019

It seems that there is a bit of exaggeration is some of "Mike's" reporting. There are also some inconsistencies and contradictions that support my assumption. He is very optimistic and positive but I believe this optimism may have clouded the accuracy of his experience.

Additionally, the thought came to my mind that the type of relationship these students have or create with the professional is very important. Important elements include how long the relationship has been established, familial relationship (e.g. father, brother, friend, network), the intent of the relationship, etcetera. seems to dictate the quality of the relationship, how well the conversation stays on topic, how invested both parties are in the conversation, and others. I believe relationships may be one of the overarching themes of this study.

8/14/2019

I just finished reviewing "Mike's" post interview. He is a good guy with a desired path he wants to follow. This path seems to have him motivated. He is very positive and gave some good insights. Some include the value he brings his brother's company and the opportunities that gives him in the future. Another is the idea of making this process equally valuable but less demanding of time. He is empathetic to the idea of giving back but he would consider opportunity cost.

8/15/2019

I just had a thought about helping to prepare students for RM. How would an instructional video geared towards upcoming students getting ready to implement RM impact their understanding of RM, feelings and emotions, and desire and motivation to participate in RM?

On another note, as I am reviewing "Amanda's" interview I recall that she came across as a guarded introvert. What I mean by that is that she seems to only value what she can immediately perceived as valuable. It seems like she is motivated to have a degree but is a little negative about some of the requirements to get the degree. In other words, she seems to only gets excited about courses that directly improve real estate skills. All the other courses do not mean much but she is doing them because they are required to get a bachelor's degree.

It also seems that her introversion and negativity collide with the requirement of finding a CEO.

In general, I am noticing that some common themes that influence a students' RM experience. They include

- personality: (positive, negative, introvert, extrovert, etc.)
    - A "go-getter" (proactive individual) is more likely to enjoy their experience whether they have an existing CEO relationship or they have to create a new one.

  - In contrast, an introvert seems to have a negative experience if they do not have an existing relationship with a CEO and they have to find and create a new relationship.
  - An introvert with an existing CEO relationship seems to enjoy their RM experience
- having a plan
  - By this I mean the student knows what they want to achieve and having a plan on how they are going to achieve it (e.g. a defined career and how they are going to get that job).
- applicability
  - Those who have a way to apply what they're learning to a company they are invested in really maximize the experience (e.g. "Mike", "Luke", "Sean").
  - Those who do not know what they want or do not have a clear path (e.g. "Brian", "Amanda").
- relationships.
  - Having an existing relationship with a CEO where your desires and goals are aligned with the company and its future.
  - Selecting a CEO where you're not interested in their field of work or developing a strong relationship strongly diminishes the student experience.

9/19/19

After reviewing all the transcripts and noting my initial impressions. I coded the transcripts using a system called Quirkos.com. Quirkos is a cloud-based program where coding is achieved by using a drag and drop feature to place quotes in a code.

The coding of the 20 transcripts took place over the last month. I found it time consuming in trying to dissect the essence of what the students were saying over 20 different interviews. For the most part I found positivity in the student's responses. However, "Amanda" was strongly negative and more pessimistic in her pre-interview about school in general, her professors creating a poor learning experience as a whole, and that she could not make sense of what RM is and what is going to be required in this course even though she had many resources to clear that up. As observed in her pre- and post-interview It seems she is generally a pessimistic person.

In two other pre-interviews with "Ben" and "Sean" there were feelings of negativity towards the class. However, there was a positive change in their countenance and verbiage during the post-interview. Overall, it seems that the students had positive experiences. More specifically, those students who had good experiences with their CEO demonstrated positivity.

"Amanda" had a negative experience with a CEO and her outcome was generally negative. This may be due to her preconceived negative perception of RM and not demonstrating effort. One surprise was "Tyler", the CEO he connected with through a classmate did not engage well. However, "Tyler" maintained a positive outlook even though he did not have a positive experience with the CEO.

Another common theme in this study is the emotions the student felt when they learned of the workload and when they learned that they had to contact a CEO. Even though the professor offered his help in finding a CEO if the student's struggled with this part, they generally all felt some sort of anxiety. For many this feeling of anxiety directed them to choosing CEO they already know.

9/20/2019

Beginning negative case analysis. In order to perform my negative case analysis, I developed my conclusions. With these conclusions I reviewed the data to find any contradictory information. The conclusions include:

Positivity

- Many students demonstrated general positivity in their life and current tasks
  - "So, I think I have the potential to be a really good, a really good professional." "Owen". A statement by "Owen" in the pre-interview.
  - "I'm good at all of it, the more the data stuff I can see numbers, I can see how that works, I can kind of see the longer-term impacts of things." "Amanda" - Post-interview
  - general Positivity toward anticipated benefits of RM
  - general Positivity toward their experience of RM after the experience was complete
  - general Positivity toward the outcome of RM and the relationships developed

Confident

- boosted self-confidence
  - "It puts a little chip on your shoulder when you realize that some upper level people have no idea about his stuff, but when they learn it, it's very beneficial for them. It makes me feel like I have skills that are needed and knowledge that's needed." - "Raymond" - Post-interview

    - “That definitely helped me become a better learner of that certain subject that I was trying to then teach him.” - “Ben” - Post-interview

Excited/Energetic

- negativity
    - anxiety
        - general anxiety when learning of the RM assignment and having to teach someone who is an expert in that field
        - general anxiety/fear when requesting a professional to reverse mentor
        - general anxiety when meeting with professional for the first time
    - frustration
        - general frustration
        - pessimism
        - conflict

Reverse Mentoring Engagement

- time commitment
    - general comments
    - not enough time
- relationship
    - student perception of CEO’s experience
        - student perceived the CEO had a great experience
        - student perceived the CEO did not have a great experience

CEO engagement

- student perceived the CEO engaged them well

- student perceived the CEO did not engage the student well

RM preparation

- lesson customization

Student reflection

- motivational factors
    - extrinsic motivation
        - external influencers
    - intrinsic motivation
        - intrinsic influencers
- self- efficacy
    - verbal demonstration of strong self-efficacy
    - verbal demonstration of weak self-efficacy
    - verbal demonstration of self-efficacy growth
- proactivity
    - proactive engagement by the student
- student learning
    - ability to apply what they learned
- CEO selection process

Student recommendations

- opinions from the students on how to improve RM

9/21/2019

As I was confirming my conclusions about the experiences of the students in the positivity theme, I realized that the general positivity quirk (code) can be split up into three sections:

1) general broad demonstrations of positivity (this includes positivity in their demeanor, language, approach to challenges in life),
2) general positivity towards anticipated benefits of RM (this information is derived mostly from the pre-interviews. This includes demonstrations of positivity about RM prior to engaging in it),
3) gen. positivity towards RM post-RM engagement (after engaging in RM to they demonstrate positivity in their demeanor and language)

Additionally, I spontaneously came across a few codes that do not belong in the positivity section. A few of these need to be reassigned to different quirks or do not belong to any quirks and need to be removed all together. (ex. “I appreciate it” - “Brian” - post-interview) Though this example is positive it is a response to a compliment and does not fit the criteria of any of the existing quirks (codes) or the proposed quirks (codes) above.

I am going to randomly hand pick four (4) different students and review their quotes and see if they indeed belong in the code they have been assigned to. Additionally, I reviewed the codes and see if there are any competing codes that may be irrelevant because another code is better suited to house the data.

I randomly picked five (5) of the most common codes and review the quotes. If the quotes do not align with the hypothesis I analyzed the inconsistency refute the hypothesis or are a coding error.

9/23/19

Five randomly picked codes from the conclusions listed above. (selections were made from the list above to weed out the codes with no quotes or the smaller codes)

1. positivity (parent)
2. confident (child, parent is positivity)
3. anxiety/nervousness (child, parent is negativity)
4. relationship development
5. self-efficacy
6. CEO engaged student well

The four (4) randomly selected students are

1. "Owen"
2. "Amanda"
3. "Luke"
4. "Sean"

*This paragraph is a follow-up to the first paragraph under the 9/21/2019 heading. After reviewing the positivity section. New positivity sub codes were acknowledged (*see 9/21/2019). An effort is currently underway to reassign these codes to align better with the understanding of the student experiences.

- nine codes were moved from the positivity quirk to the more specific general positivity quirk
- 19 codes were relocated to post-interview positivity toward RM
- Three (3) codes were relocated to pre-interview positivity toward RM
- 15 were removed from positivity and not reassigned

So much reorganization occurred because while I was coding I place anything positive expression or comment in the positive code. However, after comparing these codes with the hypothesis, “What is the experience of reverse mentoring when used as a method for students to teach classroom material to industry professionals?”, I realized that there were themes (codes) emerging among “positive pre-RM and post-RM” thoughts and emotions shared.

After fixing the Positivity codes to better reflect the student experience I reviewed the “confidence code”.

After I reviewed the “confidence” code I found that there were many codes that really demonstrated that some of the subjects, “Sean” & “Mike” in particular demonstrated an increase in confidence. I did find some codes aimed at identifying confidence in the RM were incorrectly assigned. Though these codes demonstrated confidence, they did not relate to confidence as a result of the student’s RM experience.

After reviewing the 26 quotes that were assigned to the “Anxiety/Nervousness” I found that six (6) of those were incorrectly coded. Those incorrectly coded quotes have been deleted. They did not need to be reassigned because they were already double coded in the correct code.

9/24/2019

Up to this point many codes and sub-codes are painting a fine detailed picture of the student’s experience.

9/25/2019

Today I finished reviewing two codes: “CEO engaged students well”, and “Relationship development”. Again, I am finding macro level comments about these codes but those that do not reflect the experience of RM I am removing from those codes to be able to better extract the students experience of RM. One assumption for the common coding mistakes is that as I coded the transcripts, I would realize commonalities and create new codes. This presented the problem of earlier coded transcripts would not have included newer codes. This exercise is allowing me to correct assigned quotes to the right codes and refine the codes that relate to the hypothesis.

Realizing this, I am going to expand the review to the top 20 most common codes that relate to the student experience of engaging a CEO via RM. This list includes the six listed codes above (from 9/23/2019 entry) which are repeated here.

1. positivity (parent)
2. confident (child, parent is positivity)
3. anxiety/nervousness (child, parent is negativity)
4. relationship development
5. self-efficacy
6. CEO engaged student well

And 14 new codes determined on quote frequency are… (*note: after stating this I realized that most of the more frequent codes were positive. There was not a good representation of the negatively oriented codes. Therefore, I added ten negatively oriented codes and reviewed those codes as well.)

1. proactivity
2. CEO selection process
3. application
4. student learning
5. extrinsic motivation
6. learning medium (this was deleted entirely because after reviewing it I felt 99 percent of the quotes would be a better fit in other codes)

7. RM time commitment
8. RM preparation
9. excited/energetic
10. high self-efficacy
11. accepts vulnerability
12. progress
13. customization
14. frustration

Because most of these codes reflect the positive aspects of the student's responses I have elected to add five negatively oriented codes. These include

1. negative emotions
2. not enough time
3. conflict
4. pessimism
5. fear
6. uncertainty
7. CEO did not engage the student well
8. overwhelmed
9. lack of self-efficacy
10. lack of effort

These 30 codes contain and represent 67 percent of all the coded quotes. (714 quotes are in the top 30 quotes. There are 1073 quotes total). The frequency changed as the codes were corrected. After these codes were corrected I performed another data analysis to see how the codes are distributed. This effort is not to distribute the codes evenly rather to ensure that they are assigned correctly to get closer to a pure reflection of the student's experiences.

I just read an article in Inc.com (https://www.inc.com/justin-bariso/google-spent-2-years-researching-what-makes-a-great-remote-team-it-came-up-with-these-3-things.html?cid=search) where Google performed a longitudinal study on what made the perfect team. According to the report there are five things they learned:

1. dependability (team members are timely and get things done)
2. structure clarity (clear goals and well-defined roles)
3. meaning (personal significance)
4. impact (group views work as purposeful and helps the greater good)
5. psychological safety (A situation were inadequacies are ok and the environment is judgement free. It's safe to take risks, voice your opinion, and ask judgement free questions)

I believe it is number five, Psychological Safety, that may be what the student's lack when they engage a professional. If there was a way to engage the CEO in a psychological safe manner, could anxiety and nervousness be diminished or even eliminated? How is psychological safety achieved?

9/26/2019

I completely removed the quotes from the self-efficacy codes because they either were better suited for sub-codes of self-efficacy or they did not have a strong enough correlation with self-efficacy and so they were removed from the code.

So, I reviewing the quotes added to the “CEO Selection” Code. I am finding that this one has been very accurately coded. Additionally, there is some rich information in this code that discusses the influences a student’s experienced when selecting their CEO.

I had a conversation with the professor about some of my observations. Namely, the observation about how most of the student’s experiences were positive save two. In the case of both these students they worked together and engaged each other’s personal network to select a CEO. The nature of the relationship was shallow, meaning a student called their friend and asked if they would listen to their classmates for this assignment. In both cases they had negative experiences.

9/27/2019

I completed reviewing the quotes and if they did not align with the code I moved them to the appropriate code or deleted them entirely because they did not align with the research question or they were outside the scope. During this process I actually was able to identify new quotes that related to the research question and placed them in the appropriate code.

This exercise helped me correct errors and more finely define experiences that the students had to answer the research question. At this point I feel that reidentifying the most common themes can take place.

9/28/2019

BYU football lost to Toledo. It’s a bad day for research. On another note, after performing the negative case analysis I reviewed the most common codes. There are 13 themes total. They are ranked in order of quote quantity ranking the themes with the most codes first until it gets to the least.

1. positivity

2. relationship
3. negativity
4. student learning
5. student teaching experience
6. time commitment
7. decision making
8. RM preparation
9. student effort
10. self-reflection
11. motivation
12. self-efficacy
13. the student and RM

Each of these themes have children codes and grand-children codes that tell an important story of the student's experience. Influences of emotion and relationships frame this in terms of influencers. Students changed paradigms

9/30/19

Met with Dr. West today and discussed the results of the finding and path to move forward. I narrowed the 13 themes down to three or four. The discussion yielded three possible overall themes: (1) emotions, (2) relationships, (3) mindset.

10/1/2019

I am going to review the 13 codes again and see if I come up with the same conclusions. If not, then I tried and compared the reasoning behind each analysis and verify the logic behind that.

1. positivity - emotion
2. relationship - relationship
3. negativity - emotion
4. student learning - mindset
5. student teaching experience - emotion and relationship
6. time commitment - mindset and emotion
7. decision making - emotion and mindset
8. RM preparation - mindset and relationship
9. student effort - mindset
10. self-reflection - mindset
11. motivation - mindset and relationship
12. self-efficacy - mindset and emotion
13. the student and RM - mindset and emotion

10/8/2019

I continue to write the results rough draft. I am writing about RM preparation and RM teaching experience.

APPENDIX G

Disclosure Statement

My interest in the topic of reverse mentoring have emerged naturally as the instructor in this course that I researched is my father, Shandon D. Gubler Ph.D., a professor of business strategy 4800 at DSU. It was six years ago that Dr. Gubler began implementing RM in his business strategy 4800 pedagogical structure. Initially, RM was intended to help the student reinforce and retain the classroom content.

However, positive unintended consequences began to be informally observed. Inadvertent benefits were expressed by the students in semester end reports included exposure to corporations' operations and cultures, develop networks and relationships, learn from the practitioners, and potential internship and employment opportunities. Practitioners orally expressed that they benefited from knowledge refreshers, the acquisition of new knowledge, expressed interest in student's talents from a hiring perspective, and expressed they enjoy giving time to students.

Though many benefits have been expressed by the students and practitioners, both groups desired the experience to be improved and refined. One desire is for the matching process to be enhanced so students gain access to practitioners in companies they want to be employed by or the industry they want to work in. Another request is for a digital online program that allows the practitioner to see before the intervention what the student aims to share in a particular mentoring session.

This has led Dr. Gubler and me to pursue a system that improves the experiences of the students and develop a business platform that is scalable. Though the desire to make this a functioning business may introduce bias, I intend to bracket prior experience and personal interest to understand the true nature of the student experience and their feelings. It is only through a true and honest observation and analysis that I maximized my understanding about RM experiences. Furthermore, the analysis of student experiences informed us how the direction of future research and development efforts. In all, eliminating bias is in the best interest of both Dr. Gubler and me.

APPENDIX H

Subject Biographies

Appendix H is a compilation of brief subject biographies. The biographies intend to inform the reader of the characteristics and qualities the subject has prior to engaging in reverse mentoring.

Owen Bio

Owen, like the rest of the students in this course is a senior and is taking this business management 4800 course as one of his final courses to graduate. He is a member of the university's football team and has managed coursework while on the team and while holding various internships. Owen is a positive person, demonstrate high self-efficacy, and enjoys diligent work. He plans to further his education in graduate school.

Ben Bio

Ben is from St. George, Utah and works for his father’s electrical company. He has worked at his father’s company for nearly a decade and plans to use these skills coupled with knowledge acquired in school to pursue a career in construction and real estate. Ben has a negative attitude toward higher education. This pessimism may be influenced by his father who believes higher education has little value.

Brian Bio

Brian, is a collegiate athlete and played on the University’s baseball team. It seems his desire to come to college is based on the opportunity to play ball at the collegiate level. Though he is successful on the field, he demonstrated a lack of direction in what he wants to pursue for a career. He is humble and positive and accepts his weaknesses but I did not observe a strong effort to improve his job prospects.

Tyler Bio

Tyler is mature and older than most of the participants in this study. He is in his early thirties and has many years of work experience as a salaried employee for an Inc 500 company. He desired to finish his degree and return to school to be able to make a career shift. Tyler is positive and strives to take advantage of educational opportunities.

Luke Bio

Luke is a very confident and well-organized individual. He has a clear road map of furthering his education and the field of work he wants to enter. Luke demonstrated diligence in his school work and part-time job. He was not afraid to voice his opinion even when it did not seem to be the popular thought or idea.

Mike Bio

Mike is a very positive individual. He accepts the fact that there are negative influences in life but strives to focus on the positive influences. He demonstrated that formal education has been a struggle for him; yet, his grit and determination has led him to have a great experience at the university level. Mike has a clear goal of what he wants to achieve and has clearly defined the vehicles that will help him achieve that. Sometimes I noticed his positivity did not quite reflect reality.

Amanda Bio

Amanda is the only female participant because she was the only female enrolled in this course for the term studied. She has professional work experience but returned to school to add a bachelor’s degree to her resume. Amanda was generally pessimistic and often stated that she felt her poor educational experiences were another individuals’ fault. She demonstrated a lack of self-efficacy and also tepidness when it came to relationship development.

Raymond Bio

Raymond must be the oldest of all the participants. He has several years of professional work experience owning a construction company with his father. It is negative experiences he had with his company that motivated him to return to school to deepen his knowledge. He desires to go to law school after graduating. He is generally positive and put forth effort to maximize his learning.

Jake Bio

Jake is a positive individual. He, like others, had a defined path to get to his career of choice. He expressed a desire to find a management position in a car rental company. Jake enjoys surrounding himself with individuals with a lot of experience and learn from them.

Sean Bio

Sean is a happy confident individual. He currently works part-time in his desired field of work. Upon graduating he will move to full-time in the same company. He has tried to apply his education as much as possible to his employment. He is proactive in finding ways to further connections with individuals and learn from them.

APPENDIX I

Quirkos Report with Code Cleaning Annotations

Appendix F was the culmination of handwritten notes along the margins of a printed Quirkos report. These notes were the result of cleaning the code and assigned quotes. Cleaning the codes consisted of reviewing the quotes and asking if it aligned with the research question. If the quotes were related to the research question it stayed. If the quote needed clarification, more of the quote as added to the code. If the quote needed to be reassigned, it was reassigned to a more appropriate code. If the quote was irrelevant to the research question it was deleted from the code. The full document is found is the following URL link.

https://byu.box.com/s/urdy2bopkry3cq71utuqbilf1uq0csxc

APPENDIX J

Parent, Child, and Grandchild Code Breakdown

Appendix G includes a document that demonstrates the relationship between parent codes, child codes, and grandchild codes. The entire Google sheet is found in the following link.

https://byu.box.com/s/2wmlo0wucma6k3slrphx68ofzk8kwng8