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Outcomes for Professionals and Companies Through
Student-Professional Reverse Mentoring Sessions

Nicholas Burr Gubler

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Science

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ABSTRACT

Outcomes for Professionals and Companies Through Student-Professional Reverse Mentoring Sessions

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Master of Science

This qualitative inquiry explores the outcomes that professionals, and their companies, experience when they participate in a student-professional reverse mentorship. Professional development is used across all trades and professions as a way to increase employee skills and improve product/service quality. Reverse mentoring, where a novice teaches the more experienced individual, is a relatively new approach in professional development. When the reverse mentoring scenario is between students and professionals, instead of professionals and their colleagues, we know that students benefit from the reverse mentoring process but little is known about what outcomes the professionals experience. This research reports that professionals experience similar benefits through student-professional reverse mentoring as they experience through colleague reverse mentoring.

Keywords: mentoring, reverse mentoring, professional development, student-professional, expert-novice, workplace skill development

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CHAPTER 1

Introduction

Within the workplace, there is a constant drive to produce the best quality products and services in order to stay economically relevant (Takeuchi & Quelch, 1983). For many businesses and trades, the quality of their products and services depends on the collective and individual skills of their employees. Foreseeably, the future of a business comes down to how each worker, from the CEO to the newest employee, produces and improves at their craft. Businesses understand that education and training must continue within the workplace so that employee skills can further develop and grow. By furthering education, through workshops, lectures, seminars, mentoring, etc., companies can continually produce and improve their products and services, and thereby support their individual and collective success. In other words, it is important to continually learn new skills to stay competitive and advantageous in the workplace. (Brown, Roediger, & McDaniel, 2014; Russell, 2018).

This continued learning within the workplace is known as up- and reskilling (Cann, 2019), lifelong learning (Field, 2000), continuing education (Cervero, 1988; Forsetlund et al., 2009), and professional development (Guskey, 2003; Moon, 2013). The training within these methods is most often based on the development of hard- and soft-skills, where hard-skills are the technical skills which the company's trade specializes in (Laker & Powell, 2011), such as injury diagnosis, balance sheet compiling, architecture design, and soft-skills are the intra- and interpersonal skills unique to each individual (Laker & Powell, 2011; Williams, 2001), such as critical problem solving, effective oral and written communication, and positive group collaboration.

Typically, professional development places an instructor, or a more experienced individual, in a position to visibly instruct the less experienced participants (Levinson, Darrow, Klein, Levinson, & McKee, 1978). These instructional activities can be in the form of in-person mentoring, virtual mentoring—where the mentoring situation takes place through online platforms (Keengwe & Kyei-Blankson, 2013; Knouse, 2001), active learning and collective participation—which seeks learning through lived experiences and collaboration with peers (Garet, Porter, Desimone, Birman, & Yoon, 2001), and reverse mentoring (RM), where the mentoring situation is directed by the less experienced individual rather than the more experienced individual (Allen, McManus, & Russell, 1999; Greengard, 2002; Kram & Hall, 1996; Murphy, 2012;). Of these less common practices, RM—the research topic for this study—has been gaining popularity as a training method within businesses over the last two decades thanks to outcomes for both novice and experienced co-workers.

RM was initially coined by Jack Welch, CEO of General Electric, in 1999 as part of an effort to help 600 employees of all levels within his company to connect and learn from one another (Bliss & DuFrene, 2006; Greengard, 2002; Harvey, McIntyre, Heames, & Moeller, 2009). Through this process, novice professionals who recently started at GE met and educated Welch and other more experienced professionals on how to improve their technology skills. Through their RM interactions, Welch and other older colleagues learned how to use the internet and fostered stronger relationships with their younger colleagues.

Since Mr. Welch's RM implementation within his company, studies have been done to understand the potential for RM as a learning method. Leh (2005) studied RM as an approach for technology training among preservice and emergency situation teachers and found through individual formative evaluations that participants gained a greater understanding of content, as

well as developed higher levels of self-esteem and stronger relationships with their mentors/mentees. Stephens (2012) observed, similar to Jack Welch, that RM helped administrators learn more about how to effectively use computers in their work through the insight and direction from their younger interns and created a sense of togetherness as generational stereotypes were broken down. In each of these studies, the outcomes from RM have not belonged solely to improving the company or organization's craft (e.g., technological skills), but have also included social and emotional outcomes for the participants (e.g., work commitment and generational understanding). Ultimately, the analyses of these two studies encouraged RM as an approach to help improve the skills and overall work experience for their employees.

The positive technical and emotional outcomes from employee-employer RM support more exploration of positive and negative professional outcomes when the participants have different intents for engagement. For example, do similar results occur when the novice participant is a student, who is teaching the professional what they are learning in school? Chaudhuri and Ghosh (2012) proposed that, through social exchange theory mechanisms of perceived organization support and leader-member exchange, that RM can serve as an effective approach to helping baby boomers stay engaged and their millennial colleagues develop commitment to their work. Additionally, they propose that value and perception gaps between the two generations will decrease and increase co-worker understanding and collaboration. Propositions such as these imply that employees of the same company will foster better relationships and collectively enhance work skills as they interact with each other for the same purpose, but when the participants have differing purposes will the outcomes still remain the same? In other words, do professionals still benefit in their hard- and soft-skills, when the other

RM participant is not a colleague? If RM is resulting in outcomes among professionals of the same organization, what happens to professionals when the other participant is a student that is also seeking to learn, improve, and apply their skills? Do the hard- and soft-skill outcomes change because they are now being taught by someone without professional expertise? Are relationships still fostered between more- and less-experienced participants when the less-experienced participant is not yet set in their career? Does the interaction between professional and student result in outcomes that fall outside of emotional and technical areas? In summary, the main question that all of these questions provide insight to, is what the outcomes are for professionals, and the company they represent, when they are taught by a novice student. To explore this question, first we need to examine what a student-professional RM scenario might look like.

In student-professional RM, students either meet with the professional in-person or online and are exposed to the professional's real-world experience (Carter, 2004; Cotugna & Vickery, 1998; Harvey et al., 2009). We know that when students engage their learning in real-world experiences, they can improve hard-skill abilities and develop professional communication (Chatlani, 2018), community connection (Yaron, 2014) and relevance between what they are learning in the classroom and how it is applied in the workplace (Kember, Ho, & Hong, 2008). For students, student-professional RM can provide incredible insight as to what their professional future may actually look like and to what extent their current education is actually applied in the real world.

What is unclear, however, is what the professional outcomes are when the RM is provided by a student. Because the student is not a professional, is the interaction a waste of the professional's time? Does the professional view RM as a way to connect to the community, or an

opportunity to have someone outside of the company bring valuable insight? Because this study explores a new contextual area (student-professional instead of employee-employer) of professional development, namely student-professional RM, this research does not particularly seek to discover information about a singular outcome. Instead, this study explores the student-professional RM process in order to learn more about work-related outcomes for professionals and the companies they represent.

CHAPTER 2

Literature Review

The topic for this study is RM between students and professionals. With traditional mentoring being a crucial aspect of professional development, and professional-professional RM becoming increasingly popular of the last two decades, it is interesting that there has been no attempt to study professional outcomes through student-professional RM. There have been groups who have engaged in student-professional RM, but those attempts have focused solely on the student outcomes and not the professional's outcomes. Is the unique connection between post-secondary education and the workplace through only beneficial for the student, or can professionals see work-related benefits from this process as well? In order to explore what assumptions can be made about student-professional RM, it is first helpful to explore the process' historical foundation, namely traditional mentoring, and how the method's variations through time now offer student-professional RM as a new, legitimate method for professional development.

History of Mentoring

While there is no distinct person or event that officially coined the act of mentoring, one of the earliest sources regarding mentoring is found within Greek mythology. In Homer's *The Odyssey*, Telemachus, the son of Odysseus, who was the King of Ithaca, was reared by his father's friend, Mentor, while Odysseus led the war against the trojans. Once Odysseus and Telemachus reunited, Telemachus was an experienced and educated man ready to join his father's pursuits. Up to that reunion, it was Mentor who was "responsible not only for the boy's education, but for the shaping of his character, the wisdom of his decisions, and the clarity and steadfastness of his purpose" (Barondess, 1995, p. 3). The apprenticeship of Telemachus and his

relationship to Mentor would serve as a model for one-on-one expert-novice scenarios and is therefore the nomenclature basis for *mentoring*.

Throughout centuries thereafter, mentoring was viewed by many as a parental relationship and practiced amongst “exceptional individuals,” like Socrates and Plato, as a way to keep power and wealth to the few (Colley, 2002, p. 264). Eventually, as world economies became more specialized, the act of mentoring transitioned from being practiced amongst a few elite citizens to a method for middle-class people to gain connections and experience from the upper-class, and thereby change their economic circumstances (Novak, 1988). Today, the characteristics of wealth and social status that traditionally defined mentorships have been replaced with characteristics pertaining to the type and method of mentoring communication. This literature review did not attempt to list all possible definitions and characteristics of mentoring, but rather provides a brief summary of what we know about mentoring and offer a way to categorize the different types and communication methods (see Figure 1).

		<i>Comm. Methods</i>		
		In-Person	Blended	Online
<i>Types</i>	Expert-to-Novice	In-Person Expert-to-Novice	Blended Expert-to-Novice	Online Expert-to-Novice
	Peer-to-Peer	In-Person Peer-to-Peer	Blended Peer-to-Peer	Online Peer-to-Peer
	Group	In-Person Group	Blended Group	Online Group
	Novice-to-Expert (Reverse Mentoring)	In-Person Novice-to-Expert	Blended Novice-to-Expert	Online Novice-to-Expert

Figure 1. A categorization of mentoring scenarios by type and communication method.

Types of Mentoring

Types of mentorships are determined according to the professional status or relationship among the mentorship's participants. The three most common types that are documented in the literature are expert-to-novice (Shah, 2017; Wai-Packard, 2009), peer-to-peer (Scott, 2005), and group mentoring scenarios (Herrera, Vang, & Gale, 2002; Huizing, 2012). Each type serves different purposes and can prove to be more suitable for the specific mentorship depending on the participants' desired outcomes. RM, which takes the expert-to-novice relationship and changes it to novice-to-expert (Chaudhuri & Ghosh, 2012; Greengard, 2002; Murphy, 2012), is another less common type of mentoring and was analyzed later in this literature review.

Similar to Mentor's mentorship to Telemachus, expert-to-novice mentorships occur when one of the participants has obtained expert, or superior, skills or knowledge within a subject that the other, more novice, participant is seeking to learn (Barondess, 1995; Levinson et al., 1978; Wai-Packard, 2009). In these scenarios, the expert has "a unique opportunity to contribute to someone's development and help them realize their full potential" (Shah, 2017, p. 1). This expert-to-novice relationship can be found in coaching scenarios, parent-child interactions, teacher-student interactions and many other experiences where the more experienced individual is seeking to educate and help the less experienced individual. The reversal of this type, novice-to-expert, otherwise known as RM, keeps the differing levels of participant experience and skills as expert-to-novice, but now the novice is the teacher in the mentorship (Murphy, 2012; Bliss & Dufrene, 2006; Chaudhuri & Ghosh, 2012). More information on this type, since it serves as the research method of this study, will be provided later.

Unlike the differing levels of experience and skills found in expert-to-novice and novice-to-expert mentorships, peer-to-peer mentorships place equally skilled participants together so

that their collaboration can foster mutual growth and progress (Scott, 2005). Stigmar (2016) defined a peer mentor as “anyone who is of a similar status as the person being tutored and operates as a complement and active partner with university teachers in the process of learning and teaching” (p. 124). From this definition, an example of a peer-to-peer mentorship is when a freshman student and a senior student in the same college are paired to help each other throughout the semester. Even if the senior student had superior knowledge of the subject material compared to the freshman student, since they are both *students* this type of mentorship would still be considered peer-to-peer (Dennison, 2010). The common distinction across literature between expert-to-novice and peer-to-peer mentorships depends on the status of the two participants—if they are of the same status, then the mentorship is peer-to-peer.

Lastly, group mentorships occur when the participant amount is greater than two (Herrera et al., 2002; Huizing, 2012). Group mentoring can be comprised of all kinds of participants, namely experts, novices, and peers, but the main difference between the other types of mentorships and group mentoring is the intent to obtain and share wisdom among multiple people (Huizing, 2012). Examples of group mentoring can be found in organizational departments, like marketing, sales, finance, advertising, and seek learning and progress at a collective level.

Communication Methods

Communication methods within mentoring are determined according to the correspondence medium of the mentorship and can be broken down into three main categories, namely face-to-face (Fletcher & Mullen, 2012; Hobson, 2012), virtual (Keengwe & Kyei-Blankson, 2013; Knouse, 2001), and blended (Murphy, 2011; Thompson, Jeffries, & Topping, 2010).

Face-to-face mentoring, also known as traditional or one-on-one mentoring, occurs when the mentor and mentee are within the same physical space (Fletcher & Mullen, 2012; Hobson, 2012). Wai-Packard (2009) added time-commitment and expert-to-novice elements to her description of traditional mentoring when she said that traditional mentoring is a “dyadic, face-to-face, long-term relationship between a supervisory adult and a novice student that fosters the mentee’s professional, academic, or personal development” (p. 1).

Virtual mentoring, also known as e-mentoring (Havill, 2013; Knouse, 2001), is defined by some researchers by contrasting it to face-to-face mentoring. Hamilton and Scandura (2003) said that virtual mentoring occurs when electronics serve as the “primary channel” between participants and that the difference between virtual and traditional mentoring is within the amount of “face-time between mentors and protégés” (p. 388). Havill (2013) stated that “face-to-face mentoring is when no electronic communication exists between the mentee and mentor” (p. 14). Instead of contrasting virtual mentoring to traditional mentoring, Knouse (2001) described virtual mentoring’s capabilities indicating that virtual mentoring’s access to the internet not only connects them to professionals more conveniently, but also quickly connects them to resources and career information. While there is no clear standard for the amount of technology use in mentoring that differentiates between traditional and virtual mentoring, Hamilton and Scandura (2003) propose that 75% or more of overall technology use throughout the mentorship can classify it as virtual mentoring. Ultimately, the distinction between virtual and traditional mentoring depends on the individual’s point of view, but another type – namely blended mentoring – can serve as a middle ground between the two.

Since blended mentoring tends to be absorbed as a form of virtual mentoring, there is not much research that attempts to explicitly define blended mentoring. It is understandably clear,

however, that there is a technology-use spectrum between traditional mentoring and virtual mentoring wherein blended mentoring can reside. Essentially, blended mentoring occurs when the mentoring relationship involves both online and face-to-face interactions (Kirk & Olinger, 2003; Kim et al., 2013; Thompson et al., 2010). This communication method, according to Thompson et al. (2010) serves best within fields where a social dynamic is important for individual and group progress. Kirk and Olinger (2003) added that the blended method results in greater time and place flexibility for the mentor in aiding the mentee, lower stress levels due to in-person meetings not being mandatory, and easier meeting scheduling. An area of caution, however, for blended methods was illustrated by Kim et al. (2013), indicating that the initial conversation should ideally be in-person and that a clear understanding of expectations is obtained by both participants before beginning. As for the technologies used to facilitate blended mentoring, Chong et al. (2019) reviewed virtual and blended mentoring studies used phone calls (Chang et al., 2012; Kim et al., 2013), emails (Griffiths & Miller, 2005; Hunter, Rockman, Gingrich, Silveira, & Salach, 2008; Kim et al., 2013; Perlman, Christner, Ross, & Lypson, 2014), online discussion software (Anshu, Burdick, & Singh, 2010), learning management systems (Chu et al., 2013) and video conferencing (Griffiths & Miller, 2005; Pillon & Osmun, 2013; Walsh, 2016) as mediums for communication. The decision for what technologies to use and when to use them should be discussed prior to beginning the mentoring relationship (Kim et al., 2013).

In summary, the four main types of mentoring are expert-to-novice, peer-to-peer, group mentorships, and novice-to-expert. The communication method that each of these types may engage in can also be broken down into three categories, namely, in-person, virtual, or blended. In regards to the subject matter of the mentorship, that depends on the intent or purpose of the

mentoring relationship, but the combination of type and communication method is likely chosen based on what is most beneficial for learning as well as practical for both participants. Reverse Mentoring (RM), which is the method of this study, is synonymous with novice-to-expert as it places the novice as the teacher in the mentoring relationship.

Reverse Mentoring – What We Know

Where traditional mentoring is typically an expert-to-novice mentorship, RM reverses the teaching roles of the mentorship from expert-to-novice to novice-to-expert. As Murphy (2012) defined it, RM is “the pairing of a younger, junior employee acting as mentor to share expertise with an older, senior colleague as the mentee” (p. 550). Bliss and Dufrene (2006) similarly defined RM as “an arrangement in which younger workers serve as mentors to senior employees to teach new skills in technology and other areas” (p. 1). While an age difference between the novice and experienced employee often assumes the experienced employee as older, Chaudhuri and Ghosh (2012) ignored age as part of their definition by saying RM is an “inverted type of mentoring relationship whereby new junior employees are paired up with more experienced managers or employees to help the experienced worker acquire new learning” (p. 56). From these definitions, whether age is a factor or not, we understand that RM places the novice participant as the mentor and the experienced participant as the mentee.

While RM is not as common as other professional development methods, the outcomes gained from the process has encouraged many businesses, including Deloitte & Touche (Carter, 2004), Procter & Gamble (Greengard, 2002), and Dell (Harvey & Buckley, 2002) to utilize it among their employees. Job-specific outcomes for individuals and companies via RM are understandably based on the specific trade that the participants are employed in, but some generic outcomes include work confidence (Porrás, Díaz, & Nieves, 2018), cost-effective

training (Murphy, 2012), reducing colleague social isolation (Breck, Dennis, & Leedahl, 2018), improved cross-generational relationships (Murphy, 2012; Augustinienė & Čiučiulkienė, 2013), better understanding of the latest technological advancements (Augustinienė & Čiučiulkienė, 2013), and future leader development (Murphy, 2012).

This variety of positive outcomes can be very beneficial to both participants, but RM may also lead to negative outcomes that are common in one-on-one mentoring scenarios. A lack of support from management and a carefully planned matching process may result in a lack of motivation and mutual understanding between the participants (Murphy, 2012). Additionally, typical mentorship norms, wherein the more experienced individual instructs the less experienced individual, are being broken and thereby may result in uncomfortable interactions between the two participants on how to interact with one another (Doerwald, Scheibe, & Van Yperen, 2015). As possible solutions to these concerns, Carter (2004) suggests that the mentorship should be structured, have set meeting times outlined as well as the duration of the mentorship, and seek to achieve specific goals. When the mentorship follows these guidelines, whether the mentorship is reversed or not, the issues that occur in all mentorships may be avoided.

Reverse Mentoring – What We Do Not Know

The amount of literature concerning RM is increasing, but RM scenarios where the participants do not belong to the same organization, or hold the same professional status, are hard to find (Morris, 2017). Cotugna and Vickery (1998) did a study where they observed students teaching professional dieticians about how to use the internet through the RM process. In this study, the students' experiences were the main research focus, but findings indicated that the dieticians did not mind being taught by students and enjoyed their instruction. While not a

study, the Wharton School at the University of Pennsylvania has paired MBA students with professionals through their Fellows for technological skill development (Carter, 2004; Greengard, 2002; Harvey et al., 2009). Lastly, Swanson (2011) observed outcomes for students who ran a public relations firm and used RM elements in order to teach clients how to use technology. Where research can be found about student-professional RM, the research tends to focus on the student outcomes and not on the professional, leaving room to explore the other participant's outcomes further.

Reverse Mentoring – Summary

The process of mentoring has been around for centuries. Mentoring scenarios today include expert-to-novice, peer-to-peer, and group mentoring types, which can be conducted through in-person, virtual, and blended communication methods. RM is a reversal of the expert-to-novice teaching scenario, which places the novice as participant carrying out the mentorship's instruction. RM has been utilized in many businesses as a form of professional development among colleagues, but RM's influence on professionals when their mentor is a student is yet to be thoroughly explored. Therefore, this study seeks to explore what outcomes RM offers to professionals, and the companies they represent, when they are being mentored by students interested in their line of work.

CHAPTER 3

Methodology

This exploratory qualitative inquiry, also known as a basic qualitative study (Merriam, 2009), sought to understand work-related outcomes for professionals when participating in student-professional RM sessions. In this study, semi-structured interviews served as the primary source of data collection. It was anticipated that interviews with the reverse-mentored professionals would provide valuable insight into the approach's influence on the participating professional and the company they represent. To study these ideas, the following key questions guided this work: (1) What outcomes does RM have for a professional and the company? (2) What expectations do professionals have for RM students? Before commencing the research at Dixie State University a consent form was signed (see Appendix A) and BYU IRB approval from was obtained (see Appendix B).

The participants in this study included professionals who had participated in the RM approach at Dixie State University. The professionals were invited to participate in RM by the personal choice of the student, not the professor. These professionals were taught business strategy principles that the students were learning about in their business strategy capstone course. The students were instructed to meet with the professionals once a week in order to teach them what they were learning that week for the course's textbook. The students reported each week to their professor how they felt the meeting went with the professional and what they learned during each session. In these reports, the students provided the professional's contact information, from which the professionals were contacted by phone and invited to participate in a later interview done over the phone. The students are not participants of this study, but their information allowed us to contact the professional they met with. The professionals were not

compensated for participating in this study. The professionals were not asked to report to the professor like the students were. Instead, the professionals were informed that they needed to allow the student to teach their coursework and were encouraged to help the student apply their teaching to the professional's past and present real-life work experiences. Table 1 illustrates the relationship between the professional and the student (all names are pseudonyms).

Table 1

Professional-Student Pseudonyms & Relationships

Professional's Name	Occupation, Title	Relation to Student	Student's Name
James	Fitness Training, CMO	Employer	Cameron
Sarah	Health & Wellness, Owner/CEO	Employer	Lauren
Neal	Game Retail, Owner/CEO	Employer	Preston
Tim	Industrial Packaging, Owner/CEO	Family	Kate
Adam	Real Estate, Owner/CEO	No Relation	Jordan
Ben	Plumbing, Owner/CEO	Family	Morgan
Peter	Financial Planning, Resident Manager	Employer	Garrett
Dean	Electric Industry, CFO	Family	Carter

Initially 53 professionals were invited to according random assignment generated in Excel.. After the contact information was collected, and given a random number, professionals were called in chronological order. Professionals were invited to participate in one semi-

structured interview, with the goal of 8-12 final interviews for this exploratory study. Due to the difficulty of receiving responses from the professionals, the final sample included eight participants. Informed consent was sought from the professor who taught these two courses that included RM in order to access the professionals' contact information. Once that was obtained, informed consent was sought from each participating professional before their interview. The participating professionals had all experienced RM previously, ranging from 4-12 months prior to their interview.

In the recorded semi-structured interviews conducted by the researcher, each professional was asked background questions that were geared toward (1) when they participated in the RM sessions, (2) what professional and occupational position they represented in the mentorship, (3) their connection to the student mentor, (4) how often they met for RM sessions, and (5) if their meetings were in-person, online, or blended. Once the background questions were answered, each professional was asked four main questions. The exact questions can be found in Appendix C. With each main question, follow-up questions were asked dependent on their responses in order to find out as much as possible. Possible follow-up questions included, "Why?", "How come?", and "Could you explain that with more detail?", for example.

Once the interviews were concluded, the recorded interviews were sent to a third party for transcription. Once the transcriptions were completed, each interview was analyzed in order to identify recurring themes. The coding of themes within the interviews was identified through a thematic network analysis provided by Attride-Stirling (2001), and the software used for coding was called *Quirkos*. In this process, thematic analysis occurred in a three-stages: first, text reduction or breakdown, where a coding framework was established and then used to dissect the text into segments. Those segments were then studied to identify themes, and then categorize

those themes according to basic, organizing, and global tiers. Second, exploration of the text, where the network of theme tiers is explained, explored, and summarized. Exploration was done by focusing on specific word frequency or relevance to the research questions. Finally, integration of exploration, where patterns in the text were interpreted with the intent tie the identified principle themes back to the original research question (see Figure 2).

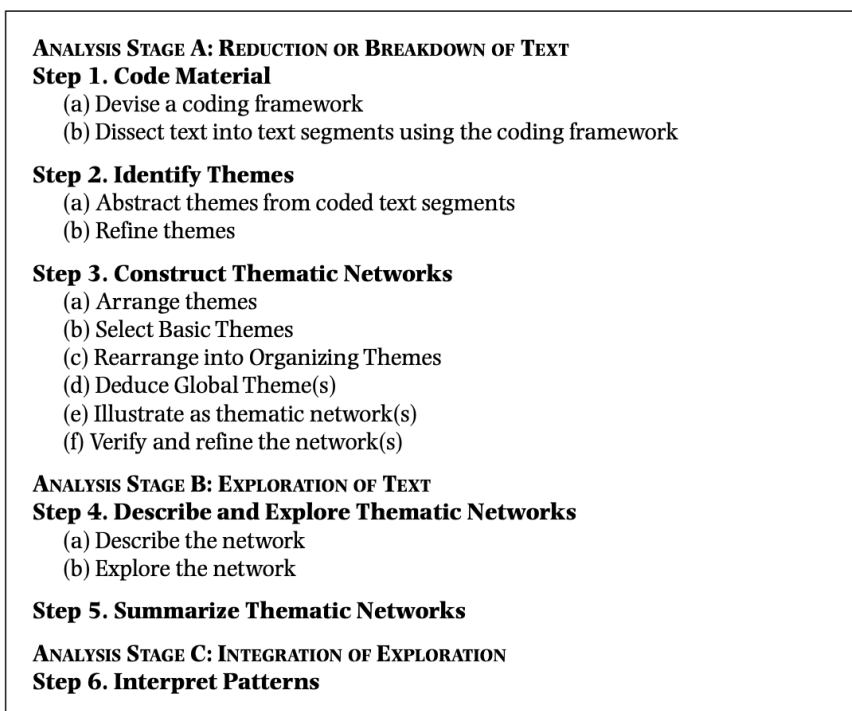


Figure 2. Thematic analysis steps, by Attride-Stirling (2001).

Once the themes were sufficiently identified, a concept map or concept diagram was created to illustrate the basic, organizational, and global themes. This was done as a form of exploring the network identified in second stage (see Figure 2). Figure 3 represents the basic visualization of the concept diagram. The concept diagram allows us to recognize all basic themes that contribute to the organizational theme, and thereby allow us to gather a greater sense of what an organizational theme precisely entails. I additionally added integer values reflecting

both the amount of codes that contributed to the organizational or basic theme, and how many professionals contributed to those themes.

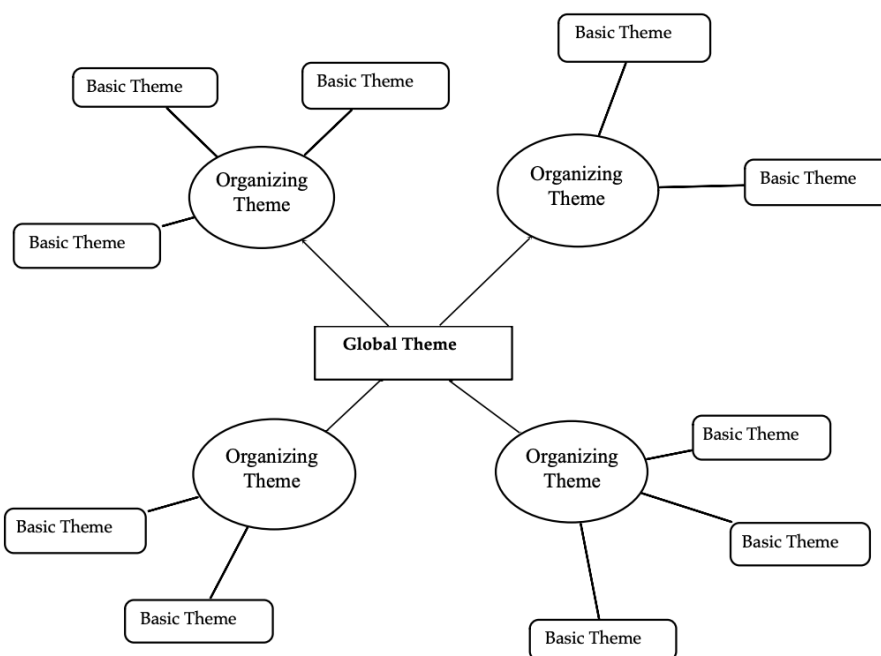


Figure 3. Concept map for visualizing themes, by Attride-Stirling (2001).

As an example, Attride-Stirling provided figures for the thematic analysis three-stage process and its corresponding final concept map from a study concerning “cultural representations of nature in Britain” (p. 394). Figures 4-6 below illustrate the example she used on how to report findings and interpret patterns when using thematic network analysis. Figure 4 is a table detailing what the main code was, the issue(s) that the code addressed, and themes identified pertaining to the issue. The analysis for this study followed a similar structure, but was ordered according to the type of theme (organizational or basic, the name of the theme, and a definition explaining when the theme was coded). Figure 5 illustrates a basic-global list view hierarchy demonstrating the connection between themes according to tiers. For this study, there was only one global theme (professional outcomes) that this study sought to find and therefore

the tables and figures for this study will not have the global theme level explicitly stated. Figure 6 is a concept diagram model of the themes. The concept diagrams in this research are structured according to the organizational theme and then the basic themes connected to the parent organizational theme.

<i>Codes (Step 1)</i>	<i>(Issues discussed)</i>	<i>Themes identified (Step 2)</i>
– Drives – Instinct – Needs	<ul style="list-style-type: none"> • intrinsic motivation • uncontrollable • essential • universal • physical • biochemical 	1. Instincts are complex, unreflected patterns of behaviour 2. Intrinsic needs and drives motivate and compel behaviour
– Animal comparisons – Biology – Evolution – Humanness	<ul style="list-style-type: none"> • uncontrollable • inevitable • progress • self-fulfilling • intrinsic motivation • essential • biochemical • organic • physical • procreation • manipulation • superior 	3. Evolution represents an ordered, self-fulfilling system 4. Comparisons to animals imply human continuity and superiority 5. Humans have an organic, biological, biochemical make-up 6. Humans have an intrinsic urge to explore environment
– Choice – Desire – Learning	<ul style="list-style-type: none"> • free will • want • option • control • higher thought 	7. Human's higher thought enables complex learning 8. Humans have an inherent endowment to desire and choose at will
– Reproduction – Sex	<ul style="list-style-type: none"> • sexual intimacy • procreation • intrinsic motivation • biochemical • physical • heterosexual 	9. Sex has unavoidable, reproductive functions 10. Sexual urges are intrinsic and universal to the human animal
– Attraction – Intimacy – Pleasure – Platonic	<ul style="list-style-type: none"> • sexual intimacy • partnership • enjoyment • sensation • physical • psychical • friendship • sharing and trust • understanding 	11. Intimate companionship is an especially absorbing sexual friendship 12. Intimate companionship is a psychical connection with another 13. Sexual companionship brings enjoyment of pleasurable sensations
– Nature applied – Nature defined – Order and laws – God/Religion – Good – Bad – Unnatural – Abnormal	<ul style="list-style-type: none"> • uncontrollable • spontaneous • organic • inevitable • omnipotent • order • balance • universal • progress • intrinsic motivation • factual, true • beneficial, life • healthy • superior 	14. An organic, self-fulfilling system 15. An omnipotent force 16. An inherent order 17. A normal, accepted phenomenon 18. A real, factual truth 19. An essential quality 20. Beyond human control 21. Without human manipulation 22. Uncontrived and innocent 23. Beneficial, wholesome and trustworthy 24. Preferable because it's superior 25. Everything is natural

Figure 4. From codes to themes, by Attride-Stirling (2001).

<i>Themes as Basic Themes</i>	<i>Organizing Themes</i>	<i>Global Themes</i>
1. Instincts are complex, unreflected patterns of behaviour 2. Intrinsic needs and drives motivate and compel behaviour	Inherent dispositions	Humankind is natural
3. Evolution represents an ordered, self-fulfilling system 4. Comparisons to animals imply human continuity and superiority 5. Humans have an organic, biological, biochemical make-up 6. Humans have an intrinsic urge to explore environment	Organic constitution	
7. Human's higher thought enables complex learning 8. Humans have an inherent endowment to desire and choose at will	Ability to exercise free will	
9. Sex has unavoidable, reproductive functions 10. Sexual urges are intrinsic and universal to the human animal 11. Intimate companionship is an especially absorbing sexual friendship 12. Intimate companionship is a psychical connection with another 13. Sexual companionship brings enjoyment of pleasurable sensations	Biological imperative Intimate companionship	Sexual intimacy is natural
14. An organic, self-fulfilling system 15. An omnipotent force 16. An inherent order	Nature as a living whole	Nature is truth
17. A normal, accepted phenomenon 18. A real, factual truth	Nature as something concrete and objective	
19. An essential quality 20. Beyond human control	Nature as a fixed and immutable quality	
21. Without human manipulation 22. Uncontrived and innocent	Nature as something pure and untainted	
23. Beneficial, wholesome and trustworthy 24. Preferable because it's superior	Nature as a positive value	
25. Everything is natural	Nature as reality	

Figure 5. From basic to organizing to global themes, by Attride-Stirling (2001).

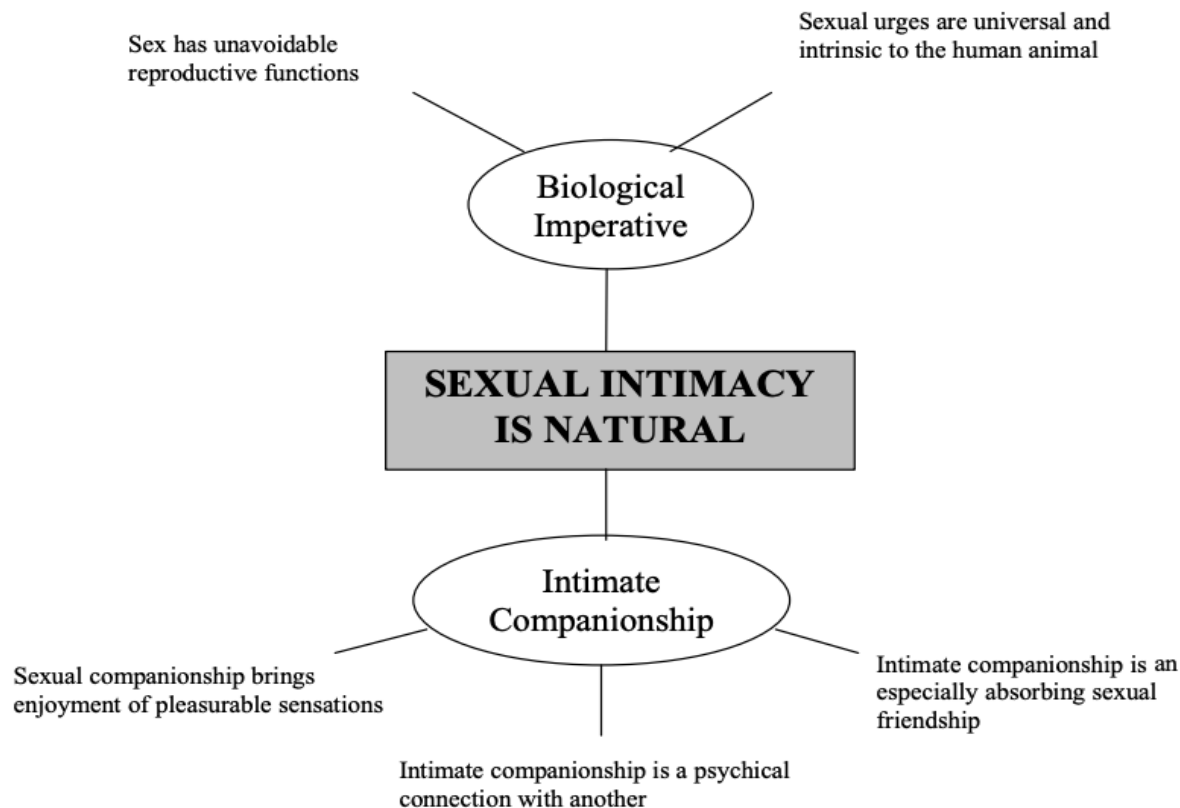


Figure 6. Example thematic network concept diagram for global theme Sexual Intimacy is Natural, with organizing themes Intimate Companionship and Biological Imperative and accompanying basic codes, by Attride-Stirling (2001).

I anticipated this thematic breakdown of the interviews, in order to categorize outcomes into conceptual groups, would provide valuable insight concerning professionals' outcomes through student-professional RM.

Before a thematic analysis was conducted, the interview transcripts were completed by an online third party. Each of the eight transcripts were written from different individuals who work for the third party. Once the transcripts were completed, the thematic analysis began and was chronicled within a data audit for the study. The data audit, which began once the research

committee's approval to commence the study was granted, included a timeline of research events, a complete list of all possible professionals who participated in RM, which professionals were randomly selected for phone-call interviews, which professionals agreed to an interview and when the interviews were conducted. The data audit also includes results from the thematic analysis gathered, as well as results from the negative case analysis and peer analysis.

The negative case analysis was conducted in an attempt to confirm or deny coded outcomes for the professionals. The comparative nature of the negative case analysis will either support or deny the accuracy of a study's findings (Hanson, 2017). According to Allen (2017), the negative case analysis is a re-analysis by the researcher where they look at existing data with an "open mind." This is done to identify "negative, deviant or discomfoting" information that doesn't match the initial analysis (p. 3). Should the negative case analysis results consistently differ from the original analysis in large measures, that is an indicator that the original analysis is not reliable. In conducting the negative case analysis, I re-analyzed 10 codes starting where the professional began to answer the four main interview questions. To do this, I compiled an Excel sheet that included the quote, what theme(s) the quote was originally coded in, if the code needed any addition or change, and what the addition/change would be if necessary. Though this study is qualitative, the results of the negative case analysis were quantified in an effort to reflect the accuracy of the initial analysis, which resulted in 86% of codes staying the same.

In the peer analysis, a peer was directed to code for each professional once the professional started to answer the four main questions in the interview. The peer I chose is a faculty member who has a lot of experience with qualitative study analysis. To help the peer recognize which themes were relevant to the study, the peer was presented with the same layout of organizational and basic themes that I used for my initial analysis. Using the same layout also

helped avoid confusion for each theme's purpose, and thereby increased our ability to determine accuracy between the two analyses. To determine accuracy, we compared and contrasted the codes identified in order to determine how consistent we both were in assigning codes. Any discrepancies were discussed and resolved, with most issues being missed codes not assigning different codes. Completion of the peer analysis was also satisfactory.

As a researcher, I have had no personal experience as a student or professional in RM. I have, however, conducted pilot studies with the same professor who is in charge of the students requesting reverse mentorships with my interviewed professionals. In those pilot studies, we heard positive feedback from both students and professionals which prompted us to conduct further research. Furthermore, the professor of these courses is also my father. We are mutually interested in the outcomes for professionals through RM and if this research may serve as a possible avenue for better student-professional experiences and relationships. To avoid any observer bias stemming from my father, I did not talk about the findings of my research with him until my research was completed.

CHAPTER 4

Results

This research sought to explore what outcomes professionals experience through student-professional reverse mentoring (RM). A basic qualitative inquiry was conducted and a total of eight professionals were interviewed. Their interviews were transcribed by a third party, and then a thematic analysis was conducted to identify recurring themes (Attride-Stirling, 2001). Two measures of trustworthiness were conducted to ensure the rigor and credibility of the thematic analysis, namely a peer analysis as well as a negative case analysis. The results of the peer and negative case analysis supported the initial analysis' reliability and therefore no changes were made.

The results are presented here according to the professional, in order to understand a little more as to who these professionals were and in what ways RM was personally meaningful to each of them, followed by a summary of the identified global, organizational, and basic themes. The combination of the professional, their experiences, and the framework of the thematic analysis used for this study, provides a foundation for the inferences and interpretations from this study found in the discussion.

Professional Bios and Their Reverse Mentoring Experience

To understand the professional and what their individual RM experience was like, the timeframe in which they experienced RM, their occupation and job title, relationship to the student, the environment of their RM sessions, and how frequently they met with the student, will be provided. After those characteristics have been explained, a closer look will be taken into the quotes they provided. The quotes included in this section have been added according to how important and meaningful they were to the professional, as perceived by the researcher. The

professional and student real names have been replaced with pseudonyms in order to maintain participant identity privacy. The eight professionals who contributed to this study will be identified as James, Sarah, Neal, Tim, Adam, Ben, Peter, and Dean.

James. James is in charge of running the digital marketing operations for a small fitness company. Cameron, James' RM student, worked at James' gym as a manager and had a previous work relationship with Cameron prior to experiencing RM in Spring semester of 2019. James and Cameron were able to meet more than once a week for RM related activities due to the in-person and social nature of their work environment. James also went through this same course years earlier when he was a student pursuing his business degree.

James' reflection on RM was very positive with nothing negative to say about the experience with Cameron. James said that RM had a direct influence on the business as it "just made our business better because we were able to talk about more strategy and it was because of Cameron." James, who was a business school undergraduate, said that business principles such as a "SWOT analysis" and the "triple bottom line" were "brought back into my head and [reverse mentoring] made me think about them again." James enjoyed the RM sessions as they also served as refresher for strategic practices that he had forgotten since his college graduation. James' application of Cameron's teaching consequentially highlighted areas in which the company was lacking, and thereby gave James an "actionable thing that I could instantly take from" and "start putting strengths and weaknesses down [to determine] opportunities." James appreciated the humble approach in that "he's not this big authority guy or business consultant coming in and telling you, 'Hey, you need to do x because of y.'" and that Cameron was a "grasshopper teaching us in a way, which was great." James did acknowledge that RM is a time commitment, but that the use of time is a way "to invest in your business and invest in yourself."

James expressed, ‘I had no expectations per se, but I knew it was going to be a lot about business strategy’ after going through the class as a business undergraduate.

Sarah. Sarah is the owner and CEO of a day and med spa. The majority of Sarah’s time is spent running day-to-day operations behind a desk in her office, but she did not hesitate when her employee, Lauren, invited her to participate in RM. Sarah’s expectations entering RM were to be an aide to Lauren in completing her assignment for school. Sarah and Lauren met once a week in Sarah’s office during the Spring semester of 2019.

Sarah found that RM was most influential for her because of the social interaction that the process offers. Sarah felt that RM “deepened my understanding of how I run my business...reflecting on it with somebody,” but that “the biggest outcome is just getting to know that person other than that employee.” The friendship that Lauren and Sarah cultivated through RM is one that “you don’t really get with your employees” and that it is “a personal connection to the owner that very few have.” Sarah did not say what position Lauren held within the company before or during RM, but did say that the interaction has been the foundation for “[Lauren] getting a couple of raises since and she’s one of the people I rely on and will continue to promote because she just has a different skillset and lens.” Sarah knew that she could turn to Lauren with business questions and that Lauren would offer an educated opinion and help find solutions to problems. Sarah was also very appreciative that Lauren came to their sessions very prepared with questions and an outline of what she was going to teach her that day: “That’s what made it enjoyable...there was no time wasted. She was totally prepared. Because if you’re going to ask a business owner to give you an hour of their time, it’s got to be worth it.” Sarah generally loves to talk to people about her business and that being taught by Lauren was something she “very much enjoyed” and “looked forward to.” With her day and med spa doing well, Sarah

found that the concepts Lauren taught her confirmed her business' success: "We ended up finding that we're doing a lot of stuff right" and that "[reverse mentoring] was a confirmation for how we're doing it." In spite of Sarah feeling that Lauren's instruction was not always applicable to her small business, Sarah felt that "the experience was very meaningful because of the human connection and the ability to get to know someone really well."

Neal. During the RM process, Neal was the owner and CEO of a struggling game retail store, which he has since sold. During the Spring semester of 2019, Preston, Neal's RM student, met in-person once a week with Neal inside Neal's office. The office and in-person setting were very practical for both participants because Preston worked for Neal inside his store. Neal began early on in the interview to discuss how RM impacted him and his business, from which the interviewer forgot to ask if Neal had any expectations from RM before meeting with Preston.

After contemplating pursuing a business degree, Neal found through RM that it would be better for him to not get back into school but instead hire others who had the skills he lacked. Neal expressed, "At this point, at my age, with a family and everything, it's easier for me to hire people who have the recent school experience and then marry [their experience] with my real-world experience, rather than going back to school and trying to learn it." Neal, who served in the Air Force and went into criminal justice after his service, never had formal instruction on business strategy. As for RM's influence on Neal's business operations, Neal found that Preston's content was not always applicable for his small because "the [business principles] were geared toward a larger company," but that Preston's instruction helped influence "tweaks" to the company's marketing, customer relations, and inventory issues. Neal described RM as "a really good experience for both people" because "it's always good to hear other people's perspectives" and "[reverse mentoring] created a little space where we can analyze things." While the selling

of his business was not solely credited to his interaction with Preston, Neal does credit RM to helping him “bring [the company’s low growth potential] into focus more...and seeing what’s possible and what’s not going to be possible” before he sold the business. Neal did express that RM “was tough to schedule” but that it was ultimately “beneficial to take some time and set it aside for thinking outside the box.”

Tim. Tim is the owner of an industrial packaging company that specializes in wood products. Tim went through the RM process with his student-daughter, Kate, during the Spring semester of 2019. Tim and Kate did not live in the same city and conducted the majority of their RM sessions over the phone. Despite the distance, they talked with each other once a week and discussed the content she had prepared from class. Tim, like Neal, started to describe RM’s influence on him and his business at the beginning of the interview and therefore Tim did not mention whether he had expectations or not before beginning RM.

Tim discovered that RM forced him to reanalyze his routine tasks and determine if they were beneficial or not. When Tim and Kate would talk, Tim mentioned that “[Kate] had a lot of questions that challenged me as a business owner.” Tim appreciated Kate’s specific questions as they “kind of open your eyes a little bit to the things you do each day and question a lot of the reasons why.” Though challenging, Tim felt that Kate “pushed me to do anything” and that their sessions were “always an open discussion.” As for changes made to business operations due in part to RM, Tim decided to partner with a new supplier, which “saved us a ton of money,” realign partnerships with vendors in order to attract new customers, and alter their purchasing habits. Tim added that the changes made helped produce “about a 30% increase in business this year.” Tim did admit that he and Kate “talked about a lot of different stuff and sometimes it all

mixed together” but added that the content “definitely pushed me to look at things a little bit differently. Open my eyes and make some changes here.”

Adam. Adam is a partner and owner of a commercial and residential real estate brokerage. In addition to this role, Adam also oversees property management. Jordan, Adam’s RM student, was neither an employee nor family relation to Adam. The RM scenario between Adam and Jordan developed when Jordan asked one of Adam’s real estate agents for Adam’s number, after which Jordan called Adam asking for help with his assignment. Adam expressed that he had sought help from working professionals when he was in school and expected to offer that same help by participating in RM with Jordan. Adam remembered that he and Jordan met in-person during Summer semester of 2018 but could not recall if they met once a week for the entirety of the semester.

Adam felt that RM was most beneficial to him by giving him the opportunity to help someone see the relevance and application of their education. Adam reasoned, “I asked for a lot of help on the way. I was expecting to be the recipient and the beneficiary [from my education]...he reached out to me in that same capacity and I was happy to help him.” Adam also added, “I try to be the type of person who’s willing and accommodating, and for me, if there was a benefit to [Jordan] in that process, then that’s a positive outcome for me.” Though the RM sessions were rewarding to Adam as he offered his expertise and experience to Jordan, Adam did express his confusion towards the individual roles in RM: “I think it’s all about the approach. If [the student] conveyed, ‘My assignment is to request some context about how [principles] work for someone already in the field.’ I would’ve said, ‘Great, no problem.’ But if reverse mentoring is when the student teaches people in the field...that wasn’t the intent I understood it to be.” After the interviewer explained the beginning-to-end process of RM and confirmed to Adam that

still did his part in applying Jordan's prepared strategy principles to his business, Adam's confusion was eliminated and he was ultimately content with having gone through RM. Still Adam "preferred to have understood the assignment better" and requested that future students take necessary measures to fully explain to professionals what their role and purpose is within the RM process in order to avoid further confusion.

Ben. Ben is the owner and CEO of a plumbing and drain company. Ben went through the RM process with his student-son, Morgan, during the Summer semester of 2018. Ben and Morgan did not reside in the same city during the RM process, which required them to conduct their RM sessions over the phone. Ben expressed that his expectation the RM process was for Morgan to take Ben's insight about owning a business and use it to make his own career decisions. Doing so, Ben reasoned, would help Morgan "start up his own business and take off on his own, or work for somebody else...and still be able to run things for someone else."

Ben felt that RM was a great opportunity to educate his son on how important the business skill of time management is in order successfully run a business. "So time management is the biggest [outcome] I have for him...if he can personally say 'Listen I know now the full gravity of what it takes to run a business'...that was really what I want for all my kids." Ben expressed that during his participation in RM, he was at the culmination of paying off the four-year mortgage on his house, and that the "talks with Morgan during that process were things that definitely stoked the fire for me, to keep that burning" because they helped him "stick to the plan that I'd had from the beginning." The exciting time of financial success for Ben made the RM sessions "refreshing" and "enlightening" in addition to being an opportunity to show Morgan how hard work pays off. While Ben was very positive towards his RM experience, he felt that finances "didn't really ever get talked about" and that "focus groups" for kids going through RM

would help “paint out the whole career path of what needs to be done in order to step out and use this education to wholly benefit you.” Morgan, Ben mentioned, is still wondering what he should do for his career.

Peter. Peter is a resident manager within a financial planning company. He oversees financial transactions and educates clients on proper financial and stock management. Peter went through RM with Garrett during the Spring semester of 2019, when Garrett had been one of his employees. The RM sessions were mostly done in-person, but when the situation was not practical to meet in-person they met online via video conferencing or over the phone. Peter expected RM would benefit Garrett by helping him see the relevance of his education, and also benefit himself by having Garrett carry out some of his financial planning responsibilities after going through a couple sessions.

Reflecting on the RM process with Garrett, Peter expressed that RM helped his company complete financial transactions, find greater financial success, and allowed him to recognize that his experience and expertise can benefit others as they pursue this field. Peter had been working on financial projects with Garrett for a couple years before they began the RM process, but going through RM made Peter “recognize [Garrett’s] capacity” to conduct business transactions. Peter recounted, “[Garrett] successfully negotiated the sale of our product...he negotiated a way to get people to do the work that we didn’t want to do, and he negotiated additional funding that we needed...by the time he was 23, he had done all those things.” RM sessions with Garrett also led Peter and Garrett to start a new business: “Talking to Garrett about business things gave me the idea of starting a foundation to help raise money and put Pickleball into schools across the county.” The growth that Peter saw in Garrett through RM was very rewarding and a boost to his self-confidence. Peter said, “I realize that I can give people enough information to be

successful...I found that I wasn't useless...I was able to help somebody do something different in a perhaps more efficient way" and "I had no idea that I would wind up helping somebody that I started a Pickleball business with."

The initial business success and advice Peter gave Garrett, however, caused Peter to worry about the moral and ethical implications of RM. Peter wondered, "When I looked at the process, I was thinking, 'Am I giving him something where my particular bias or my particular feelings are somehow tainting him? Am I doing a service versus a service?'" Morally, Peter contemplated, "What are the effects of [students] going forward? Does financial and professional success allow that person to provide better for their family, or does that success allow that student to seek out something other than supporting the people they previously made a commitment to?" These concerns seemed to lessen for Peter in later sessions, when he said, "But then, as I began to learn of [Garrett's] personality and the way he looked at and thought about things...seeing how he can turn information and spin it in his own way, that's what made it remarkable for me." Since the conclusion of their RM experience, Peter has been delighted to see that "the effort that I tried to give to Garrett, Garrett's now trying to give back to somebody else. To have somebody come to that level of maturity at a young age, speaks volumes to the value of the [reverse mentoring] program."

Dean. Dean is the owner and CEO of his own electric services company. In addition to his duties as the company owner, Dean also assumes the role of CFO. Dean went through the RM process with his son, Carter, during the Spring semester of 2019. Dean and Carter met once a week with most meetings being in-person at home with a couple of meetings being done over the phone. Dean's expectation for RM was to help Carter take care of his assignment from class.

Dean felt that RM's greatest influence on him came through the opportunity it provided him to share his 30-year work experience with his son. "For me, maybe more than anything, taking that opportunity to maybe impart some, we use the term tribal knowledge...those ideas and things that you found to be successful and things that maybe haven't been so successful. Hopefully [Carter] can take those concepts and ideas and learn from them." Dean also felt that the opportunity to apply the new, innovative concepts Carter taught to his business helped him stay open to new ideas and be adaptive to necessary strategic changes: "Change is inevitable. So, to have the more younger, innovative-thinking concepts and ideas of a younger generation, I'm always open to that...that helps us evolve, stay more efficient, and be on the sharper edge of successful practices." The experience also led Dean to realize that Carter could help fill a position vacancy within the company, saying "I honestly never saw Carter as a successor...I've got other partners here. But maybe through this process, it warmed me up to that idea. Seeing the progress in school and his work ethic and drive...I think that was the start of me being open to the idea of hiring him here to work full-time." Dean expressed that there were times when RM was inconvenient, explaining that "Carter would call and say, '[The assignment] is due tomorrow. I've got to have something.' It was only a few times, but it wasn't convenient." Dean concluded that, "There were always good, thought-provoking concepts and ideas that [Carter] would share" and that "by talking about [business strategy], teaching it, sharing it, it certainly

cause pause and introspection into things we do to be successful and things we could do even better at,” but that these sessions need to be “clearly structured and scheduled with time for it to be a more pleasant experience.”

Summary of Thematic Analysis

This summary of the thematic analysis for this study is laid out according to the global, organizational, and basic themes. Due to the context of this study being centered around work-related outcomes that professionals experience after going through RM, the single global theme for this study is named *Workplace Outcomes for Professional*. This global theme has four organizational themes: *Reverse Mentoring Can Positively Influence Business Operations*, *Reverse Mentoring Can Enhance Student-Professional Relationships*, *Reverse Mentoring Can be Worth Professional’s Time*, and *Reverse Mentoring Can Give Professional Service Opportunity*. These organizational themes, and their supporting basic themes, are detailed below.

Reverse mentoring can positively influence business operations. These professionals were taught by students who were novice in their understanding of business strategy, yet their instruction prompted the majority of professionals to implement some level of change in their company. Any comment made by the professional which reflected their personal position, or their entire company, being benefited in a operational manner—meaning how they went about doing their job, or how the business is operated—through RM, was considered supportive to this organizational theme. Please refer to Table 2 to learn more about the basic themes that contributed to this business operational organizational theme.

Table 2

Themes Contributing to the Organizational Theme: Reverse Mentoring Can Positively Influence Business Operations

Theme Type	Theme Name	Definition
Organizational	Reverse Mentoring Can Positively Influence Business Operations	RM influences the manner in which the professional and company perform.
Basic	Potentially Influenced Business Practice	RM either had, or would, influence business practices positively.
Basic	Influenced Business Practice	RM did influence business practices positively.
Basic	Business Principle Refresher	RM served as a business strategy principle refresher.
Basic	Furthered Learning	RM furthered professional's knowledge about business strategy.
Basic	Business Actualization/Standing	RM helped professional better understand how their business was actually performing
Basic	Awareness of Business Strengths	RM made professional more aware of business strengths
Basic	Awareness of Business Inadequacies	RM made professional more aware of business inadequacies
Basic	Inconvenient with Time	RM was an inconvenience for the professional at times due to scheduling difficulty.
Basic	Work Motivation	RM motivated professional to perform at work
Basic	Fostered New Business Idea	RM sessions were a source of new business idea for professional
Basic	Self-Esteem/Self-Positivity	RM increased professional's self-esteem/self-positivity
Basic	Collaboration Led to Greater Productivity	RM collaboration with student led to greater professional/company productivity.
Basic	Potential Future Employee/Long-Term Employee	RM was described as a way to potentially secure an employee or encourage employees to stay long-term (when student was also an employee).

Reverse mentoring can enhance student-professional relationships. The social and repetitive nature of the RM process has the potential to influence the social dynamic of the student and professional participants. Additionally, the professional being taught may have been influenced by RM to adjust the social atmosphere within their company. Any comments made by the professional that reflected changes to the social dynamic between the professional and the student, or the professional's company, have supported this organizational theme. Please refer to Table 3 to learn more about the basic themes that contributed to this business operational organizational theme.

Table 3

Themes Contributing to the Organizational Theme: Reverse Mentoring Can Enhance Student-Professional Relationships

Theme Type	Theme Name	Definition
Organizational	Reverse Mentoring Can Enhance Student-Professional Relationships	RM influences the social dynamic between the student and professional, and/or influences the social dynamic of the company.
Basic	Self-Esteem/Self-Positivity	RM increased professional's self-esteem/self-positivity.
Basic	Work Motivation	RM motivated professional to perform at work.
Basic	Student-Professional Relationship Enhancing	RM enhanced the relationship between professional and student (regardless of previous relation to student).
Basic	Fun & Enjoyable Experience	RM was described as a fun and/or enjoyable experience for the professional.

Reverse mentoring can be worth professional's time. The RM process occurred weekly for the duration of the semester/term. Those sessions took an hour of the professional's time away from their regular activities. When the professional reflected on their RM experience and how it impacted their use of time, or how they valued that use of their time, those comments were coded into basic themes that supported this organizational theme. Please refer to Table 4 to learn more about the basic themes that contributed to this business operational organizational theme.

Table 4

Themes Contributing to the Organizational Theme: Reverse Mentoring Can be Worth Professional's Time.

Theme Type	Theme Name	Definition
Organizational	Reverse Mentoring Can be Worth Professional's Time	RM was considered by the professional as a worthwhile and valuable use of their time.
Basic	Fun & Enjoyable Experience	RM was described as a fun and/or enjoyable experience for the professional.
Basic	Work Motivation	RM motivated professional to perform at work.
Basic	Academic Career	RM influenced professional to begin/resume/not pursue academic career.
Basic	Business Actualization/Standing	RM helped professional better understand how their business was actually doing.
Basic	Self-Esteem/Self-Positivity	RM increased professional's self-esteem/self-positivity.
Basic	Better Understanding of RM	Professional wished they had a better understanding of what RM was.
Basic	Irrelevant Content	RM content was at times irrelevant to the professional.
Basic	Lots of Content	RM sessions had a lot of content to go through.
Basic	Furthered Learning	RM furthered the professional's knowledge about business strategy.

Reverse mentoring can give professional service opportunity. RM allows the professional to help the student apply the student's instruction to the professional's business. That unique insight and application provided by the professional can help the student see the relevance of their education and how it may be applied in their own professional futures. That application can also result in the professional feeling pleased from their contribution and better about themselves and expertise. Any expressions made by the professional that referenced the professional's desire to serve, help the student apply their coursework, or how their contribution influenced themselves, was considered supportive to this organizational theme. Please refer to Table 5 to learn more about the basic themes that contributed to this business operational organizational theme.

Table 5

Themes Contributing to the Organizational Theme: Reverse Mentoring Can Give Professional Service Opportunity

Theme Type	Theme Name	Definition
Organizational	Reverse Mentoring Can Give Professional Service Opportunity	RM allowed the professional to serve the student by helping the apply their coursework to their line of work.
Basic	Community/Student Service Opportunity	RM was described as a great way to serve students.
Basic	Self-Esteem/Self-Positivity	RM increased professional's self-esteem/self-positivity.
Basic	Worry for Student's Moral Future	Professional worried that student's success through RM may lead to student's immoral decisions later on.
Basic	Information Potentially Harmful to Student	Professional felt that information they shared with student may not be correct/helpful information.

For a visual reference on how the global, organizational, and basic themes described above are connected at the global-organizational level, please refer to Figure 7. The basic themes have been described in the above tables and are therefore not individually visualized in Figure 7. Instead, the number of basic themes that contributed to the parent organizational theme is listed. The tables that detail each basic theme group are listed next to the basic theme bubble.

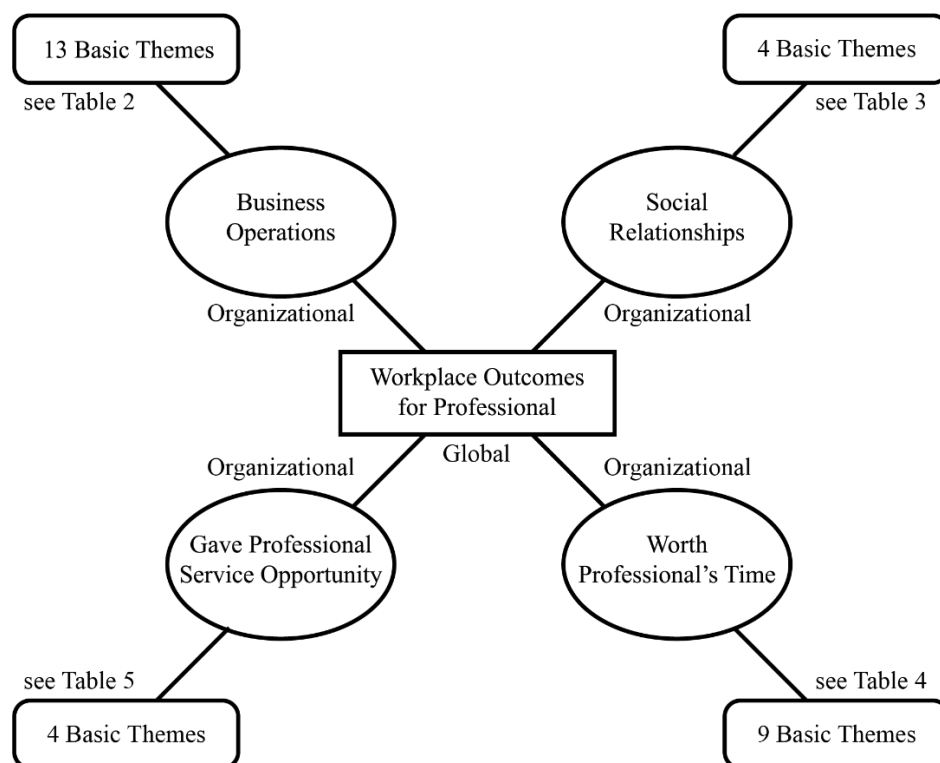


Figure 7. Concept diagram depicting global, organizational, and basic themes.

CHAPTER 5

Discussion

The purpose of this research was to explore the outcomes professionals have after experiencing the reverse mentoring (RM) process with post-secondary education students. Interviews with these professionals were conducted, transcribed, and analyzed through a thematic network analysis (Attride-Stirling, 2001) in an attempt to group similar themes into larger categories. While this is not an attempt to definitively categorize any and all possible professional outcomes from RM, this discussion has grouped the identified themes into 4 organizational themes: *RM Can Positively Influence Business Operations*, *RM Can Enhance Student-Professional Relationships*, *RM Can be Worth Professional's Time*, and *RM Can Give Professional Service Opportunity*.

These organizational themes were identified from observing how strongly professionals described the outcomes, or individual basic themes, they experienced through RM. This approach was done to allow for all basic themes, regardless of coding frequency or professional contribution breadth, to be considered as potential outcomes professionals may experience by participating in student-professional RM.

Reverse Mentoring Can Positively Influence Business Operations

RM has the potential to help professionals create and implement positive change within their company and own career. It is likely that RM leads to such outcomes for professionals because of the introspective position that RM places the professional in. This occurs because the professional's passive role of listening to the student allows them to reflect on and value the instruction in connection to their own business.

The reflection, and opportunity to explain to the student how the student's instruction did or did not apply to their business, was identified by many of the professionals as integral to helping them pause, identify how their business was currently performing, and—if necessary—critically consider changes in order to make improvements. James forgot the basic business principles that he had studied a few years earlier and used Cameron's instruction to step back and identify his fitness company's strengths and weaknesses. Sarah discovered that the principles Lauren suggested confirmed that her day and med spa business is indeed doing the right things to be successful. Peter, even after working with Garrett for several years, recognized that Garrett had the capacity to successfully carry out important sale transactions. Dean began to consider the idea that his son, Carter, could seamlessly satisfy a job vacancy within his electrical business, Neal further cemented his belief that he needed to sell his under-performing game retail store, and Tim saw a 30% increase in his business after seriously considering Kate's challenges to consider new ways of directing his industrial packaging company.

Adam and Ben, however, did not connect RM to any significant change within their fields of real estate and plumbing. Instead they found RM to be a great opportunity to serve and play a crucial role in helping the student apply their education to the real-world. Their lack individual or company success outcomes indicate that RM will not always lead to operational progress for every professional who participates in RM, but it is certainly worth recognizing that RM does have the potential to allow the professional to reconsider and evaluate the status of their business, and then act on suggested strategies in order to achieve greater success.

It is worth noting that every professional who connected RM to positive outcomes in their business operations had known the student previously. Whether they were a parent, like Tim and Ben, or employers, like James, Sarah, Neal, and Peter, these professionals already knew the

students who did the teaching before they agreed to participating in RM. Adam, who had no relation to his student prior to RM, did not correlate RM to any success within his real estate business. It is possible that the professionals who connected RM to business successes were more accepting of the student's instruction and therefore were more willing to apply and implement suggestions to their business. This study does also add, however, that a previous relation does not always correlate to positive business outcomes as Ben, who was taught by his son, Morgan, did not tie his experience with RM into successes had within his plumbing business.

Whether the professional experienced successful business transactions, tweaked the company's marketing stance, sold a low-performing business, or was reassured that their business was performing admirably, these RM-related outcomes have one common denominator: RM gives the professional the opportunity to take a step back and analyze the state of their business. However, the act of reflecting is certainly not bound to the parameters of RM and may easily occur in other contexts. This, then, begs to question how vital student-professional RM is if professionals could complete the same business analyses on their way to work, at home after dinner, or in a hot-tub after a long day. Does it make a difference when the professionals talk to students about their business instead of an employee? Or can professionals experience similar business operational gains when they take time to ponder and think about their business at similar lengths prompted by student-professional RM?

It is possible that, due to the inexperience of the student, the professional is more receptive to instruction and thereby more open to change aspects of their company and management style. Like James said, Cameron "was not this big authority guy or business consultant coming in and telling you, 'Hey, you need to do x because of y.'" Professionals can

become aware of how to improve their management skills and business through other activities, but maybe RM results in such outcomes due to the professional feeling like they are still in charge and not being judged by an employee or fellow business owner? Tim appreciated that Kate “never pushed me to do anything that I didn’t want to. It was always just an open discussion.” Such questions regarding how comfortable the professionals are in receiving instruction from a novice instead of a trained professional are for future research studies, but the comments from the majority of these professionals indicate that student-professional RM can indeed have a positive impact on the professional and how the business is run.

Reverse Mentoring Can Enhance Student-Professional Relationships

The RM process has a strong possibility to influence the social relationship between the novice and expert participants. With the student teaching the professional through multiple sessions over the course of a semester, it can be expected that the individuals will become more familiar with each other’s personality, likes and dislikes, as they share ideas and opinions back and forth pertaining to the student’s content. The professional does initially have a passive role as the mentee, but they are allowed to contribute as much as they’d like as they apply the student’s instruction to their business. Any comments that pertained to the social aspects of the RM process were categorized into this organizational theme.

Every professional in the study referenced the social dynamic of their sessions having a role in the outcomes they perceived from RM. Adam and Ben appreciated being in a position to help the student apply their learning to their business. Dean and Tim enjoyed their advice to their children on how to run a successful business. Though Garrett was not Peter’s child, Peter enjoyed sharing his insights to success as well and developed enough trust in Garrett to allow him to conduct official business transactions. James appreciated how Cameron approached the

sessions seeking to learn instead of command, and Neal enjoyed interfacing with Araya.

However, only one professional, Sarah, expressed that her “biggest outcome is just getting to know that person other than that employee.” It is possible that Sarah stresses to her employees how important it is for them to establish a rapport with the client since the services they provide are very personal and vulnerable. With her business’ success depending on her customers’ feeling cared for and understood by her employees, maybe Sarah viewed the outcomes from RM primarily through a social outcome lens?

It is difficult to claim, however, that the social environment the professional works in has direct correlation to the strength of identified social outcomes. Peter, who had been working with Garrett for years as financial planners, mentioned that RM helped him better see Garrett’s capacity to perform important work activities. Peter and Garrett saw major business transactions close through the RM process, which may result in a strong level of trust and admiration amongst coworkers who accomplished a goal together, but Peter still did not express the same depth of social outcomes that Sarah did.

The formal relationship that existed between Sarah and Lauren before RM may indicate that why Sarah’s outcomes were centered around how their relationship grew. Perhaps no relationships within this study were stronger than the student-parent scenarios for Tim, Ben, and Dean, but maybe these professionals’ social outcomes were not as prevalent as Sarah’s because they already had strong relationships to begin with? While a previously formal relationship before RM may indicate the potential for strong social outcomes, we can look to Adam’s experience with Jordan and learn that potential does not guarantee the outcome. Adam had no relation to Jordan before RM, meaning that Jordan was neither a family relation or an employee of Adam’s. With there being no relation previously, the room for their relationship to grow

through RM would appear to be vast, but maybe there needs to be at least some relation, even if it is a formal employee-employer relation, for social outcomes to occur in RM. Regardless of work environment or relation to student, there is an understandable chance that the professional recognizes some level of social impact through the process' multiple visits, but the surprising anomaly found in this study with Sarah's experience does warrant more research to be done centered around the social outcomes of RM.

Reverse Mentoring Can be Worth Professional's Time

This organizational theme addresses the worth that RM holds for professionals in spite of the time it demands of them to be away from their jobs. When the student and professional meet for RM, the student teaches the professional what they are learning that week in class and then ask the professional questions as to how their instruction applies, or does not apply, to the professional and their business. These sessions often ran the length of an hour, which can be a long time for some professionals to be away from their day-to-day tasks. Whenever the professionals' comments reflected their perceived value of RM in respect to time it took in their schedules, those comments were coded into this theme.

With RM providing the professional an opportunity to analyze their business, make necessary changes, and help the student see relevance to their education, RM can still be considered productive time away from the professional's daily tasks. For Ben, Peter, Dean, and Sarah, they expressed that having "different", "innovative", and "thought-provoking" ideas from someone else was helpful as it allowed them to be more open and aware of things that they otherwise may not have thought of on their own. In Peter's case, his discussions with Garrett led them to begin a foundation to put Pickleball supplies in schools nationwide. Dean found that his sessions with Carter were also a fun way for Dean to have conversations with his son that were

atypical from the ones they normally have around the house. Tim also enjoyed the new style of conversation had between him and Kate, but Sarah's similar comment reflects that RM allowing the participants to have different conversations is not restricted to student-parent relationships. Ben and Dean found RM being useful of their time because it was an opportunity to share their wisdom for business success and pay back the help that they received in their younger years. For each professional who recounted that RM did come with a time cost, they would follow up those comments by expressing that the time was well spent and that they would be willing to participate in RM in the future.

The variety of comments within this organizational theme reflect that the *worth* of the professional's time is relative. We can infer, however, that the student's clarity and preparedness for the RM sessions has a strong impact on the professional's perceived value of RM's use of time. Sarah, for example, admired how thoughtful and prepared Lauren was for each lesson so that "no time was wasted." Neal, similarly, appreciated how he and Preston went through the coursework "in a systematic way that helped my thought process too." Contrarily, when the professional is unaware of their role in the RM process, or when the sessions are not explicitly scheduled, that can frustrate the professional and intrude on their schedules. Adam, who was happy to help Jordan recognize how his coursework applied to his real estate business, still expressed that he would have "preferred to have understood the assignment better" and his role as the mentee. Dean reflected that Carter would procrastinate and inconveniently call him requesting his attention in order to submit his assignment. The good and bad examples of the students' preparedness going into RM indicate that when the student takes necessary measures to plan lessons and coordinate schedules, it positively influences how professionals view RM's use of their time.

Reverse Mentoring Can Give Professional Service Opportunity

The professionals that cooperate with the students through the RM process do so willingly and are not compensated for their participation. Whenever the professionals expressed that they were happy to offer their expertise in order to help the student recognize the relevance of their education, complete their assignment, or help the student use their experiences in order for the student to make better career decisions, those comments were grouped within this organizational theme.

For professionals who offer their time and expertise the student through RM, they can experience a joy from helping students, learn, apply, and be more prepared for their own professional futures. Doing so can also lead to the professional experiencing an increase in work-confidence and self-esteem. Peter, for example, helping Garrett “reignited my mind and my soul. The fact that I’m an old person, doesn’t mean that I have to sit around and do old person things. I could actually bring value to other people’s lives...I found that I wasn’t useless.” Ben, who had been taught effective business practices by his father at a younger age, cherished the opportunity RM offered to do the same for his son, Morgan. Adam, who felt that participating in RM was his way of paying back his hypothetical debts from seeking similar help in college, expressed that he could not exactly say what Jordan benefitted from through their sessions, but that if he had any benefit at all then it was a positive outcome for himself. It is intriguing that, Adam, whose sole reason for participated in RM was to help a student in the same way he was helped earlier, was also the professional who felt the least about RM having a positive influence on his business practices, whereas Peter, who expected that he and Garrett would both benefit from participating in RM, expressed the broadest variety of outcomes from all the professionals. Their experiences may reflect that professionals will get what they’re seeking from RM, but there is also a

difference between Adam and Peter from how recent their RM experiences were, with Adam's happening during the Summer of 2018, and Peter's happening during the Spring of 2019.

Regardless, even though Adam's lone expectation was to serve, he felt that his expectation was met in being taught by Jordan.

Future Research Implications

A later study with more specific questions geared towards hard- and soft-skill development may help narrow our understanding of how similar or different same-organization RM is compared to student-professional RM for professional development. Similarly, specific questions centered on social and emotional outcomes may help expand our understanding for those outcome areas as well.

With this study's student participants having previously determined their education to be within business, a future study where the student participants have not yet decided their career path would be of interest in comparing professional outcomes. Additionally, how similar, or different, would such outcomes be if the student's content was not based on business strategy? If the professional was allowed to choose the content for the student to teach so that it could be geared around specific needs and questions that the professional currently has, would that result in more outcomes for the professional? Research that endeavors to answer these and similar questions may uncover new outcomes for the professional not identified in this study. The implications of those studies may indicate that there is a specific type of student, and specific subject matter taught by the student, that are needed in order to maximize professional outcomes.

CHAPTER 6

Conclusion

Inspiration for this study came from an awareness of current professional development methods meant to help professionals develop and improve their hard- and soft-skills. RM, which places the novice participant as the mentor/teacher and the expert participant as the student, is a professional development method that has resulted in both hard- and soft-skill gains (Bliss & DuFrene, 2006; Stephens, 2012) as well as social and emotional gains (Chaudhuri & Ghosh, 2012) within workplace organizations. This study sought to explore what outcomes the professional experienced, when the novice participant was a post-secondary education student. After conducting a thematic analysis of eight interviews with professionals, the most significant results indicate that RM has the potential to (1) positively influence business operations, (2) enhance the student-professional relationship, (3) be a worthwhile use of the professional's time, and (4) give the professional a service opportunity and thereby increase their own self-esteem. From hard-skills such as business management and successful business negotiations, to soft-skills such as positive self-esteem and social relationships, student-professional RM provides professionals a discussion platform that may result in similar outcomes as professional-professional RM.

These findings indicate that the outcomes professionals experience through same-organization RM scenarios may also be present in student-professional RM scenarios. This similarity of outcomes from both processes may lead professionals to choose the more logical in-house option for RM, namely professional-professional RM. However, should professionals want to (1) discuss their business with someone outside the company, (2) analyze their company through the lens of a novice, or (3) seek a rewarding opportunity to serve someone from the

community in addition to the hard- and soft-skill, social, and emotional outcomes, then student-professional RM may serve as a viable, cost-effective option. This study, according to the literature review, may be among the first to analyze professional outcomes from student-professional mentoring. As such, repetitive studies with a similar methodology structure are necessary to explore the reliability of these findings further.

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APPENDIX A

DSU Consent Form

Outcomes for Professionals and Companies through Student-Professional Reverse Mentoring Sessions Consent to be a Research Subject

Introduction

This research study is being conducted by Dr. Shandon D. Gubler, Shandon M. Gubler, and Nicholas B. Gubler at Dixie State University and Brigham Young University determine outcomes for professionals from participating in student-professional reverse mentoring. You were invited to participate because you participated in the reverse mentoring process when a student enrolled in Dr. Gubler's Business Strategy 4800 class taught you what they were learning in class. In turn, you had the opportunity to answer the student's questions and help them apply their instruction to your own profession.

Procedures

If you agree to participate in this research study, the following will occur:

- you will be interviewed for approximately thirty (30) minutes about outcomes for professionals through student-professional reverse mentoring.
- the interview will be audio recorded to ensure accuracy in reporting your statements
- the interview will take place over the phone at a time convenient for you or it will take place at a time and location convenient for you
- total time commitment will be thirty (30) minutes

Risks/Discomforts

There are no risks for you by participating in this study. The researcher will ask you about your experience with the student, which may be difficult to remember since the experience occurred months ago.

Benefits

There will be no direct benefits to you. It is hoped, however, that through your participation researchers may learn more about how post-secondary education and the workplace can work closer together in a way that will benefit the unique needs of both parties.

Confidentiality

The research data will be kept in a secure laptop that is protected by username and password, and only the researcher will have access to the data. At the conclusion of the study, all identifying information, such as names, will be replaced with pseudonyms, and the data will be kept in the researcher's locked online folder.

Compensation

Participants will receive no compensation for their time and contribution.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your class status, grade, or standing with the university.

Questions about the Research

If you have questions regarding this study, you may contact Nicholas B. Gubler at 801-822-9333 for further information.

Questions about Your Rights as Research Participants

If you have questions about your rights as a research subject or want to speak with someone independent of the research team, you may contact the Dixie State University IRB directly at 617-358-6115.

Statement of Consent

I have read, understood, and received a copy of the above consent and desire of my own free will to participate in this study.

Signature: _____ Date: _____

APPENDIX B

BYU IRB Approval

18-289



Institutional Review Board (IRB)

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 DHRP upon request.

Signature of Signatory Official (Institution/Organization A):

[Signature] Date: 5/21/18

Print Full Name: Michael Lacourse Institutional Title: Provost

Brigham Young University Signature of Signatory Official:

[Signature] Date: 5/25/18

ALAN HARKER

ASSOCIATE ACADEMIC VICE PRESIDENT
RESEARCH & GRADUATE STUDIES

APPENDIX C

Interview Protocol

Reverse Mentoring Professional Interview

INTRO: This interview is meant to gather your overall perceptions and outcomes from participating the reverse mentoring experience. This is your own opinion, so there are no right/wrong answers. This interview will be kept strictly confidential and information will only be used for research purposes. Please respond as freely as you would like.

Background Interview Questions for the Professional:

1. Within what timeframe did you participate in reverse mentoring with the student? (i.e. Spring of 2017, Fall of 2018, Spring of 2019, etc.)
2. During the reverse mentoring sessions, what was the profession you represented?
 - a. What was your occupational title within this profession (i.e. CEO, Sales Manager, Secretary, etc.)?
3. What was your relation to the student who mentored you?
4. How often did you meet with your student?
 - a. When you met, was it online, over the phone, or face-to-face?

Main Semi-structured Interview Questions for the Professional:

1. How do you define reverse mentoring? What does it mean to you?
2. Will you please describe your experience with reverse mentoring? In other words, what happened when you met with your student?
3. What expectations did you have for participating in reverse mentoring?
4. What outcomes for you as the professional, either good or bad in your opinion, have you experienced from participating in reverse mentoring?
5. What were your overall thoughts about the reverse mentoring experience?