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# Outcomes of Mentoring Relationships between University Service-Learning Students and Language Minority Students

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Outcomes of Mentoring Relationships Between University Service-  
Learning Students and Language Minority Students

Casey C. Peterson

A dissertation submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Doctor of Education

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## ABSTRACT

### Outcomes of Mentoring Relationships Between University Service-Learning Students and Language Minority Students

Casey C. Peterson

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Doctor of Education

This research explores mentor outcomes of university students serving in service-learning mentoring relationships between university service-learning student volunteers and language minority student mentees. These outcomes are helpful in improving academic and personal progress for both the student mentors and the mentees. The mentoring relationships may be particularly important given the challenges facing an increasing number of language minority students in communities and schools today. Research indicates that student mentees perform better academically when mentors assist in their learning and growth. As part of the greater network of educational and community leaders, university administrators have the opportunity to create mentoring opportunities that effectively contribute to positive outcomes for both student mentors and mentees. The foundation of mentoring relationships is the nature and type of interactions that constitutes each mentoring relationship. The nature of these interactions may contribute to positive effects on the student academic achievement of student mentors and mentees. Universities provide both knowledge and human resources through service-learning experiences for student mentors that can create and sustain valuable mentoring opportunities.

This research seeks to help university administrators and community leaders better understand the nature of mentoring relationships and identify the factors that are related to effective service-learning mentoring experiences with language minority students. This qualitative research used both survey and interview data to better understand the mentoring relationships and outcomes of university service-learning students. Factors such as cross cultural understanding, length of time spent in the mentoring relationship, and shared language were found from this research to have the most significant impact on service-learning mentoring relationships.

Keywords: mentoring, service-learning, higher education, language-minority students, community engagement

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## DESCRIPTION OF STRUCTURE AND CONTENT

This manuscript is presented in the format of the hybrid dissertation. The hybrid format focuses on producing a journal-ready manuscript, which is considered by the dissertation committee to be ready for submission. Therefore, this dissertation has fewer chapters than the traditional format, and the manuscript focuses on the presentation of the scholarly article. This hybrid dissertation includes appended materials such as an extended review of literature and a methods section with elaborated detail on the research approach used in this dissertation project. Appendix A is a word map of mentoring concepts, Appendix B is a literature review, Appendix C is a detailed methods section, and Appendix D contains the dissertation references. The references section contains works cited throughout the main portion of this dissertation, whereas the dissertation references section contains works cited throughout this entire dissertation, including Appendices B and C.

The targeted journal for this dissertation is the *International Journal of Research on Service-Learning and Community Engagement* (IJRSLCE). The IJRSLCE is the annual, peer-reviewed, online journal of the International Association for Research on Service-Learning and Community Engagement (IARSLCE). The information in this article has been presented by Casey Peterson at a conference for IARSLCE, in which the IARSLCE community has been found to be a group wanting to learn more about the outcomes of mentoring relationships between university service-learning students and language minority students. The manuscript length for submission is no more than 8,000 words. The manuscript in this hybrid dissertation is being submitted to the Community Partnerships/Impacts section within the IJRSLCE.

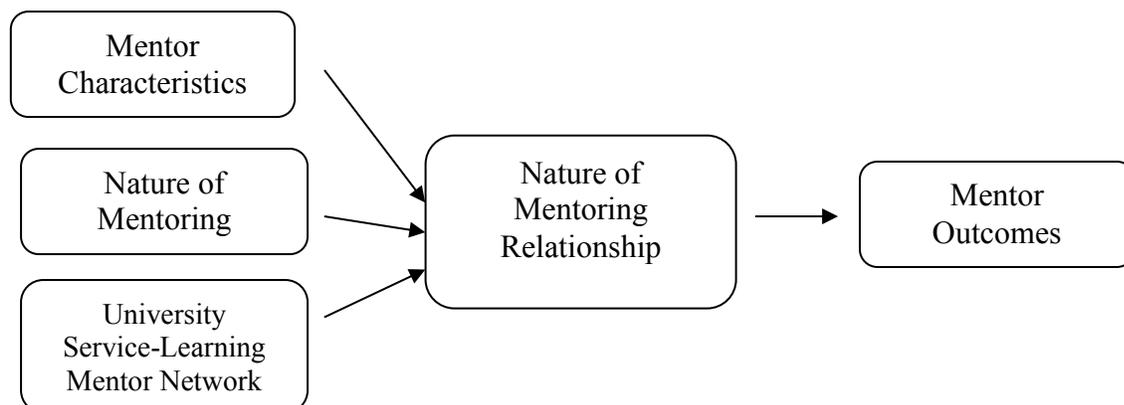
## **Background**

Mentoring is a powerful tool in society today, particularly within education and service-learning. Understanding the nature of interactions between mentors and mentees that constitute a mentoring relationship illuminates the creation and components of successful mentoring relationships. An analysis of the experiences and outcomes of university students who are engaged in service-learning mentoring relationships at Brigham Young University provides a valuable context in which to study relational interactions within mentoring relationships, particularly relating to outcomes for mentors.

This study examines the mentoring of language minority students by university service-learning student volunteers with a specific focus on the nature of the relationships between these mentors and mentees and how these relationships may be related to outcomes for the mentors. This study is intended to inform two specific audience groups: first, university administrators who work with service-learning programs and civic engagement programs, and, second, academic researchers and practitioners focusing on effective learning practices in education. This study may also be useful to those in education, learning, coaching, or other fields that involve mentoring.

## **Review of Literature**

This research focuses specifically on mentoring relationships between university student volunteers in a service-learning context and their mentor language minority student mentees. The conceptual model illustrates that the mentor characteristics, the nature of the mentoring and mentor network each contribute to the nature of mentoring relationships (see Figure 1). This study examines these contributions as well as how the nature of the mentoring relationship may be related to outcomes for the mentor.



*Figure 1.* Conceptual model of the relationships between the mentor context, nature of the mentoring relationship and mentor outcomes.

### **Service-Learning in Higher Education**

The context for this mentoring research is the service-learning relationship in higher education with mentors. Better understanding of these service-learning relationships occurs through awareness of the nature and outcomes of the relationship between the university student volunteer (mentor) and the mentee. By better understanding the outcomes of mentoring relationships in service-learning experiences, university administrators may be better positioned to develop relevant, meaningful, and measurable learning outcomes for university students engaged in service learning. Understanding these outcomes may also help align service-learning program support with the mission and vision of lifelong learning and service of the higher education institution. A closer examination of mentoring relationships between mentors and mentees may inform and improve service-learning experiences in terms of understanding students' motivations to serve, understanding what factors contribute to mentoring relationships, understanding how positive mentoring relationships are built, and understanding other critical factors for successful mentoring within service-learning experiences. Thus, this understanding

may lead to the following: (a) development of targeted service-learning outcomes for accreditation; (b) improved program assessments; (c) more cost benefit alignment of resources; and (d) more dedicated student volunteers and (e) improved relationships within service-learning mentoring.

Service learning is of such importance that in 1990 Congress created the Community Service Act. This act is defined as “a method under which students or participants learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community” (Civic Impulse, 2016). This act has led to further research on the effects of mentoring through service. Three specific findings from college impact research on service learning are unequivocal (Pascarella & Terenzini, 2005). First, the impact of college involvement on desired outcomes for students is cumulative, the result of many experiences inside and outside of class over a substantial period of time. Second, cognitive and affective developments for college students are inextricably intertwined, influencing one another in ways that are not immediately obvious or knowable. Finally, certain out-of-class activities have the potential to enrich student learning, especially with regard to practical competence (Schuh & Gansemer-Topf, 2010).

Service-learning sites provide opportunities for higher education to achieve its learning outcomes for students. Objectives of service-learning include helping foster civic responsibility, integrating into and enhancing the academic curriculum of the students, strengthening the educational components of the community service program in which the participants are enrolled, and providing structured time for the students or participants to reflect on the service experience (Levine, 2011). While service learning is generally categorized into areas of

elderly/disabled, poverty, environmental, and mentoring, this research focuses primarily on the area of mentoring, specifically in terms of the relationships between mentors and mentees.

Higher education supports service-learning as a pedagogy that provides opportunities for higher education students to directly interact with individuals in a community and affect change through contributions of time and talents. Many higher education institutions in the United States offer similar pedagogies of service-learning experiences. These experiences are offered through institutional support and community partnerships. These partnerships require identification of genuine needs by university volunteers in collaboration with community organizations, mentoring for community agencies and individuals, and asset contribution in both human and resource capital from institutions of higher learning.

This study focuses on a service-learning context that entails the coordination between a community center or school, and an institution of higher education to form a community service program. A key component of service-learning mentoring in this type of site is the nature of interactions between these individuals within mentoring relationships. The framework of programs, relationships, and activities within service organizations form patterns of interdependence within these relationships constructed of dyadic ties (Larsson & Bowen, 1989).

Service learning in higher education is enhanced when the learning of the student mentors aligns with the institutional student learning outcomes, including alignment of relationships, approaches, applications, and learning. Assessment of student learning outcomes is a key component in identifying the success of service-learning experiences for university students. University professionals should design and implement campus-wide efforts to assess student learning and personal development and use the results to improve the quality of the student experience (Schuh & Gansemer-Topf, 2010). Assessments of learning outcomes also

demonstrate the value of allocated resources by the university, accreditation purposes for the university, and accountability to the university.

Service-learning assessment activities, unfortunately, are often not well integrated with other campus assessment activities—in part, because academic departments still conduct much of the work on student learning outcomes as they apply to in-class learning. While a significant amount of student learning occurs in the classroom, a great deal of student learning also happens outside of the classroom (Pascarella & Terenzini, 2005). Service learning helps student affairs professionals create and coordinate these out-of-class experiences (Cuyjet & Weitz, 2009).

### **Service-Learning at Brigham Young University**

Brigham Young University (BYU) provides institutional support for service learning based on one of the key AIM's of a BYU education- lifelong learning and service, which states:

BYU should nurture in its students the desire to use their knowledge and skills not only to enrich their own lives but also to bless their families, their communities, the Church, and the larger society. Students should learn, and then demonstrate, that their ultimate allegiance is to higher values, principles, and human commitments rather than to mere self-interest. (AIMS of a BYU Education)

According to the AIMS of BYU education, well-developed faith, intellect, and character prepare students for a lifetime of learning and service. Service learning can "also bring strength to others in the tasks of home and family life, social relationships, civic duty, and service to mankind" (BYU Board of Trustees, 1981).

The Church of Jesus Christ of Latter-day Saints sponsors Brigham Young University. BYU students come from all 50 states, the District of Columbia, and 120 countries. Many factors contribute to the diversity and depth of language expertise at BYU. More than two-thirds of

BYU students speak a language other than their native tongue. Additionally, approximately 50% of the students at BYU have served church missions, with many gaining fluency in a second language. BYU offers many language courses. More than 50 languages are taught regularly, with an additional 30 languages available with sufficient student interest, among the most offered anywhere in the country. Language course enrollment at BYU reflects 32% of the student body, compared to the national average of 9% (Brigham Young University Y-Facts). The prior experience of most of the students allows for a higher standard of instruction, using the language to teach, tutor, and mentor other subjects—literature, history, and culture—as well as to enhance their opportunities outside the lab and classroom in the community. The variety of language skills among the student body allows the university to provide a rich forum for language instruction, while the spiritual focus encourages high levels of service. The service and language components of BYU make this study very important.

At Brigham Young University, over 22,000 BYU student volunteers participate each year in service-learning experiences through the Center for Service and Learning, serving at over 100 community service provider sites. The majority of these BYU students are involved in service-learning mentoring activities at local partnership sites. Most (72%) of these mentoring opportunities serve programs that contain varying levels of K-12 language minority students facing academic, language, cultural, behavioral, and other intervention situations. These K-12 language minority students—a population with high needs and challenges—provide a high-leverage context for investigating how service opportunities can enhance student mentor outcomes.

BYU's continued higher education accreditation, accountability, and learning outcomes necessitate clear program-level learning outcomes. The accreditation process requires learning

outcomes that establish an instructional experiential learning standard of assessment. While institutions engage in assessment for various reasons, one principal reason is to meet the expectations for accreditation status. Accreditation in the United States serves as both a quality assurance and accountability mechanism, and it has been the focus of much discussion since the Spellings Report and the Reauthorization of Higher Education Act (Northwest Commission on Colleges and Universities, 2003).

### **Mentoring**

In the past two decades, mentoring programs have experienced tremendous growth. Millions of volunteer mentors are involved in youths' lives, and the numbers are continuing to rise. The importance of mentor attributes continues to be corroborated by a growing body of research, providing support for the positive contributions non-parental adults can make in the lives of youth (Rhodes & Lowe, 2008).

At the same time, research on the effectiveness of mentoring programs has revealed considerable room for improvement in both the strength and consistency of program impacts (DuBois, Holloway, Valentine, & Cooper, 2002a; Eby, Allen, Evans, Ng, & DuBois, 2008). In a meta-analysis of 55 evaluations of youth mentoring programs, DuBois, Neville, Parra, and Pugh-Lilly (2002b) found evidence of benefits for participating youths on measures of emotional, behavioral, and educational functioning. Effect-size estimates of these positive outcomes of mentoring programs also increased systematically in conjunction with positive factors of individual-, mentor match-, and program-related factors (DuBois et al., 2002a). Several investigations have also highlighted a range of factors associated with better mentoring outcomes, including time and length mentors associate with mentees (Grossman & Rhodes, 2002), consistency, and closeness (Spencer, 2006; Thomson & Zand, 2010).

As described by Eby et al. (2008, p. 256), mentoring is “a means to increase desirable behavior (e.g., academic performance, job performance) and decrease undesirable behavior (e.g., school drop-out, substance use).” “Mentoring pairs caring, adult volunteers with youth from at-risk backgrounds. An estimated three million youth are in formal mentoring relationships in the United States” (Rhodes & DuBois, 2008, p. 254) many of who are language minority students. The hope of mentoring is to deter negative outcomes while simultaneously encouraging alternative positive behaviors. With growing numbers of language minority students in communities and schools, particularly with Latinos, “academic success has been elusive given poor attendance records, low test scores, high drop-out rates, and small numbers going to college” (Lucas, Henze, & Donato, 1990, p. 315).

### **Service-Learning Pedagogy**

The nature of mentoring relationships may offer a key component in explaining university student mentor learning outcomes in a service-learning context. These relationships were central to the idea of education in a democracy (Dewey, 1916). UCLA’s Higher Education Research Institute (2009) defines community service-learning as “a form of experiential learning where students and faculty collaborate with communities to address problems and issues, simultaneously gaining knowledge and skills and advancing personal development” (Bounous, 1997, p. 5). Jacoby (1996, p. 5) defined service-learning as: “A form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development.” Kram (1985) provides foundational research citing mentoring theory in the larger context of an organization focusing on effect of relationships and cultural components on the nature of mentoring relationships. Kram observed that development of mentoring relationships in a

positive environment benefitted both mentors and mentees, just as a culture of competition in a negative environment correspondingly created harm. Her analysis of mentoring relationships led to increased interest and research in mentoring which spread from business into education (Allen & Eby, 2003; Hall, 2003; Underhill, 2006).

The goals of this research are to inform the understanding of mentoring relationships and generate new insights about service-learning mentoring experiences for university service-learning mentors. The value of service-learning contexts for the study of mentoring relates to the premise that the context helps to explain the “mechanisms and processes that interact with network structures to yield certain outcomes for individuals and groups” (Borgatti & Halgin, 2011, p. 1168). In this analysis, outcomes refer to the mentoring outcomes for the mentor in relation to the nature of mentoring relationships. These relationships enable social interactions that may create learning that can affect future interactions with others; thus, the outcomes of service-learning mentoring may carry over into other contexts. For example, a student who has had a positive mentoring interaction through a service-learning experience may later be able to apply principles and approaches in an occupation as a doctor, a teacher, or a counselor. This pedagogy of service-learning then not only enhances current academic application but also facilitates continued involvement in learning and helping through factors such as reciprocal altruism, a process that is “collaborated through dynamically coordinated, efficient and reciprocal service transactions to improve the quality of life for all” (Bellotti, Carroll, & Kyungsik, 2013, p. 1).

### **Relevant Theories**

Literature and theories link mentoring relationships in university service learning mentors to the research problem of identifying mentoring purposes, outcomes, objectives, perceptions,

and accountability. Organizational implications, institutional support for programs, and individual learning experiences that add value to students illustrate that the two primary goals of program assessment are accountability and continuous improvement (Ewell, 2009).

The study of mentor relationships is informed by mentoring theory, which is tied to social learning theory (Bandura, 1997). Bandura argued that individuals learn by observing others in a social environment. Mentees are more likely to replicate desired behaviors supporting norms, practices, goals, and culture of the organization by observing them in mentors. Conversely, inappropriate behaviors are more likely to be learned and perpetuated if not corrected and addressed by positive influences that mentors provide. Mentoring and social learning theories illustrate the important role created by mentors in establishing a supportive environment within an organization (Bandura, 1997; Kram, 1985). This supportive and formative environment can be especially key in helping language minority students who are adapting to new norms, expectations, and environments in a cross-cultural experience. A mentor bridges many of the gaps which affect student achievement and success, bridges gaps in segregation, and builds positive social interactions (Echenique & Fryer, 2005).

Mentoring theories can support the assessment of the nature of mentoring relationships and the outcomes for mentors in a university service-learning context. Service-learning assessment focuses on relationships within a social environment, what happens in those supportive environments and relationships, how relationships influence mentors learning, and how mentor learning influences mentee learning (Seider, Rabinowicz, & Gillmor, 2011).

Mentoring relationships create an experiential process between individuals and systems that are important to understand (Scott, 2003). In discussing organizational theory, Owens & Valesky (2007) address the gaps between interpersonal and conceptual elements (which may be

academic based) and experiences (which may be service-learning based), a concept supported by the service-learning pedagogy of experiential learning. According to Bechky, “Because our theoretical images of organizations are not well grounded, they often do not successfully capture the realities of organizational life” (2011, p. 1157). Theories of organizational processes take place at different levels of organizational life to interconnect different sets of activities (Goodman, 2000). Uncovering the social mechanisms that link individuals and social systems creates a coupling between the cause and an effect, explaining how effects may be produced (Hedström & Richard, 2001). This study focuses on the potential coupling between the nature of mentoring relationships and the resulting mentor outcomes within an organization providing service learning. This coupling, formed by experiential processes, can be analyzed to identify effects for the university’s student mentors through examination of the nature of interactions in mentoring relationships.

### **Research Problem**

Three main problems exist related to service-learning for higher education institutions in general and for BYU specifically. First, key learning outcomes from service-learning for accreditation purposes have not been identified. And yet, accreditation is key to the University for quality assurance and accountability purposes. Second, a lack of measured and identified learning outcomes creates difficulty in assessing target objectives. A lack of measured and identified learning outcomes fosters unclear perceptions of service-learning program goals within higher education. This same lack of understanding leads to lack of institutional objectives that can enhance and improve service-learning efforts for community members being served. Third, without measurable learning outcomes, justification of the University’s program support of

service-learning is more difficult. Finite resources require accountability in development, learning and growth of students, particularly in student affairs.

### **Research Purposes and Questions**

This research explores how the nature of mentoring relationships in service-learning contexts may be related to mentoring outcomes, addressing the following research questions:

1. How do student mentors describe the nature of their mentoring relationships in a cross-cultural context?
2. What are the mentors' self-reported outcomes?

### **Methods**

This study uses qualitative research methods informed by interviews and surveys to describe the nature of mentoring interactions. Mentees attended the community center from which the sample was taken to participate and receive help in academic, social, athletic, artistic, and other areas of personal interest and need in their lives.

### **Participants**

The study population is student service-learning volunteers in a specific service program, with a sample of 29 unique university student service-learning volunteer respondents to a survey sent to a larger group of mentors who mentored language minority student mentees at a local community center. This community center is located in an economically disadvantaged area locally and primarily serves language minority families.

### **Data Collection**

Data were collected using a Qualtrics online survey administered to the sample of service-learning mentors. The survey collected information regarding demographics, language, ethnicity and cultural experiences, as well as the frequency, length and nature of the mentoring relationship. The Qualtrics survey also incorporated TRENDS instrument items (Hite, Wakkee,

Hite, Sudweeks, & Walker, 2011) to assess the nature of interactions in mentoring relationships. All 29 mentors responded to the survey, with seven mentors having mentored in multiple years resulting in responses about 37 different mentoring relationships. As a follow-up, 10 mentors from the most recent year's participant pool were interviewed to better understand their mentoring experience and outcomes.

Data collection for this study included two phases, outlined in Table 1. In Phase 1, data collection utilized survey data that identified the nature of the mentoring relationships between mentors and mentees. In Phase 2, interviews with mentors focused on the outcomes of their mentoring interactions to provide greater detail on interactions.

Table 1

*Two Phases of Data Collection Plan*

	Indicators	Measures	Phase 1: Mentor Surveys	Phase 2: Interviews
Nature of Mentoring Relationships	Homophily	Homophily between mentors and mentees (gender, language, religion, shared cultural experiences)	Demographics	
	Mentor Interaction	-Frequency -Duration	Survey questions	
Mentor Outcomes	Types of Outcome	-Extent -Ranking -Explanation -Link to 4 AIMS		Mentor Interviews -Patterns -Explanations -Themes -Characteristics

**Phase 1: Mentor surveys.** In Phase 1, survey data was collected from mentors in the BYU Center for Service and Learning. Online Qualtrics surveys were sent annually for four years to each student volunteer who served as a mentor at the local Community Center. This

survey data facilitated the examination of the nature of the mentoring relationships and mentor outcomes in this sample of BYU volunteer service-learning mentors over a four-year period of time (2012-2015). From these mentors, the online survey gathered data on mentor demographics and demographics of their mentees' (e.g., age, sex, religion, languages spoken) to support identification of demographic homophily.

**Phase 2: Follow-up interviews.** In Phase 2, personal interviews were conducted with a sub-sample of mentors selected from Year 4 respondents regarding the outcomes of their mentoring experience and relationships. These interviews examined the benefits of their service-learning mentoring experience in more depth, including definitions and perceptions of mentoring. The interviews also examined mentors' motivations to serve, mentoring methods, approaches to building relationships, identification of their mentoring outcomes, and their definitions of success. The survey data gathered in Phase 1 guided the development of the interview questions.

### **Data Analysis**

An analysis of individual components of mentoring interactions may help us better understand positive mentoring relationships, such as language homophily, cultural understanding, and frequency of visits. This study specifically focused on the relationship of mentors serving language minority students as mentees because of the research intent to examine mentoring in cross-cultural contexts, including culture, ethnicity, language, and religion. This type of multicultural and cross-cultural mentoring environment provides a rich opportunity to examine the "experiential components" of mentoring (Roysircar, Gard, Hubbell, & Ortega, 2005, p. 17).

Data analysis addressed the research questions in three stages (see Table 2) to examine the nature of mentoring relationships, mentoring outcomes and their possible relationship, an important method of analysis (Rowley, Behrens, & Krackhardt, 2000). Initial data analyses provided descriptive statistics for mentor and mentee demographics.

Table 2

*Three Stages of Data Analysis*

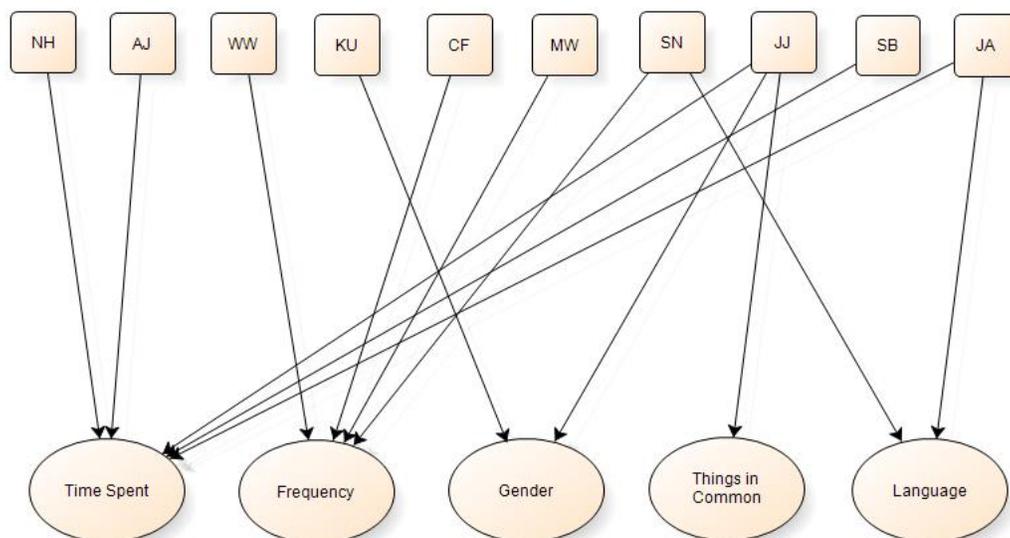
	Stage 1	Stage 2	Stage 3
Research Questions	SURVEY	INTERVIEWS	Linking Mentoring Relationships & Mentoring Outcomes
	Elements of Relationship		
RQ1: Nature of Mentoring Relationships	Homophily	Compare Mentor/ Mentee Demographics	Themes in mentoring relationships
	Interactions	Descriptive Stats: -Averages -Distribution	
RQ2: Mentoring Outcomes		Qualitative Coding of Interviews (NVIVO): Themes & Patterns of Mentor Outcomes	
			Identify Links between Nature of Relationships (RQ1) & Mentor Outcomes (RQ2)

**Stage 1: Surveys.** In Stage 1, analyses of the survey data addressed the first research question regarding the nature of mentoring interactions. Data was exported from the online Qualtrics survey to Excel to facilitate the analysis and compilation of descriptive statistics on mentor and mentee demographics as well as measures of homophily and the nature of the

mentoring interaction (listed in Table 1). These analyses supported the identification of nature of the mentoring relationships for use in Stage 2.

The Stage 1 analyses specifically identified descriptive statistics regarding the nature of the mentoring relationships, specifically in terms of their homophily and the nature of mentor interactions. The analyses of homophily consisted of comparing each mentor and mentee on similar demographics. This descriptive analysis determines on which demographics the mentors and mentees are similar and thus have *homophily*. The primary demographics for this analysis include gender and language spoken, resulting in gender and language homophily attributions. The analysis of mentor interactions used descriptive statistics to identify patterns in the frequency and duration (length of relationship) of the mentoring interactions.

**Stage 2: Analysis of interviews.** Data analyses in Stage 2, building upon Stage 1, focused on analysis of the interview data and addressed the second research question regarding the mentor outcomes. A person-centered approach to the mentoring relationship identifies factors in relationships that are helpful for identifying patterns within individual interactions (Bergman & Trost, 2006; Magnusson, 1998). The interview responses from the 10 mentors were coded using a qualitative approach to identify factors in the mentoring relationship. These factors can be illustrated to display various themes related to the nature of the mentoring relationship as they were analyzed by mentor characteristics. As an example, Figure 2 represents the 10 mentors (by initials) who participated in the Year 4 follow-up interviews in the square boxes, and the key factors they identified as affecting the nature of their mentoring relationships are shown in the ovals below. The central themes illustrated were those most mentioned by the mentors when interview responses were coded.



*Figure 2.* Example illustration of key factors of mentoring relationships.

Qualitative data analysis in Stage 2 also addressed the second research question regarding mentoring outcomes. Using NVivo software, the mentor interviews were coded to identify themes and patterns regarding their mentoring experiences and outcomes. Data analysis examined outcomes for both the student service-learning volunteer as a mentor as well as the mentor's perceptions of outcomes for their mentees. The analysis also specifically examined patterns related to the language minority characteristics of the mentees. This qualitative data analysis was further facilitated by the use of the findings in Stages 1 and 2 regarding the demographics of the mentors and mentees and the nature of their interactions, which was used to create classifications and identify relevant patterns.

**Stage 3: Linking mentoring relationships and outcomes.** Stage 3 of data analysis began by examining the potential patterns of how the nature of the mentoring relationship (Stages 1 and 2) was related to the mentoring outcomes (Stage 2). In addition, analyses examined the alignment of these mentor outcomes and the institutional objectives for student service-learning. The survey data again provided mentor characteristics that helped to identify and

substantiate patterns regarding how the mentoring outcomes were related to the nature of the mentoring relationships.

## **Findings**

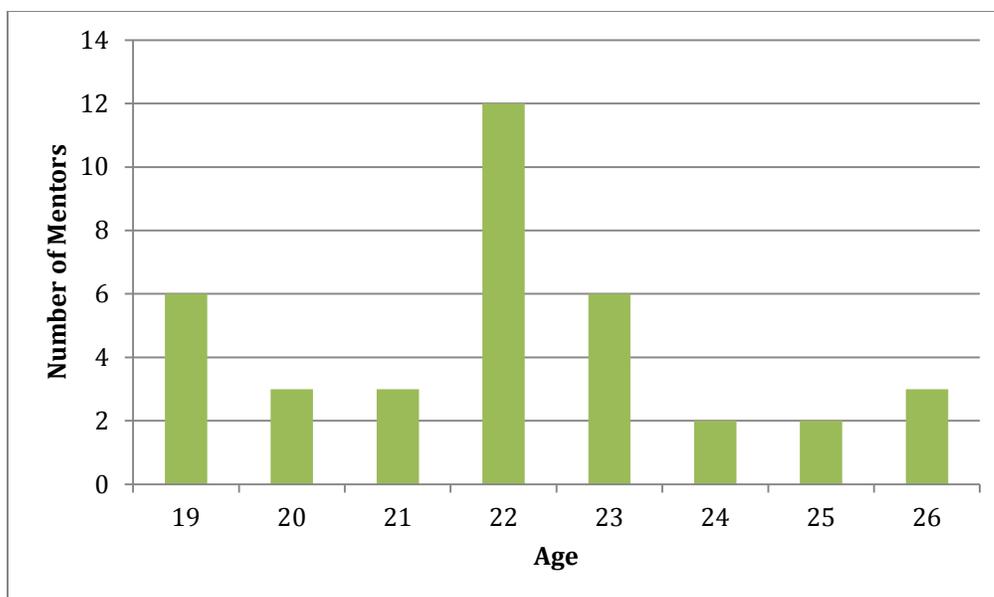
The findings address the research questions regarding the nature of service-learning mentoring relationships of 29 mentors, the mentor outcomes and the potential patterns between the nature of the mentoring relationship and its outcomes. The findings are organized by research question.

### **Nature of the Mentoring Relationship**

The first research question addressed the nature of the mentoring relationships. Findings were informed by mentor demographics and demographic similarities between the mentor and mentee (homophily) as well as factors identified in the mentors' descriptions of their mentoring relationships.

**Mentor demographics and homophily.** Mentor demographics included age, gender, race, countries lived in, education level, year in school, major, and second language spoken. Mentors also rated factors in terms of importance in the mentoring relationship, including gender, time spent, frequency of visits, shared language, shared race/ethnicity, gender, and mentoring subject.

The age of the 29 surveyed mentors ranged from 19-26. The gender distribution was fairly equal, with 20 males (54%) and 17 females (46%). Mentor age showed no patterns relative to mentoring relationships or outcomes given that the range of mentor age was quite narrow (Figure 3).



*Figure 3.* Age of service-learning mentors.

Gender homophily, similarity of gender between mentor and mentee, did not appear to be a critical factor affecting the nature of the mentoring relationships. Survey data indicated 64% of the dyads demonstrated gender homophily (30% female, 34% male), indicating 36% of the mentor/mentee relationships did not have similar gender. In the interviews, mentors did not indicate gender as affecting the strength of the mentoring relationships, their interactions with mentees, or the outcomes they experienced from mentoring. Many of the mentors mentored both male and female students and did not express that gender of mentees affected the nature of relationships. When asked, none of the mentors expressed that gender affected the nature of the relationships. The lack of a gender effect on mentoring relationships and outcomes was not an expected, yet may be similar to volunteer programs based on selfless service focusing on needs of individuals, not the demographics of those who are served.

The nature of the mentoring relationships can also be described in terms of ethnicity and racial homophily. The majority of the mentors were Caucasian (85%), with 14% Hispanic and less than 1% Asian. On the other hand, the distribution of mentee race indicated the majority

were Hispanic (59%), with 36% Caucasian and 5% Asian. In the survey data, ten (37%) of the mentors had the similar race as their mentee (racial homophily), comprised of 32% Caucasian and 5% Hispanic dyads. Follow-up interviews were conducted with mentors who had racial similarity (homophily) with their mentees. These mentors discussed indicated that race was a factor that strengthened the nature of their relationships with their mentees, facilitating increased understanding and higher initial trust. According to other research (Sánchez & Colón, 2005), successful mentoring relationships that have similar racial, ethnic, or cultural backgrounds are likely to have much in common.

Although only a third of the mentors shared race or ethnicity with their mentees, the mentors interviewed indicated that the experience of having a cultural experience gained from living in a different country previously in their life clearly increased the strength of their relationship. Findings suggested that the mentors interviewed believed the effect of cultural experiences by living in other countries almost duplicated the relational results of shared racial or ethnic understanding, including increased trust and understanding in relationships. One mentor identified that having the shared cultural experience of living in another country (not necessarily the same country) enhanced their understanding, stating “you will be able to understand *why* they do the things they do” (AJ). Thus, for the mentor/mentees with shared cultural experiences, the nature of the relationship was strengthened due to their increased understanding of the mentees.

**Language and language homophily.** An important factor that contributed to stronger relationships with language minority mentees was having learning another language, even if the language spoken by mentees were different. While most mentors (65%) did not share racial homophily, they did share the common experience of learning a second language. In this study, 41% of the mentoring relationships demonstrated language homophily. In the absence of shared

race, shared language functioned as a critical factor in forming and strengthening relationships. One mentor commented, “Languages are usually backed up with a culture. If you know a language, you usually understand the culture” (AJ). Even when the same language wasn’t shared, regardless of which second language the mentors spoke, all the interviewed mentors identified that the relationship was stronger due to the cultural understanding gained from having learned a different language. Table 3 illustrates the range of second languages spoken by mentors who responded to the survey, and Table 4 illustrates other countries in which mentors have lived.

As shown in Tables 3 and 4, the wide range of countries in which mentors had lived and the experience of learning other languages provided a rich sample to analyze. Based on mentor responses, they had stronger relationships because of increased cultural understanding gained through personal experiences.

Table 3

*Number of Mentors Speaking 2<sup>nd</sup> Language*

Language	Number & Percent of Mentors
Spanish	7 (24%)
Danish	1 (3%)
French	1 (3%)
Hungarian	1 (3%)
Japanese	1 (3%)
Portuguese	1 (3%)
Tagalog	1 (3%)

Table 4

*Countries Lived in by Mentors*

Countries	Number & Percent of Mentors
New Zealand	4 (14%)
Peru	3 (10%)
France	2 (7%)
Israel	2 (7%)
Mexico	2 (7%)
Argentina	1 (3%)
Brazil	1 (3%)
Chile	1 (3%)
Denmark	1 (3%)
Hungary	1 (3%)
Japan	1 (3%)
Philippines	1 (3%)
Taiwan	1 (3%)

For example, one mentor illustrated how both the challenges of differing language and culture can be bridged by having cultural understanding gained from living in another country and finding common purpose. She stated:

Language is how we connect with people... the single most impactful service moment I have ever had was with a sweet 8-year-old girl in Africa that did not speak English and I

did not speak Swahili. We connected through one song in Swahili that I knew. My life was changed in that moment, and we didn't speak the same language. (KW)

A sign at the entrance of BYU states, “The world is our campus.” Many students share the stated focus of the University. Global and cultural experiences provide learning, while also enhancing mentoring through the relational ties created due to the increased sensitivity to cultures and learning. Future research should assess how exposure to language-minority student mentees from other cultures provides mentors with cultural experiences who do not speak a second language or have not yet lived in another country.

**Factors of successful mentoring relationships.** The nature of interactions from survey and interview responses provided an opportunity to analyze elements of the mentoring relationships more closely. This analysis identified concepts, suggested by mentors based on their experience, which informed regarding factors that lead to effective mentoring, and factors that result from effective mentoring.

Mentoring included academic tutoring in various subjects, mentoring and coaching in arts, crafts, and athletics, and behavioral mentoring through general community center interactions in activities. These mentoring contexts provided a wide range of types of mentoring relationships. The predominant factor was that all mentoring was based in the context that mentees needed help and assistance and voluntarily participated in the mentoring. Mentees were not required or mandated to seek mentoring. However, mentors needed the mentoring experience for class requirements or sought the mentoring experiences for individual opportunities for growth, social interactions, and spiritual and emotional well-being.

In the follow-up interviews, mentors indicated that both increased time spent mentoring each week and increased length of the mentoring experience led to increased levels of trust in the

mentoring relationship, more meaningful interactions with mentees, and increased intentions to continue mentoring in future plans. All 10 (100%) mentors interviewed indicated that longer time spent building the mentoring relationship was more important than the specific lengths of time spent mentoring in individual interactions. One mentor noted:

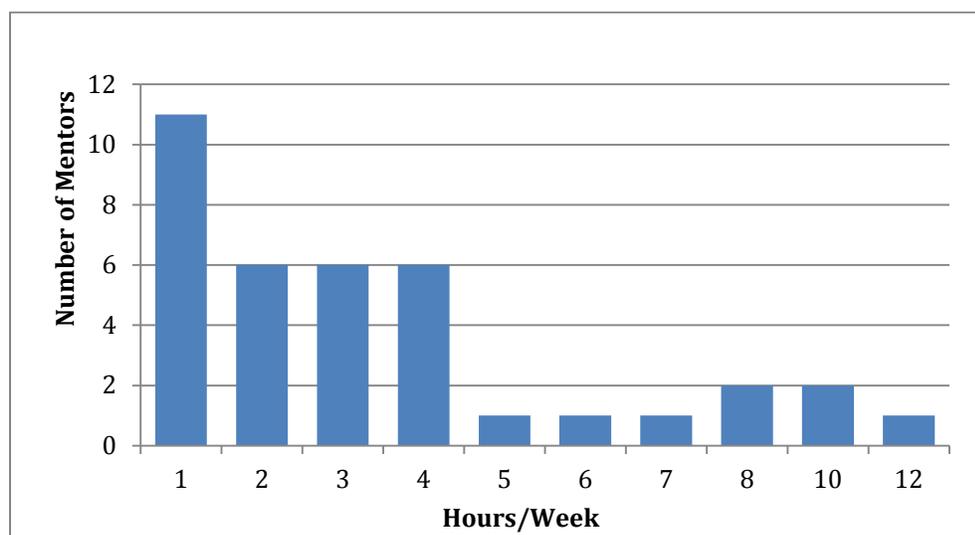
I think time spent is the most important factor in mentoring - it takes time for the conversation to develop to a point where it is not about catching up with the events of the past week and more into their thoughts, concerns, interests, etc. At least for me it is those deeper conversations that I treasure the most. (SB)

While time spent was key to successful mentoring relationships, each mentor felt that the duration or long-term involvement was the most important aspect, rather than the number of hours spent, or periodicity of the mentoring. They also suggested that this time spent building relationships enabled the relationship to evolve and grow over time.

This finding correlates with research that shows that mentoring relationships lasting more than 12 months result in significant increases in self-worth, perceived social acceptance, perceived scholastic competence, parental relationship quality, school value, and decreases in drug and alcohol abuse (Grossman & Rhodes, 2002). Twelve weeks seemed to be the turnover point for mentors where they felt a sense of accomplishment with their mentee and identified a conclusion point in the relationships. That may also be an amount of time that coincided with a semester schedule where plans, schedules, and activities undergo a change for the mentors. The research from Grossman and Rhodes (2002) shows the optimal length of mentoring to be over one year.

Four (11%) mentors in this sample had mentored for multiple years. They described their mentoring relationships were in stronger terms regarding the nature of their interactions and the

personal outcomes that they felt as mentors. These mentors described the nature of their relationships with far greater intensity than the other mentors. The hours per week and the number of weeks they spent mentoring in the fourth year of this study. In terms of frequency, a clear majority (78%) mentored for four hours or less per week, with most of these mentoring for one hour a week (see Figure 4). Eight mentors (22%) mentored for more than 4 hours per week, with one mentoring 12 hours per week. Regarding the length of mentoring (see Figure 5), most mentoring relationships lasted less than a semester (16 weeks), while four were in their second semester. Only one mentor had mentored for 4 semesters (62 weeks).



*Figure 4.* Mentor hours per week spent mentoring.

Frequent and extended periods of mentoring strengthened mentoring relationships. One mentor described the effect of his own mentors as helping him throughout his life, not only through a specific class or time in his life. He stated “I have had many mentors impact me throughout my life. I haven't had been around my father most of my life, but I have found much support through other leaders and teachers” (KU). Approaching his mentoring through this lens

of long-term life development enhanced his building and strengthening of the mentoring relationships with his mentees and provided him with greater purpose.

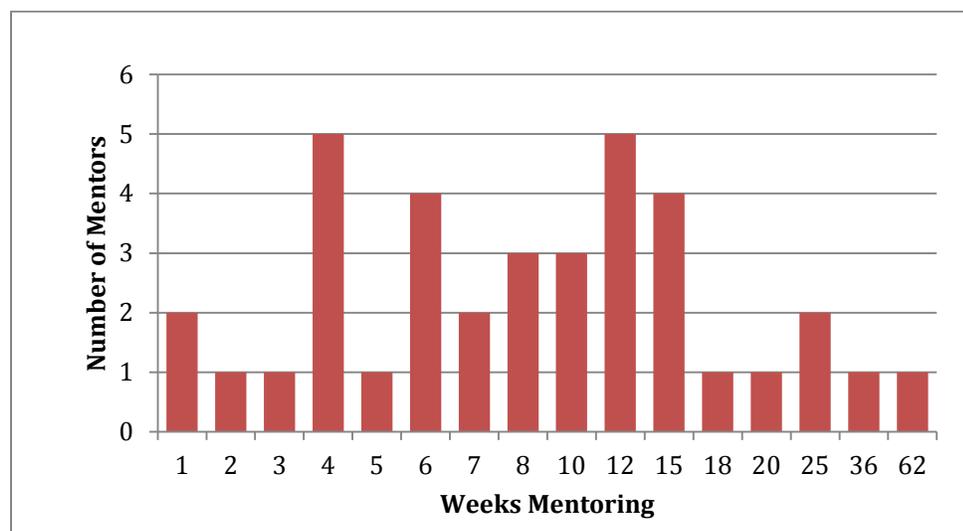


Figure 5. Length of mentoring.

Using an NVivo analysis, a word map on the term *mentoring* (see Appendix A) illustrated a map of key concepts used in mentor descriptions of the mentoring relationships. These connections between concepts were mapped based on keywords extracted from the interview responses. For example, the term *mentoring* is used with concepts such as *experience*, *service*, *previous experience*, and *relationship*. Concepts related to mentoring may be initially inferred by this examination of the descriptions of the mentoring relationships and how terms co-occur or are linked. For example, the concept of *relationship*, which is a prominently mentioned connection shown in the bottom right part of the graph as a word that follows the word *mentoring*, illustrates how the qualitative analysis of the mentoring data began with this concept map. In the map, the connection between *mentoring* and *relationship* is then further linked to concepts of time, frequency and language.

This word association analysis functioned as the beginning point of the qualitative analysis of the mentoring relationships by facilitating the identification of terms used in relation to *mentoring*. This analysis, however, was delimited by the potential for heteromorphic fallacy in which a mentor may also have used other words to describe their mentoring relationship. For example, the term *tutoring* may not appear in the conceptual connections shown in the word map because the mentor did not use the exact term of *mentoring*; thus, the concept of tutoring was not included in the word map.

Weaker connections between concepts and *mentoring* may be suggested when the concept had fewer connections to other concepts connected to *mentoring*. For example, *needs of the individual*, in the lower left, was not connected to other concepts suggesting this may not represent a theme in the data. Several such terms are mentioned with few or no other connected terms. Other words have several attachments, such as experience, learning, or relationship, which suggested directions for further analysis into the nature of these concepts and why they are important in mentoring relationships.

The word map in Appendix A illustrated concepts that may contribute to both the nature of the mentoring relationships and factors that may make service-learning mentoring more successful, such as experience, education, interest, purpose, planning, relevance, frequency, language, gender, cultural experience, benefits, type of mentoring, expectation, reward, and relationship. The terms they used help to identify the key components they consider necessary for successful mentoring. These concepts can inform service-learning to help student volunteer mentors identify best practices, approaches, and results. Illustrated below are the six key concepts described by the mentors as important to successful mentoring (see Figure 6).

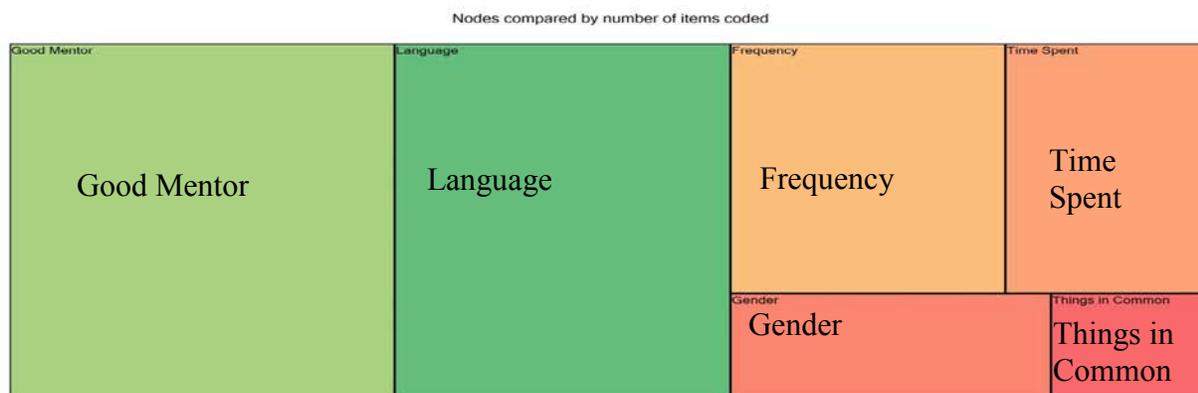


Figure 6. Concepts important for successful mentoring.

Mentors further identified specific outcomes of being a *good mentor* that served to further strengthen the mentoring relationship. Examples of these responses are provided below (see Figure 7).

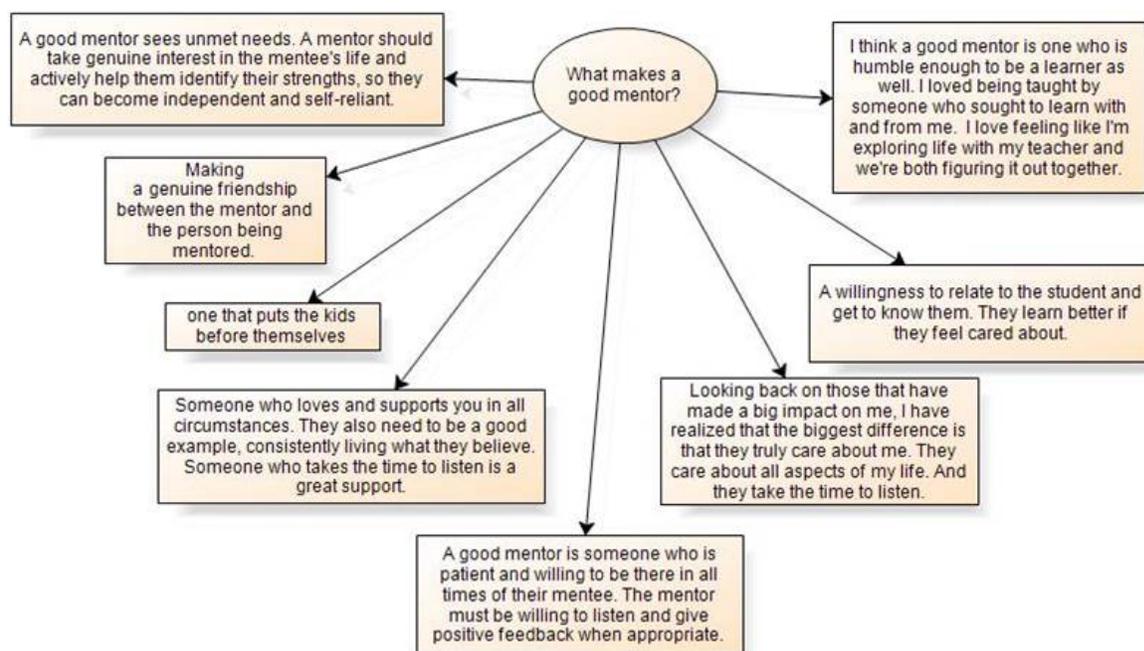


Figure 7. Outcomes of successful mentoring.

### Mentor Outcomes

Mentors also described the outcomes they experienced from their mentoring relationships, including listening skills, cultural understanding, emotional benefits, community

engagement, teaching ability, time management, commitment, connection to campus, and caring for others. They also described their mentoring outcomes in terms such as genuine interest, self-reliance, friendships, selflessness, consistency, support, patience, willingness, listening, giving feedback, appropriateness, caring, listening, relating, being humble, and mutual learning.

One valuable mentoring outcome is the increased understanding of what contributes to good mentoring, which can enhance desires to continue mentoring. One mentor who was interviewed described this concept in the following quote:

I don't know anything as wonderful as being a mentor or teacher. It is amazing to learn along with the one I'm mentoring. Nothing helps me learn so completely as knowing I will have to teach what I know. And there is always a special bond that grows in that relationship. (WW)

This mentor is planning on a career in medicine, but his response indicates that the love of mentoring, teaching, and relationships will continue and apply to his future career plans.

In the interviews, a follow-up question asked about the mentors' future plans for mentoring. Unanimously, each mentor interviewed expressed that they plan to continue serving and mentoring. Thus, an important outcome is that learning opportunities may continue as mentors seek and take advantage of mentoring experiences in the future. These motivations to continue this mentoring service were identified from the analysis of the relationship between the nature of the mentoring relationships and their outcomes.

Successful service-learning and mentoring programs can be built around an improved understanding of mentor outcomes. Identifying these mentoring outcomes for university service-learning student mentors can provide institutions with valuable information for institutional assessment, program creation and the development of learning outcomes.

### **Connections between Nature of Mentoring Relationships and Mentoring Outcomes**

The concepts in Figure 6 also indicate that, for these university service-learning mentors, the nature of the mentoring relationships may be related to the mentoring outcome of being a *good mentor*. The mentors identified factors that strengthened the mentoring relationship and contributed to the quality of the mentoring outcomes.

The key factors of the mentoring relationships that mentors described as related to or strengthening mentoring outcomes were shared race, length of mentoring relationship, and cross-cultural understanding. For example, mentors suggested that having cultural experiences of having lived in other countries resulted in mentor outcomes related to learning, service, and meaning.

### **Discussion**

In this study, I have identified aspects of mentoring relationships that serve to address the three research questions regarding the nature of mentoring relationships in a cross-cultural context, mentoring outcomes and the relationship between the mentoring relationships and the mentoring outcomes. The analyses focused on identifying individual components of the mentor relationships and how they may be related to mentor learning outcomes.

#### **Nature of Mentoring Relationships**

Understanding the nature of interactions in mentoring relationships is important in identifying individual factors that may lead to the success of the relationship, the outcomes of the mentor, and the success of the mentoring program. Each mentoring relationship will be individual in nature, yet there can be positive impacts on mentors, mentees, university service-learning programs, and community partners if these factors are identified and understood.

Articulating the factors of success in these mentoring relationships may lead to improved accountability for programs, community engagement between universities and community partners, student development, and insight into interpersonal communication and nurturing. The importance of frequency and time spent mentoring may be emphasized in creating expectations for volunteer service-learning mentors. Appropriate matching with mentees with emphasis given to shared homophily in a cross-cultural context can enhance the experience further.

Specifically relating to language minority students, matching mentors who share language and/or cultural understanding can significantly affect the nature of the relationship. In the absence of shared language and cultural understanding, the responses of those I have interviewed have shown that *any* cultural understanding experience can further enhance the nature of the relationship and strengthen individual interactions. As I mentioned previously, this leads to a follow-up study how exposure to language minority student mentees from other cultures may provide cultural experiences for mentors who have not lived in other countries. This creates an interesting paradigm that previous cultural experiences lead to increased understanding in mentoring, yet exposure to cultures through mentoring interactions leads to cultural understanding.

### **Mentoring Outcomes**

The three key components of the mentoring relationships that are suggested to be related to mentoring outcomes were shared race, length of mentoring relationship, and cross-cultural understanding. Understanding these components for mentors may lead to greater appreciation for their service-learning volunteer experience, and fulfilling relationships generated by this volunteer opportunity. Appreciation for their service-learning mentoring experience generated insights that were valuable in their continued personal and academic development.

The holistic development of the student is an outcome that strengthens the individual, the institution, and the community (Mayes, 2016). The unanimous response of mentors in this survey regarding their definitive plans to continue mentoring moving forward in their lives illustrates this potential. This desire to continue mentoring is a powerful personal and institutional outcome.

### **Relationship between Mentoring Relationships and Mentoring Outcomes**

The relationship between the nature of interactions and mentor outcomes provides specifics that can assist in planning and evaluating institutional goals and outcomes for service-learning students in a university-mentoring program. By understanding key components of mentoring relationships, recruitment of volunteer mentors, length of time parameters established, and cross cultural understanding learning outcomes may all improve.

As mentoring relationships and understanding improve, this study shows how mentoring outcomes to the individual, the institution, and the community may also improve. A greater understanding may lead to greater relationships, which may lead to greater outcomes, which addresses my initial research problems; identification of key learning outcomes, measured outcomes to increase learning objectives, and institutional objectives for program support of service-learning programs.

### **Conclusions**

This analysis of the nature of mentoring relationships may inform service-learning programs as they seek to improve their understanding of the nature of mentoring relationships and their outcomes. This improved understanding may increase the transformative potential of service-learning mentoring to impact powerful purposes and enhance the building of mentoring relationships can provide valuable learning outcomes for mentors.

George Stoddard once said that we learn by neither thinking, nor doing, but by thinking about what we are doing (Cross, 1994). This research suggests factors that university service-learning mentors and administrators can consider in developing effective service-learning mentoring relationships. Specifically, the examination of mentor relationships and outcomes from an individual-interaction perspective can aid in developing mentor relationships. Thinking about the individual nature of interactions in mentoring relationships will aid in better thinking, learning and serving to enhance service-learning mentoring outcomes.

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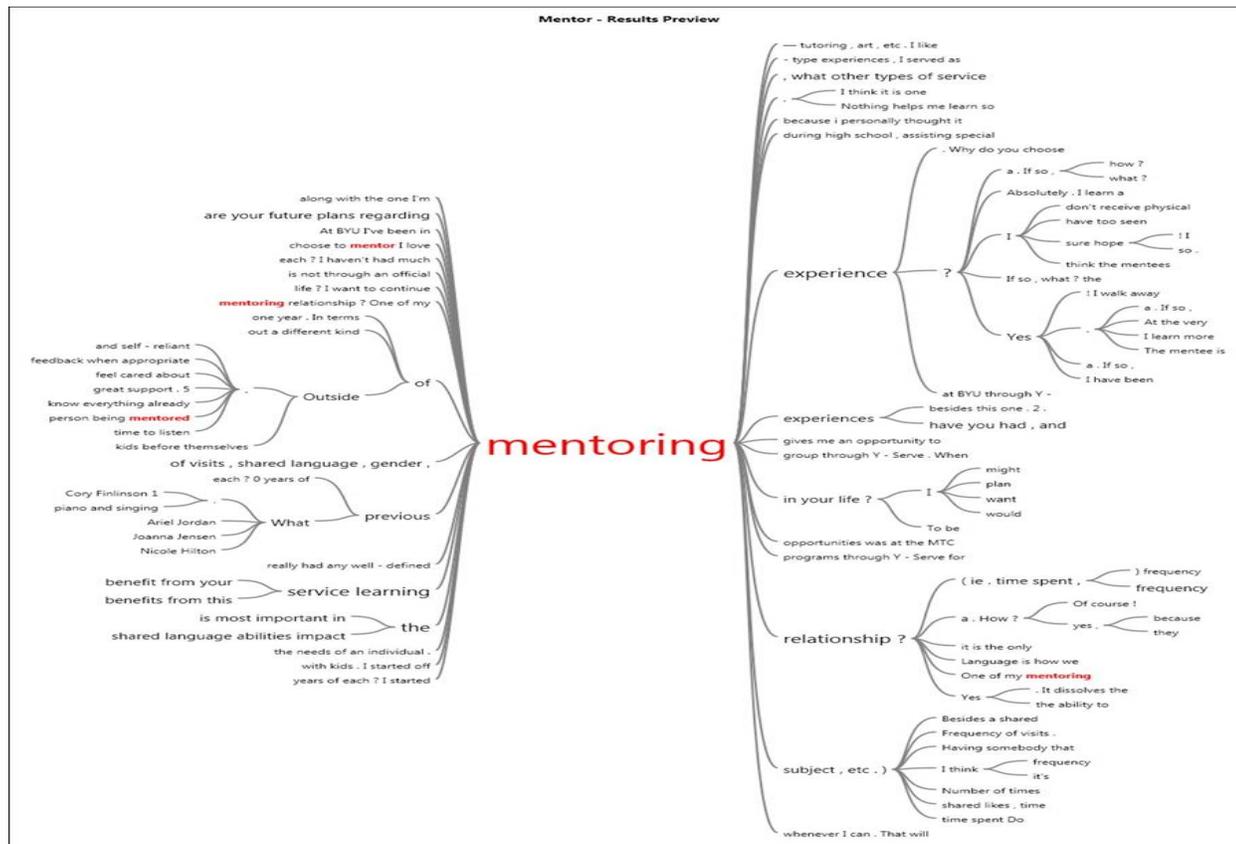
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# APPENDIX A: WORD MAP OF MENTORING CONCEPTS



## APPENDIX B: LITERATURE REVIEW

This chapter provides a review of the literature pertaining to service learning mentoring relationships grounded in a higher education context. The review of the literature first describes the origins of mentoring, particularly in higher education. Next, the review of literature discussed mentoring in a higher education context of university service learning volunteers and the service learning outcomes produced. Finally, this review of literature provided an overview of network theory as it informs the analysis of individual dyadic mentoring relationships.

Literature and theories link mentoring relationships in university service learning mentors to the research problem of identifying mentoring purposes, outcomes, objectives, perceptions, and accountability. Organizational implications, institutional support for programs, and individual learning experiences that add value to students illustrate that the two primary goals of program assessment—accountability and continuous improvement (Ewell, 2009). Both individual and institutional levels of analysis are addressed.

### **Mentoring**

In the past two decades, mentoring programs have experienced tremendous growth. Millions of volunteer mentors are involved in youths' lives, and the numbers are continuing to rise. The importance of mentor attributes continues to be corroborated by a growing body of research, providing support for the positive contributions non-parental adults can make in the lives of youth (Rhodes & Lowe, 2008).

At the same time, research on the effectiveness of mentoring programs has revealed considerable room for improvement in both the strength and consistency of program impacts (DuBois, Holloway, Valentine, & Cooper, 2002; Eby, Allen, Evans, Ng, & DuBois, 2008). In a meta-analysis of 55 evaluations of youth mentoring programs, DuBois, Neville, Parra, & Pugh-

Lilly (2002) found evidence of benefits for participating youths on measures of emotional, behavioral, and educational functioning. Effect-size estimates of these positive outcomes of mentoring programs also increased systematically in conjunction with positive factors of individual-, mentor match-, and program-related factors (DuBois et al., 2002a). Several investigations have also highlighted a range of factors associated with better mentoring outcomes, including time and length mentors associate with mentees (Grossman & Rhodes, 2002), consistency, and closeness (Spencer, 2006; Thomson & Zand, 2010).

### **What is Mentoring?**

Mentoring is described by Eby et al. (2008, p. 256) as “a means to increase desirable behavior (e.g., academic performance, job performance) and decrease undesirable behavior (e.g., school drop-out, substance use).” Mentoring pairs “caring, adult volunteers with youth from at-risk backgrounds. An estimated three million youth are in formal mentoring relationships in the United States” (Rhodes & DuBois, 2008, p. 254) many of who can be language minority students. The hope of this type of mentoring is to deter negative outcomes while simultaneously encouraging alternative positive behaviors. With growing numbers of language minority students in communities and schools, particularly with Latinos, “academic success has been elusive given poor attendance records, low test scores, high drop-out rates, and small numbers going to college” (Lucas, Henze, & Donato, 1990, p. 315).

An analysis of dyadic mentoring relationships can help to better understand the factors that are related to desirable behaviors. Relational embeddedness, strength of ties, and the multiplexity of ties may help us better understand positive mentoring relationships, such as language homophily, cultural understanding, frequency of visits. This study specifically focuses

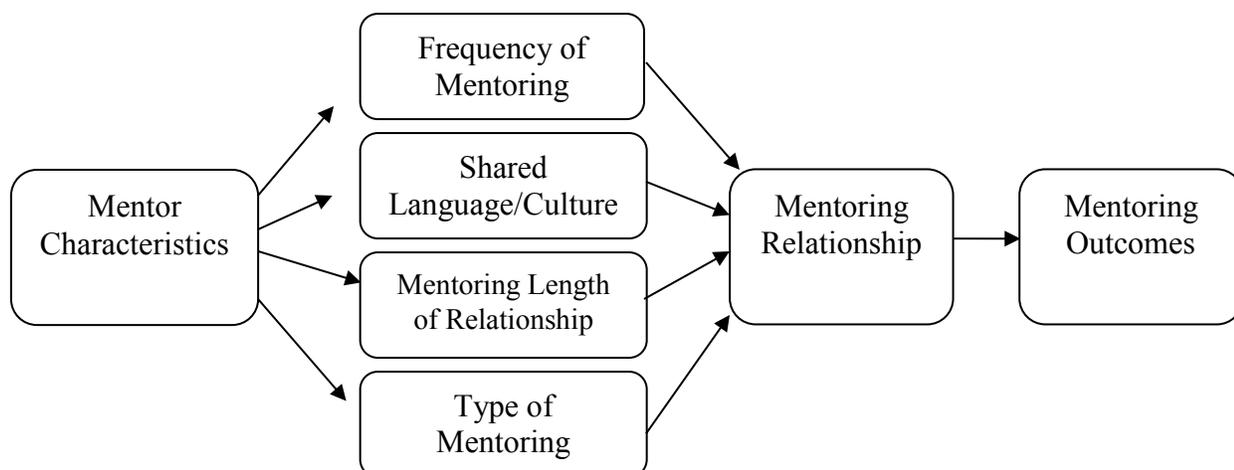
on language minority students as mentees because of the unique lens of their cross-cultural context, including culture, ethnicity, and religion.

General definitions of mentoring emphasize the importance of concepts such as caring, dependence, vulnerability, risk, and reliability of the mentor in the relationship as they serve to assist mentees. These concepts are clearly related to the social components in relationships and may thus contribute to different types of relational embeddedness in mentoring ties (Hite, 2003). Mentoring can be described as individual efforts that contribute to the mentee's social, academic, personal, and other success through the mentor's efforts to learn about and serve the mentee. The nature of these mentoring ties, in terms of relational embeddedness, may be related to and inform the outcomes of mentoring. Measurement of relational embeddedness in mentoring ties can be done by administering TRENDS survey items to service-learning student volunteer mentors to describe their mentoring relationships.

This study analyzed mentoring relationships to examine the nature of these dyadic ties and how this nature is related to mentoring outcomes. By identifying each individual tie between mentors and mentees, a mentoring concept map (Appendix A) is then drawn to use in analysis to identify the ties, the nature of ties, the strength of ties, and ultimately, the importance of ties in the relationship outcomes as a result of the mentoring interaction. An illustration of how that looks is used in the following example (Figure 2).

### **Service-Learning Pedagogy**

The nature of mentoring relationships may offer a key component in explaining both university student mentor learning outcomes and their mentee outcomes in a service-learning context. UCLA's Higher Education Research Institute (2009) defines community service learning as "a form of experiential learning where students and faculty collaborate with



*Figure 2.* Conceptual map of the relationship between the mentor characteristics, nature of the mentoring, and relationship and mentor outcomes.

communities to address problems and issues, simultaneously gaining knowledge and skills and advancing personal development” (Bounous, 1997, p. 5). Jacoby (1996, p. 5) defined service learning as “A form of experiential education in which student engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development.” Foundational research citing mentoring theory in the larger context of an organization came from Kram (1985), whose research focus was on effect of relationships and cultural components on the nature of mentoring relationships. Kram observed that development of mentoring relationships in a positive environment benefitted both mentors and mentees, just as a culture of competition in a negative environment correspondingly created harm. Her analysis of mentoring relationships led to increased interest and research in mentoring which spread from business into education (Allen & Eby, 2003; Hall, 2003; Underhill, 2006).

The goal of this research is to inform the understanding of mentoring relationships, from a network perspective, and generate new insights about service learning mentoring experiences. The value of service learning relates to the premise of social network theory that helps to explain the “mechanisms and processes that interact with network structures to yield certain outcomes for individuals and groups” (Borgatti & Halgin, 2011, p. 1168). In this analysis, outcomes refer to the mentoring outcomes in relation to the nature of ties, size and composition of egocentric networks, and the actor characteristics within a mentoring relationship. Service learning mentoring considers the direct dyadic relationships between mentors and mentees within a network of university service-learning volunteers who mentor language minority students. These relationships enable social interactions that may also affect future interactions with others; thus, the influence of service learning mentoring may carry over into other contexts. For example, a student who has had a positive mentoring interaction through a service learning experience may later be able to apply principles and approaches in an occupation as a doctor, a teacher, or a counselor. This pedagogy of service learning then not only enhances current academic application, but also facilitates continued involvement in learning and helping through factors such as reciprocal altruism, a process that is “collaborated through dynamically coordinated, efficient and reciprocal service transactions to improve the quality of life for all” (Bellotti, Carroll, & Kyungsik, 2013, p. 1).

### **Research Problem**

The research problem is framed within the theoretical framework of social network theory. Few studies have used social network theory and metrics to examine the influences of social behavior and social dynamics on network structure in a mentoring context, particularly among language minority students. Determining the nature of dyadic mentoring relationships

and the outcomes of these mentoring relationships is vital to answering the research question of what is the relationship between (A) the nature of ties and (B) mentor outcomes. Four important aspects of social network structure are observable and important. These aspects are: (1) differences between individual mentors in number of mentoring ties, homophily of ties (race, religion, and language) and mentoring experiences; (2) indirect connections; (3) individual differences in importance in the social network; and (4) social network traits carrying over across contexts (Sih, Hanser, & McHugh, 2009).

### **Relevant Theory**

The study of mentoring ties can be well informed by social network theory. Mentoring relationships develop within organizations with precepts of structuration theory to embed processes in organizational context (Barry & Crant, 2000). Organizations provide opportunities and structure for service learning volunteers to serve, while the individual motivation for an individual to participate in these programs can be explained by content theories of motivation of individuals, such as Maslow's hierarchy of needs (1954), Alderfer's ERG Theory (1969), McClelland's Acquired Needs (1969), Herzberg's Two-factor theory (1966), McGregor's Theory X & Y (1960), Moreno's Sociometric (1969), and Argyris's psychological maturity to independence (1980). These theories facilitate the examination on the individual level of temporal, psychological, physical, and emotional outcomes that affect relationships within university on the organizational level through an analysis of mentor outcomes. Specifically, these theories serve to show how service-learning mentoring transforms individual motivations into a practical application through service. Service learning transforms individual motivations into a practical application through service. Relational structures then occur as university students connect throughout the community networks in dyadic level interactions within organizational

service learning systems. Social network theory provides a relevant theoretical framework to analyze individual factors contributing to relationship outcomes that are provided by university organizations (Avila de Lima, 2010; Borgatti, Everett, & Johnson, 2014; Sih et al., 2009).

Mentoring theory is also tied to social learning theory (Bandura, 1997). Bandura argued that individuals learn by observing others in a social environment. Mentees are more likely to replicate desired behaviors supporting norms, practices, goals, and culture of the organization by observing them in mentors. Conversely, inappropriate behaviors are more likely to be learned and perpetuated if not corrected and addressed by positive influences that mentors provide. Mentoring and social learning theories illustrate the important role created by mentors in establishing a supportive environment within an organization (Bandura, 1997; Kram, 1985). This supportive and formative environment can be especially key in helping language minority students who are adapting to new norms, expectations, and environments in a cross-cultural experience. A mentor bridges many of the gaps which affect student achievement and success, bridges gaps in segregation, and builds positive social interactions (Echenique & Fryer, 2005).

Network and mentoring theories are used in this research to support the assessment of the nature of mentoring relationships and the outcomes for mentors in a university service-learning context. Service learning assessment focuses on relationships within a social environment, what happens in those supportive environments and relationships, how relationships influence mentor learning, and how mentor learning influences mentee learning (Seider, Rabinowicz, & Gillmor, 2011). These mentoring relationships, which operate as dyadic network ties, can be informed by social network theory. Mentoring theory emphasizes the role of support and mentoring from individual mentors who influence the mentee's social learning environment. Service learning

can also facilitate the transfer of similar mentoring outcomes to other service learning experiences through network relationships developed between these university volunteers.

Mentoring relationships create an experiential processes between individuals and systems within a network that are important to understand (Scott, 2003). In discussing organizational theory, Owens addresses the gaps between concepts (which may be academic based), and experiences (which may be service learning based), a concept supported by the service learning pedagogy of experiential learning (Owens & Valesky, 2007). According to Bechky, “Because our theoretical images of organizations are not well grounded, they often do not successfully capture the realities of organizational life” (Bechky, 2011, p. 1157). Our theories of organizational processes take place at different levels of organizational life to interconnect different sets of activities (Goodman, 2000). Uncovering the social mechanisms that link individuals and social systems creates a coupling between the cause and effect, showing how effects are produced (Hedström & Richard, 2001). This study focuses on the coupling relationships resulting in mentor outcomes within an organization providing service learning. These coupling relationships formed by experiential processes can be analyzed to identify effects for the university’s student mentors through examination of the nature of ties, egocentric networks, homophily, and actor characteristics.

Lack of clear goals and expectations for service learning experiences may lead to confusion and lack of direction for volunteer mentors and those who are being served through university programs. Herbert Simon clarified the processes by which goal specificity and formalization contribute to rational behavior in organizations. Simon’s theory was critical of the assumptions from others about actors in organizations and motivations. *Administrative man* was a term for one seeking to pursue his self-interests but not always knowing what his self-interests

are, who is aware of only a few of all the possible alternatives, and who is willing to settle for an adequate solution instead of an optimum outcome (Simon, 1979). Administrators may focus more on administering programs and reporting data than focusing on affecting and helping people. Participants closer to the top of the hierarchy make decisions about what the organization is going to do; those in lower positions are more likely to be allowed to make choices as to how the organization can best carry out its tasks. This dichotomy in goals of decision makers can lead to an incongruence of goals within the organization.

Organizational goals in university service learning programs should ideally relate to the types of mentor outcomes experienced by service learning mentors. However, selection of mentors generally occurs based on their willingness to participate rather than on merit, experience, motivation, or knowledge. Mentor training generally consists only of basic liability and safety training. While organizations may have mentoring goals, they are seldom shared with mentors, nor is input sought from mentors regarding the organization's goals. Administrative goals of organizations, therefore, often do not resonate with the motivations and reasons for participation that motivated volunteers to mentor.

When Simon (1979) states that men are pursuing self-interests, but not knowing about possible alternatives, and therefore settling for *adequate* solutions. Mentoring experiences in many settings apply as adequate solutions due to lack of direction from organizational goals. Each mentor has a different motivation and self-interest, but without an understanding and alignment with organizational goals, outcomes may become what Simon refers to as *adequate* solutions (Simon, 1979). It is difficult for those near the top of the organizational hierarchy to have clear objectives and goals for each individual program participant, complicated further by the feasibility and capability to transmit that knowledge to an ever-changing pool of individual

mentors. Without common goals and direction, mentors make mentoring actions affecting mentees on individual levels by mentors.

Organizations are tasked with pursuing goals that lead to solutions and outcomes for those they serve. In a service learning mentoring relationship, mentees are affected by the theory of constructivism, the theory that individuals actively construct their knowledge, rather than simply absorbing ideas spoken to them by teachers (Lunenburg & Ornstein, 2004). As such, Lunenburg further states that:

[Student] mentees are ultimately responsible for their own learning within an atmosphere in which teachers value student thinking, initiate lessons that foster cooperative learning, provide opportunities for students to be exposed to interdisciplinary curriculum, structure learning around primary concepts, and facilitate authentic assessment of student understanding. (Lunenburg, 2012, p. 3)

Constructivism is a particularly useful perspective for understanding how language minority students learn through constructing cultural, cognitive, and linguistic knowledge through mentoring interactions (Lunenburg, 2012) .

Constructivism relates to mentoring by emphasizing the processes by which children create and develop their ideas. Part of constructivism involves the concept of addressing social justice. Social justice regards inequities in schooling which are among the social injustices with which educational leaders need to be most concerned (Seider et al., 2011). Mentors may serve to bridge learning styles and facilitate constructivism via individual interactions. As mentors serve in service learning opportunities, they can address social justice issues by helping every student have access to meaningful learning experiences to enhance their education. Mentoring deals with the methods of applying knowledge not merely the acquisition of knowledge.

Constructivism addresses the active construction of knowledge rather than absorbing ideas spoken by teachers. Mentors can fill the gap between learning and applying through facilitation of student understanding (Jacobi, 1991). Mentoring can thereby address the gap between high-achieving students and at-risk students by increasing learning aptitude for those with highest need.

Organizations require resources to help achieve goal objectives. Resource-based theory suggests that characteristics of resources (e.g., valuable, unique, inimitable, immobile, retainable) can be important in constructing learning relationships and interactions between individuals (Lepak & Snell, 1999). The accountability for resources devoted to student learning outcomes is very important. Justification for programs and fiscal responsibility in mentoring relate in the following ways in this study:

1. Different types of resources from different stakeholders result in financial accountability (from BYU), learning outcome accountability (for students), community accountability (for programs), social accountability (for civic engagement), and institutional accountability (for support).
2. Characteristics of these resources result in increased capabilities of service learning student volunteers through opportunities and efficiencies, which then affect the mentors' identities, abilities, and contributions.
3. Competencies, or learning outcomes, are the result of knowing how to combine different types and characteristics of resources to contribute to mentor outcomes. Well-defined competencies contribute to mentor outcomes.

Competencies are the result of understanding types and characteristics of resources and the abilities to provide services that improve learning and growth. Well defined competencies

increase efficiencies and institutional improvement (Calhoun, 1997). This study will serve to increase understanding about improving institutional accountability by looking at student competencies resulting from resources allocated to service learning programs.

### **Relationship of Individual Variables**

Network and mentoring theories identify relevant factors and potential outcomes of mentoring within a service-learning context. I have taken the direction of addressing the approaches and variables that is known as social phenomenology, which assumes a two-way interaction, though I will focus exclusively on the mentor's perceptions. Social phenomenology looks at the role of human awareness as an approach to interactions, along with resulting actions and situations in the world. It is an area of sociology explored by Manis and Meltzer (1978).

In essence, phenomenology is the belief that society is a human construction. The central task in social phenomenology is to explain the reciprocal interactions that take place during human action, situational structuring, and reality construction. Phenomenology does not view any aspect as causal, but rather views all dimensions as fundamental to all others. (Crossman, 2011)

By identifying the nature of ties, egocentric networks, and actor characteristics in mentoring relationships, the application of social phenomenology of human awareness can be relevant to informing how mentoring roles and approaches may relate to mentoring outcomes.

The use of social phenomenology in this study looks first at the nature of ties occurring in mentoring relationships within a higher education context of a service learning experience. Studying the egocentric networks and the characteristics of the mentee actors within the network relationships of mentoring programs can help make sense of the interactions and factors that exist, and help identify how mentoring can be improved and better utilized in the construction of

learning and knowledge acquisition. These mentoring interactions occur within dyadic ties that contribute to the social phenomenology of mentoring relationships.

### **Service-Learning Assessment**

Institutional theory examines organizational and institutional conditions (Burch, 2007). Such a focus draws attention to the broader cultural forces that help define what is meant by good mentoring or literacy instruction, and what counts as a *significant effect* on student achievement (McQuillin, Smith, & Strait, 2011). Application of institutional theory in education informs three objectives:

1. Data based decision making (using student outcome data);
2. Academic press (Sustained effort to improve teaching); and
3. Reform coherence (Finding ways for resources to converge, not compete)

As such, institutional theory may provide valuable insights for understanding current institutional thinking. Institutional theory is particularly salient related to institutional accreditation of the university as well as accountability or resources. This research stands to inform the improvement of data based decision making through the improvement of student learning outcomes in service learning mentoring programs that are supported by university resources.

The analysis and study of individual, organizational, and institutional conditions affecting mentoring has an immense scope. The nature of ties looks closely at relational embeddedness, homophily, interactions, and multiplexity of ties. Examining the egocentric network of individual mentors adds the size and composition of the network of mentors. Institutional theory examines cultural forces on student achievement (Burch, 2007; Saunders, 2010). These cultural forces need to be analyzed from a network perspective and examined to understand how they affect the dyadic mentoring ties. Institutional theory therefore offers a framework for examining dyadic

ties in mentoring from a network perspective. The objectives of data-based decision making, within mentoring, adds to this analysis of cultural forces affecting the development of mentoring ties.

The nature of dyadic mentoring ties will be assessed to form a better understanding of the nature of ties within a network of university mentors within a university organizational structure. Understanding the nature of mentoring ties and how they may be related to mentoring outcomes stands to offer important insights regarding mentors motivations to serve, mentoring practices, and building mentoring relationships with language minority students who are experience cross-cultural forces (Saunders, 2010).

## APPENDIX C: DETAILED METHODS

This study examined mentor outcomes as they relate to accountability and competencies for institutions of higher education that provide service-learning programs. Better understanding of allocated institutional resources and expected competencies resulted in improved financial accountability (from BYU in this study), learning outcome accountability (for students), community accountability (for programs), social accountability (for civic engagement), and institutional accountability (for support). Resource allocation returned on investment in students will be informed through this study. Characteristics of dedicated institutional resources resulted in increased capabilities of BYU student volunteers through opportunities, which then affected individual identities, abilities, and contributions as students, in life, and later as professionals.

A qualitative approach design sought to describe and explain links between process and outcome variables to provide useful feedback, adaptation to evidence, assessments of outcomes and theories, and themes in the field (Yin, 1992). Thus, qualitative methods were used in this study as they are a compelling way to better understand the nature of the highly contextualized research problem in this study regarding how the nature of ties, egocentric networks, and actor characteristics may be related to mentor outcomes for university service learning student mentors. Ideally, these mentor outcomes would be aligned with institutional objectives in support of service learning objectives. This study used a constant comparative method to identify concepts, principles, and structural processes of the features of mentoring experiences and relationships (Glaser, 1967). Using this method, mentoring behaviors and relationships were analyzed to describe the nature of these dyadic mentoring ties. Findings stand to strengthen the understanding of approaches to mentoring that relate to mentees and the outcomes of mentoring interactions. To address the research questions, this study used both network analysis and interview methods to examine dyadic mentoring ties of service-learning student volunteer

mentors and the outcomes of the BYU Service Learning Program, specifically in terms of the nature and mentor outcomes of dyadic mentoring ties between student mentors and their mentees at a local Community Center.

Data collection entailed two phases--archival network surveys and follow-up interviews—to gather data on three main factors that stand to affect mentor relationships and outcomes: 1) dyadic nature of ties analysis, 2) size and composition of the egocentric network of mentors, and 3) actor characteristics that affect mentoring outcomes. Data analysis was comprised of three stages to examine the three research questions, respectively.

### **Sampling**

The target population for this study was service learning student volunteer mentors. The accessible population was BYU service learning volunteer mentors. The primary inclusion criteria for the study sample were BYU students who specifically provide volunteer mentoring at a local Community Center, a non-profit organization seeking to serve the needs of a population identified with a low socio-economic status and large number of language minority families. Each year, BYU provides volunteer student mentors to assist K-12 students in this organization with academic, athletic, artistic, social, and other aspects of mentee development and learning.

Student mentors chose to volunteer for a variety of reasons including academic requirements, spiritual growth, personal fulfillment, social interactions, civic engagement, and other reasons. Service is strongly encouraged at BYU as one of four main AIMS of a BYU education. Institutional support is also strong, supporting the BYU Center for Service and Learning, an office supporting over 22,000 student volunteers annually. Many BYU students are interested not only in service, but in serving diverse and language minority populations, an interest stemming from previous experiences in different cultures through missionary service,

study abroad programs, or participation in one of over fifty language classes taught at BYU. The sample included 24 service learning student volunteer mentors who have mentored language minority student mentees at the local Community Center from 2012 through 2014 (2012=8 mentors; 2013=10 mentors; 2014=6 mentors). These mentors were chosen using a non-randomized network sampling technique. Survey participants voluntarily participated in both the service learning mentoring experiences and were invited to voluntarily participate in this study. Most of these mentors have participated in mentoring each of the past three years, allowing for some turnover in volunteers from year to year, although each year there have been unique mentors who were only involved during the current year.

The local Community Center mentees were mostly language-minority students being mentored in a variety of academic, athletic, artistic, and other interests. These mentees generally lived in a lower income area. The majority of mentees were Hispanic/Latino, with Polynesian, Black/African American, and Caucasian ethnicity also represented. The mentees were K-12 students from a variety of homes ranging in income, household composition, religion, and educational background, who may also have had limited proficiency in English. This type of multicultural and cross-cultural mentoring environment provided a rich opportunity to examine the “experiential components” of mentoring (Roysircar, Gard, Hubbell, & Ortega, 2005, p. 17).

### **Data Collection**

This research examined the nature of the dyadic mentoring ties in the case of BYU service learning student volunteer mentors using network survey and interview methods of data collection. Data collection for this study gathered data about the social context of the social networks and social activities, with the focus on interactions between specific individuals (mentors) and network members (mentees) (Carrasco, Miller, & Wellman, 2008). The data

collection included two phases, outlined in Table 1. In Phase 1, data collection targeted archival survey data that identifies of the mentors' dyadic mentoring ties, the structure of their egocentric mentoring networks and the nature of these ties between mentors and mentees. In Phase 2, interviews with mentors focused on the outcomes of their mentoring interactions.

Table 1

*Data Collection Plan*

Construct	Indicator	Measure	Phase 1 & 2	Phase 2
			<i>Year 1-3</i>	<i>Year 4</i>
			Archival Network Survey Items	Interview Questions
Nature of Dyadic Mentoring Ties	Relational Embeddedness	Types of Relational Embeddedness (based on 3 social components)	TRENDS survey items	
	Homophily	Homophily types (i.e. gender, language, religion, shared cultural experiences)	Demographics: --Alter --Actor	
	Mentor Interaction	-Frequency -Duration	Survey questions	
	Multiplexity	-Number and types of mentoring purposes in the same dyadic ties	Survey questions	
Mentor's Egocentric Network	Size and composition	-Number of Ties -Proportion of ties (relationally embedded, homophily, multiplexity)	-Identified mentees -Calculations based on network data	
Mentor Outcomes	Types of Outcome	-Extent -Ranking -Explanation -Link to 4 AIMS		Mentor Interviews -Patterns -Explanations -Themes -Characteristics

**Phase 1: Archival network surveys.** In Phase 1, archival data collected under an approved IRB (Appendix A) was gathered from the BYU Center for Service and Learning. These surveys have been sent annually to each student volunteer who serves as a mentor at the local Community Center. Prior to completing the survey, mentors signed an informed consent. This archival survey data facilitated the examination of the nature of the dyadic mentoring ties, the egocentric network structure, actor and alter characteristics, and mentor outcomes. From a network perspective, data on the mentors (actors) and the mentees (alters) facilitated the identification of ties as well as the nature of these ties and the structure of the mentors' egocentric networks.

This archival survey provides data collected from the sample of BYU volunteer service learning mentors over a three-year period of time (2012-2014) using an online Qualtrics survey administered by BYU's Center for Student Service Learning. From these mentors, the online survey gathered data on their own demographics and demographics of their mentees' (e.g. age, sex, religion, languages spoken) to support identification of demographic homophily. Items also included items on the nature of those dyadic mentoring ties (relational embeddedness) (Hite et al., 2011), their mentoring interaction and the purposes of their mentoring (multiplexity). From a network perspective, the nature of these dyadic mentoring ties between language minority student mentees and student volunteer mentors may differ in terms of relational embeddedness (Hite, 2003), homophily, multiplexity of ties and strength of interactions. Each of these dyadic attributes stands to affect the mentoring relationships. For example, multiplexity indicates the multifaceted nature of the social exchange between egos and alters (Feld, 1981). Mentees may receive mentoring support in multiple areas including academic, social, athletic, artistic, and

other areas of personal interest in their lives. The greater the multiplexity of relationships, the stronger the tie (Ibarra, 1992).

**Phase 2: Follow-up interviews.** In Phase 2, personal interviews were conducted with a sub-sample of mentors regarding the outcomes of their mentoring experience and relationships. These interviews examined the benefits of their service learning mentoring experience, definitions and perceptions of mentoring, and what both the mentors and mentees have learned. The interviews also examined mentors' motivations to serve, mentoring methods, approaches to building relationships, identification of their mentoring outcomes, and their definitions of success. The archival survey data gathered in Phase 1 was used to develop the interview questions, and an IRB amendment will be submitted to add interviews to this research.

The stratification criteria for sub-sample of mentors includes gender, language homophily (with mentee), relational embeddedness (see Table 2). This sampling plan aims to include at least eight different mentors, with additional mentor interviews added as needed to achieve saturation.

Table 2

*Phase 2: Stratified Sampling for Mentor Interviews*

Nature of Mentoring Relationship	Male Mentors		Female Mentors	
	Language Homophily	No Language Homophily	Language Homophily	No Language Homophily
Not Relationally Embedded	1	1	1	1
Relationally Embedded	1	1	1	1

### Data Analysis

Data analysis addressed the research questions outlined in Chapter 1 in 3 stages (see Table 3) to examine nature and outcomes of the sampled mentoring ties and to understand the relationship between mentoring relationships and mentoring outcomes (Rowley, Behrens, &

Krackhardt, 2000). Initial data analysis provided descriptive statistics for mentor and mentee demographics. This analysis was done in three main stages.

**Stage 1: Nature of ties.** In Stage 1, analyses of the archival survey data addressed the first research question regarding the nature of dyadic mentoring ties. Data was exported from the online Qualtrics

Table 3

*Three Stages of Data Analysis*

Research Questions	Stage 1		Stage 2	Stage 3
	Nature of Ties (Archival Survey Data)		Mentor Outcomes (Interviews)	Patterns between Mentoring Relationships and Outcomes
RQ1: Nature of Mentoring Relationships	Relational Embeddedness	Type Distribution of Types	Patterns in Nature of Ties (Excel)	
	Homophily	Compare Mentor/Mentee Demographics		
	Interactions	Descriptive Stats : -Averages -Distribution	Egocentric network analysis ( NetDraw)	
	Multiplexity	# of mentoring purposes in mentoring relationships		
RQ2: Mentoring Outcomes			Qualitative Coding of Interviews (NVIVO): Themes & Patterns of Mentor Outcomes	Identify alignment of outcomes to institutional objectives
RQ3: Relationship between Nature of Mentoring Relationships & Outcomes				Identify Patterns between RQ (nature of ties) & RQ2 (mentor outcomes)

survey to Excel to facilitate the analysis and compilation of descriptive statistics on mentor and mentee demographics as well as the four research variables (listed in Table 1). The analyses of

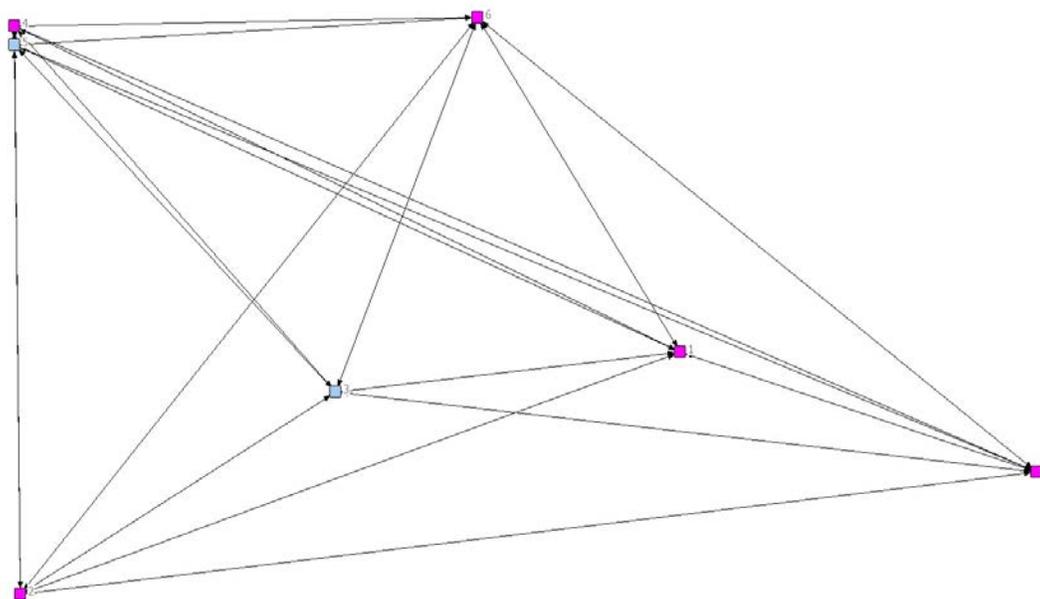
the nature of the mentoring ties in terms of the four specific characteristics supported the identification of patterns between these tie characteristics in Stage 2.

The Stage 1 analysis identified descriptive statistics regarding the nature of the mentoring ties, specifically in terms of their (a) relational embeddedness, (b) homophily, (c) mentor interactions, and (d) multiplexity. The analysis of relational embeddedness will ascertain the type of relational embeddedness for each mentoring tie based on Hite's (2003) typology of relational embeddedness. The online survey contained specific TRENDS items that measure each of the three social components in the typology. The TRENDS conversion program developed by Dr. Julie Hite did these calculations automatically. This conversion program provided a list of the mentoring ties, the mean scores for the tie's three social components and the categorization as one of eight types of relational embeddedness (including not embedded). The analysis of homophily, the extent of similarity between two network actors consisted of comparing the mentor and mentee's on similar demographics. This descriptive analysis determined on which demographics the mentors and mentees are similar and thus have *homophily*. The primary demographics for this analysis included gender and language spoken, resulting in gender and language homophily attributions. The analysis of mentor interactions used descriptive statistics to identify and explain patterns in the frequency and duration (length of relationship) of the mentoring interactions. This analysis provided means and distributions. The analysis of multiplexity involved counting the number of different mentoring purposes identified by the mentors for each tie. The greater the number of ties, the greater the multiplexity of factors exist in the relationship.

**Stage 2: Mentor outcomes.** Data analysis in Stage 2 focused on three main processes. First, descriptive analyses used the findings regarding the nature of the ties from Phase 1 to seek for patterns of relationships between the characteristics of the mentoring ties. These analysis addressed, and seek to identify which types of relational embeddedness are related to greater homophily, greater mentoring interaction or greater multiplexity.

Second, based on the findings of Stage 1, Stage 2 further addressed the first research question regarding the nature of ties from the perspective of the mentors' egocentric networks using NetDraw. This data analysis was conducted by exporting the TRENDS survey data from Excel into UCINET and then using the NetDraw function to visually graph the structure of the egocentric mentoring networks. A person-centered approach in identifying factors in relationships within a network model is appropriate for identifying patterns within individual interactions (Bergman & Trost, 2006; Magnusson, 1998). It was expected that this network would be extremely sparse, with few ties connecting the various mentors. This network graphing (diagramming) can also display various characteristics of the nature of these ties, including relational embeddedness, homophily, extent of mentoring interaction and the multiplexity of mentoring purposes. An example of how this network graph may look is shown in Figure 3. The purpose of this graphing was to further examine and identify additional patterns regarding the nature of these mentoring ties.

The third task of data analysis in Stage 2 addressed the second research questions regarding mentoring outcomes. This analysis involved entailed the qualitative coding of the mentor interviews to identify themes and patterns regarding their mentoring experiences and outcomes. The qualitative analysis was done using NVivo software. Data analysis examined



*Figure 3.* Example of graphical mapping of network structure.

outcomes for both the student service learning volunteer as a mentor as well as the mentor's perceptions of outcomes for their mentees. The analysis also specifically examined patterns related to the language minority characteristics of the mentees. The qualitative data was further facilitated by the use of the findings in Stage 1 and 2 regarding the demographics of the mentors and mentees and the nature of their ties, which was used to create classifications and identify relevant patterns.

Data analysis of the interviews used a qualitative analysis process that included organizing the data, generating categories, identifying themes and patterns, creating and testing explanations, searching for alternative explanations, identifying mentoring characteristics and documenting the findings. These steps were done using NVivo software that assists in data collection, organization, and theme and pattern explanations. Open-ended questions were also used. The qualitative data was managed in Qualtrics and Excel, including the providing functions for queries, factors, ties, and relationships that lead to an understanding of the nature of ties, the egocentric network of mentors, and the actor characteristics that affect mentoring

outcome for university service learning mentors in their experiences with language minority student mentees.

**Stage 3: Patterns between mentoring relationships and outcomes.** Lastly, Stage 3 of data analysis first examined the alignment of the mentors' outcomes and the institutional objectives for student service learning. For the purpose of this study, the analysis also focused on the related institutional resource allocation and accountability. This analysis was done using NVivo, specifically through matrix coding. Second, Stage 3 sought for patterns between the nature of ties and mentoring outcomes. Both Excel and NVivo were used in this last analysis, as both the quantitative survey data and the qualitative interview data were connected and analyzed together to identify and substantiate patterns to address the last research question. Patterns specifically were sought regarding how mentoring outcomes are related to the nature of mentoring relationships.

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